



Farmer Invented. Farmer Tested. Farmer Proven.®

**JOHN DEERE 40/90 SERIES AND CASE IH/NEW HOLLAND
CORN HEADS**

**GATHERING CHAINS AND SPROCKETS
INSTALLATION MANUAL**

www.CalmerCornHeads.com

**Weekdays 8-5 p.m. - Office (309) 629-9000
After Hours/Weekends - Marion's Cell (309) 368-1182**

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INTRODUCTION

Thank you for purchasing Calmer's BT Chopper® Upgrade Kit for your corn head. We hope you will get many years of productive use from it. The purpose of this upgrade kit is to improve your corn head's performance and accelerate corn residue decomposition. All product users must read and understand this manual prior to equipment operation. This manual is considered part of your machine and should remain with the machine at all times. Do not allow anyone to operate or maintain this equipment who has not fully read and comprehended this manual. Failure to follow the recommended procedures may result in personal injury or death or equipment damage.

Information in this manual is designed to help owners and operators to obtain the best results and safe operation from their investment. The life of these products depends largely on the care it is given and we suggest that the manual should be read and understood and referred to frequently. If for any reasons you do not understand the instructions and safety requirements, please contact us at any time. The intent of this manual is to provide guidelines to cover general use and to assist in avoiding accidents and injuries.

There may be times when circumstances occur that are not covered in the manual. At those times it is best to use common sense and contact our factory.

The requirements of safety cannot be emphasized enough in this publication. We urge you to make safety your top priority when using and maintaining this equipment.


WARRANTY

Calmer Corn Heads, Inc. has been in business since 2004 and has an excellent reputation for quality and workmanship. Please contact us (the manufacturer) if you feel a component has not lasted to your expectation. These concerns will be handled on a case-by-case basis. Please contact our factory directly at (309) 629-9000 for replacement parts.



SAFETY

Read and understand this manual and all safety signs before maintaining and operating. Review the safety instructions and precautions annually.

TAKE NOTE!  THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS: ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.



CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

NOTICE is used to address safety practices not related to personal safety.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions of how it works.**



SAFETY SIGNS

Sharp Objects signs are placed on the exterior of all stalk roll boxes. See the sign, right, for reference and understand the associated cutting dangers with the enclosed product.



BEFORE OPERATION

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch on moving parts.
- Always wear protective clothing and substantial shoes.
- Always wear provided cut-resistant gloves when installing stalk rolls

(2) 9-TOOTH IDLER SPROCKETS



(2) 6-TOOTH DRIVE SPROCKETS



**(2) LOWER
IDLER SPRING
WASHERS**

**(2) 48-PITCH CHROME-PIN
GATHERING CHAINS**



**(4) STAINLESS
STEEL WASHERS**

INSTALLING CALMER 6-TOOTH DRIVE AND 9-TOOTH IDLER SPROCKETS AND GATHERING CHAINS

1. This Step is for 40 Series Corn Heads Only! 90 Series Customers Should Start at Step #2.

On the first and last rows only, carefully remove the angle iron in the gathering chain drive sprocket area. Move bracket toward the inside so that the gathering bracket doesn't make contact with the gathering chain, and re-weld in place for hood support. Completely remove the angle iron on all other rows.



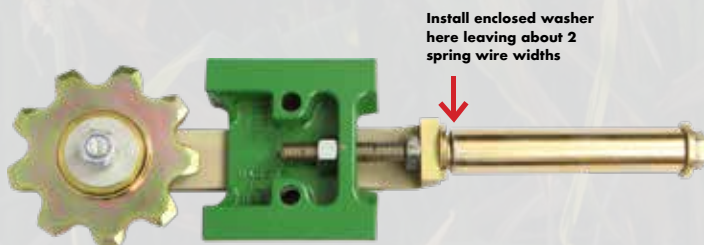
2. Inspect chain guides & idler blocks for wear.

Important: You must use stainless steel washers with Calmer's 9-Tooth Idler. Some modification may be required when installing. (See below)

3. Disassemble the old idler sprocket.
Discard the greaseable bushing & O-ring as it is not used with the new sprocket design.

Gathering Chain Tighteners

Gathering chain tighteners occasionally lock up. This is caused when the spring vibrates and augers itself into the hole between the bolt and the flat strap. This can be fixed by removing the idler bolt and adding a second washer (enclosed) at the bottom of the pipe spacer, which is identical to the washer at the top of the pipe spacer (See photo below). Apply anti-seize or lubricant to the bolt threads for future adjustments.



