

FD70 and FD75 FlexDraper® Headers

Center Frame Rework Kit (MD #279191)
Installation Instructions

147877 Revision A

Original Instruction

FD75 FlexDraper® Header for Combines



1000310

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Introduction

If the center frame bends on an FD70 or FD75 FlexDraper® Header, it can be corrected with the Center Frame Rework kit. This document explains how to install the kit. A list of parts included in the kit is provided in Chapter [2 Parts List, page 5](#).

Installation Time

Installation time for this kit is approximately 8 hours.

Conventions

The following conventions are used in this document:

- Right-hand (RH) and left-hand (LH) are determined from the operator's position. The front of the header is the side that faces the crop; the back of the header is the side that connects to the combine.
- Unless otherwise noted, use the standard torque values provided in the header operator's manual and technical manual.

NOTE:

Keep your MacDon publications up-to-date. The most current version of this instruction can be downloaded from our Dealer-only site (<https://portal.macdon.com>) (login required).

NOTE:

This document is not currently available in any language except English.

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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. The appropriate signal word for each situation has been 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.

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 the protective clothing and personal safety devices that **could** be necessary for the job at hand. Don't 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 ear muffs or ear plugs to help protect against objectionable or loud noises.

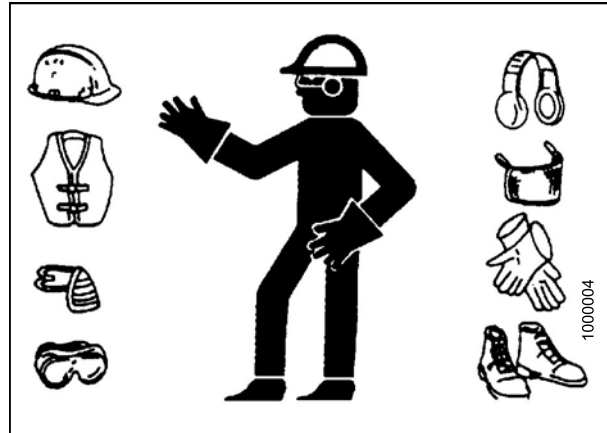


Figure 1.1: Safety Equipment



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 the fire extinguisher is properly maintained. Be familiar with its proper use.
- Keep young children away from the machinery at all times.
- Be aware that accidents often happen when the Operator is tired or in a hurry. Take the time to consider the safest way. Never ignore the warning signs of fatigue.

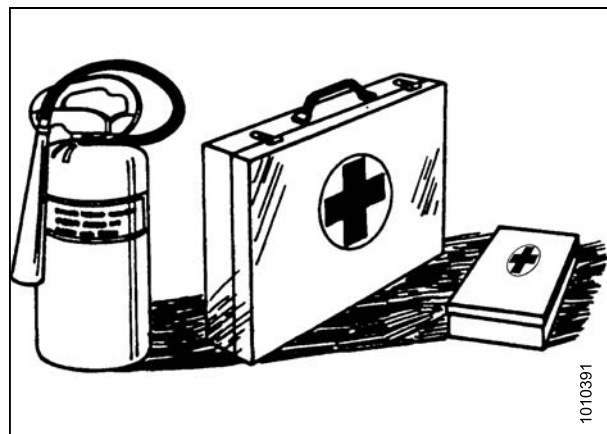


Figure 1.3: Safety Equipment

SAFETY

- 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 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.



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 the engine is running.
- Do **NOT** modify the machine. Non-authorized modifications may impair machine function and/or safety. It may also shorten the machine's life.
- To avoid bodily injury or death from unexpected startup of machine, always shut down the engine and remove the key from ignition before leaving operator's seat for any reason.