**GATHERING
CHAIN
TIGHTENER**



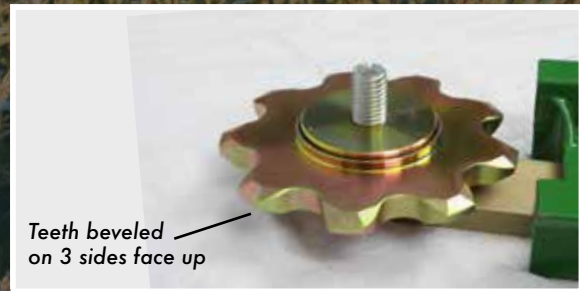
**LOWER IDLER SPRING
WASHER/CHAIN
TIGHTENER WASHER**

4. Inspect to see if plow bolt shoulder extends above the idler strap.

- If the plow bolt shoulder extends above the idler strap then you must smooth-out the shoulder with a grinder until flush with the idler strap.
- If the plow bolt shoulder is flush or does not extend above the idler strap, no further modification is required.



5. Reassemble the 9-tooth idler sprocket by inserting the plow bolt through the idler strap.



6. Place 1 stainless steel washer (provided) on the plow bolt.

7. Install the 9-tooth idler sprocket with the **teeth beveled on 3 sides facing up.**



8. Place 1 stainless steel washer (provided) on top of the 9-tooth idler sprocket.

9. Reinstall 5/8" lock washer and nut (some heads have regular 5/8" washer and a lock nut) and torque to 100 ft. lbs. (Slight resistance when turning sprocket by hand is normal).

10. **This step is for 90 Series corn heads with hydraulic plates only! (1997 and newer).** Remove lower snap ring to achieve required height. Make sure this does not make the chain run too high on the chain guide. Pictures #1 and #2 show the addition of a washer (which may be needed) to shim up the chain guide to keep it from pushing the chain down.



11. Oil the gathering chain drive shaft.

12. Place the gathering chain around the idler sprocket.



13. Insert the 6-tooth sprocket in the chain at the drive end. Some farmers get concerned that the tighter wrap on the 6-tooth sprocket might cause excessive wear on the top end of the chain guard. While there may be some initial wear, the rollers on the gathering chain will eventually run on the chain guard and keep it from wearing any further. Marion used to run 5-tooth sprockets at the top and never had any trouble with excessive wear. (See picture # 3)



14. Lug Timing

For Standing Corn: Install the gathering chain lugs so the lugs are staggered.

For Down Corn: Install the gathering chain lugs so they are directly opposed from each other. Adding plastic paddles will also help in harvesting down corn. **These oversized down corn plastic gathering chain paddles are available for purchase from Calmer Corn Heads.**

15. Replace the top snap ring on the shaft. Ensure the snap ring is properly seated on the hex shaft.

16. **This step is for 40 Series corn heads only!** Adjust the top of the gathering chain guides as far away from the center of the row unit as possible.

17. Tighten the gathering chain tightener until there is a 3/16" clearance between the pipe spacer and washer. Apply anti-seize or lubricant to threads for future adjustments.

18. Test for proper installation of components. To ensure proper installation of components, using the feeder house reverser, operate corn head for 10 seconds. Next, operate corn head normally at idle then gradually increase to full speed.

CASE IH/NEW HOLLAND COMPONENTS LIST (PER ROW)



**(2) 48-PITCH CHROME-PIN
GATHERING CHAINS**



(2) 9-TOOTH IDLER SPROCKETS



(2) 7-TOOTH DRIVE SPROCKETS



**(2) LOWER
IDLER SPRING
WASHERS**



**(6) STAINLESS
STEEL WASHERS**

1. Inspect chain guides & idler blocks for wear.

Important: You must use stainless steel washers with Calmer's 9-Tooth Idler. Some modification may be required when installing. (See below)

2. Disassemble the old idler sprocket.

Gathering Chain Tighteners

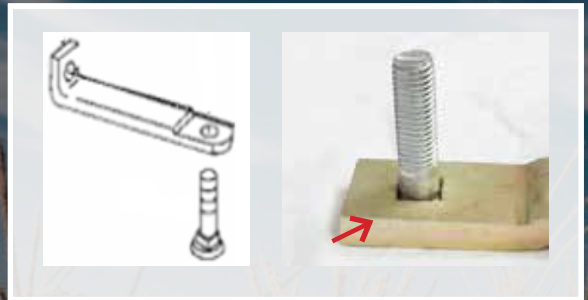
Gathering chain tighteners occasionally lock up. This is caused when the spring vibrates and augers itself into the hole between the bolt and the flat strap. This can be fixed by removing the idler bolt and adding a second washer (enclosed) at the bottom of the pipe spacer, which is identical to the washer at the top of the pipe spacer (See photo below). Apply anti-seize or lubricant to the bolt threads for future adjustments.



3. Inspect to see if plow bolt shoulder extends above the idler strap.
 - If the plow bolt shoulder extends above the idler strap then you must smooth-out the shoulder with a grinder until flush with the idler strap.
 - If the plow bolt shoulder is flush or does not extend above the idler strap, no further modification is required.



4. Reassemble the 9-tooth idler sprocket by inserting the plow bolt through the idler strap.



5. Reinstall factory washer on plow bolt then install 2 stainless steel washers (provided) below the sprocket.



6. Install the 9-tooth idler sprocket with the **teeth beveled on 3 sides facing up**.



7. Place 1 stainless steel washer (provided) on top of the 9-tooth idler sprocket.



8. Reinstall 5/8" lock washer and nut (some heads have regular 5/8" washer and a lock nut) and torque to 100 ft. lbs. (Slight resistance when turning sprocket by hand is normal)

9. Oil the gathering chain drive shaft.
10. Place the gathering chain around the idler sprocket.
11. Insert the 7-tooth sprocket in the chain at the drive end.
12. Lug Timing

For Standing Corn: Install the gathering chain lugs so the lugs are staggered.

For Down Corn: Install the gathering chain lugs so they are directly opposed from each other. Adding plastic paddles will also help in harvesting down corn. **These oversized down corn plastic gathering chain paddles are available for purchase from Calmer Corn Heads.**

13. Reinstall bolt and washer into top of gathering shaft to secure 7-tooth sprocket.
14. Tighten the gathering chain tightener until there is a 3/16" clearance between the pipe spacer and washer. Apply anti-seize or lubricant to threads for future adjustments.
15. Test for proper installation of components. To ensure proper installation of components, using the feeder house reverser, operate corn head for 10 seconds. Next, operate corn head normally at idle then gradually increase to full speed.

INSTALLING CALMER'S DOWN CORN GATHERING CHAIN PADDLES

Follow the instructions for assembly of plastic gathering chain paddles and attach to every other lug on each gathering chain. (One orange paddle is used on the row left of the feeder house in front of the buddy seat for calibrating corn head speeds.)



1. Install and hammer the two provided carriage bolts into each paddle, ensuring the bolt shoulders are seated in the paddles. Repeat for remaining paddles and bolts, while being careful to not damage threads.
2. Install paddles on every other lug of the gathering chain, ensuring the bevel is closest to the chain. (See graphic above for reference) Use a standard 7/16" socket to install and tighten lock nuts.
3. Repeat steps for remaining rows.





"Thank you for purchasing Calmer Products to improve your corn head and residue management capabilities on your farm."

Marion Calmer

CEO – Calmer Corn Heads, Inc.

President – Calmer Ag Research Center

Owner/Operator – Calmer Farms



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The replacement parts comprising and the methods associated with Calmer's Residue Management Program are covered by the following patents issued by the United States Patent and Trademark Office: 7,886,510, 8,171,708, 8,220,237, 8,464,505, 8,857,139, 8,863,487, 9,554,511, 9,560,804, 9,668,414, 10,039,232, 10,045,483

Calmer Corn Heads Residue Management Upgrade Kit Limited Warranty

Calmer warrants our parts 100%. This warranty is good throughout the first season after purchase of the part.

What this means is that if the part breaks within the first season of use, we will replace the part with a new one without charge to you. Calmer pays for the shipping both ways as well. In the alternative, if you wish, we will refund to you all of the money you paid to Calmer for the part. If the Calmer part does not work in a manner that you expected, we promise that we will work with you to adjust settings and to see if we can obtain satisfactory performance. In the end, if the Calmer part does not work on your farm to your complete satisfaction, we will refund your purchase price. Disclaimers: Calmer is not responsible for and does not warrant as to consequential damages or any other types of damages that may be claimed as a result of part breakage or unsatisfactory performance. In other words, except as stated herein all other warranties or liabilities, expressed or implied, oral or statutory, including any warranty of merchantability or fitness for a particular purpose are expressly denied.

**TO OBTAIN WARRANTY SERVICE
PLEASE CALL 1-309-629-9000**

February 2021