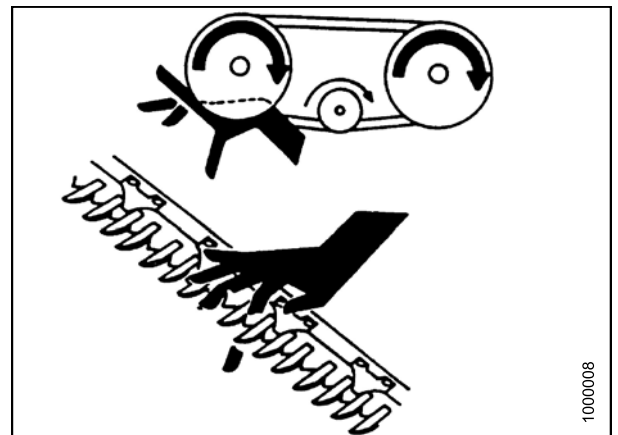


Figure 1.5: Safety around Equipment

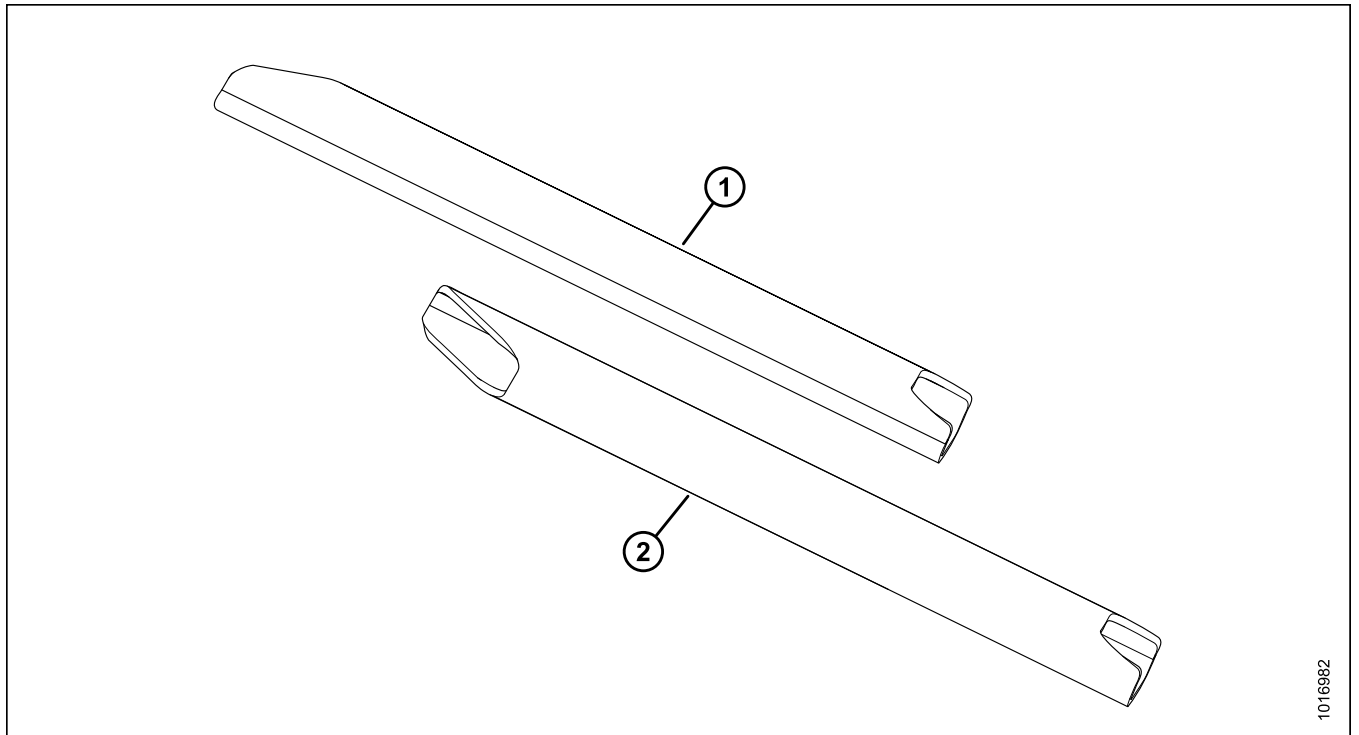
- Keep the service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.
- Keep work area well lit.
- Keep machinery clean. Straw and chaff on a hot engine is a fire hazard. 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

2 Parts List

The following parts are included in this kit.



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Figure 2.1: Parts Included in the Flex Center Frame Rework Kit

Ref	Part Number	Description	Quantity
1	279188	TUBE – CROSS BRACE LH	1
2	279015	TUBE – CROSS BRACE RH	1

3 Installation Instructions

To install the Flex Center Frame Rework kit, follow these steps and procedures in order.

1. If the Slow Speed Transport option is installed, place header in Transport mode. For instructions, refer to the header operator's manual.
2. If the Slow Speed Transport option is not installed, lower the header until it contacts the ground.
3. Remove the combine adapter. For instructions, refer to the header operator's manual.

3.1 Preparing the Center Frame Brace

The FD70 and FD75 FlexDraper® Headers have two center frame braces (A) and (B) as shown below.

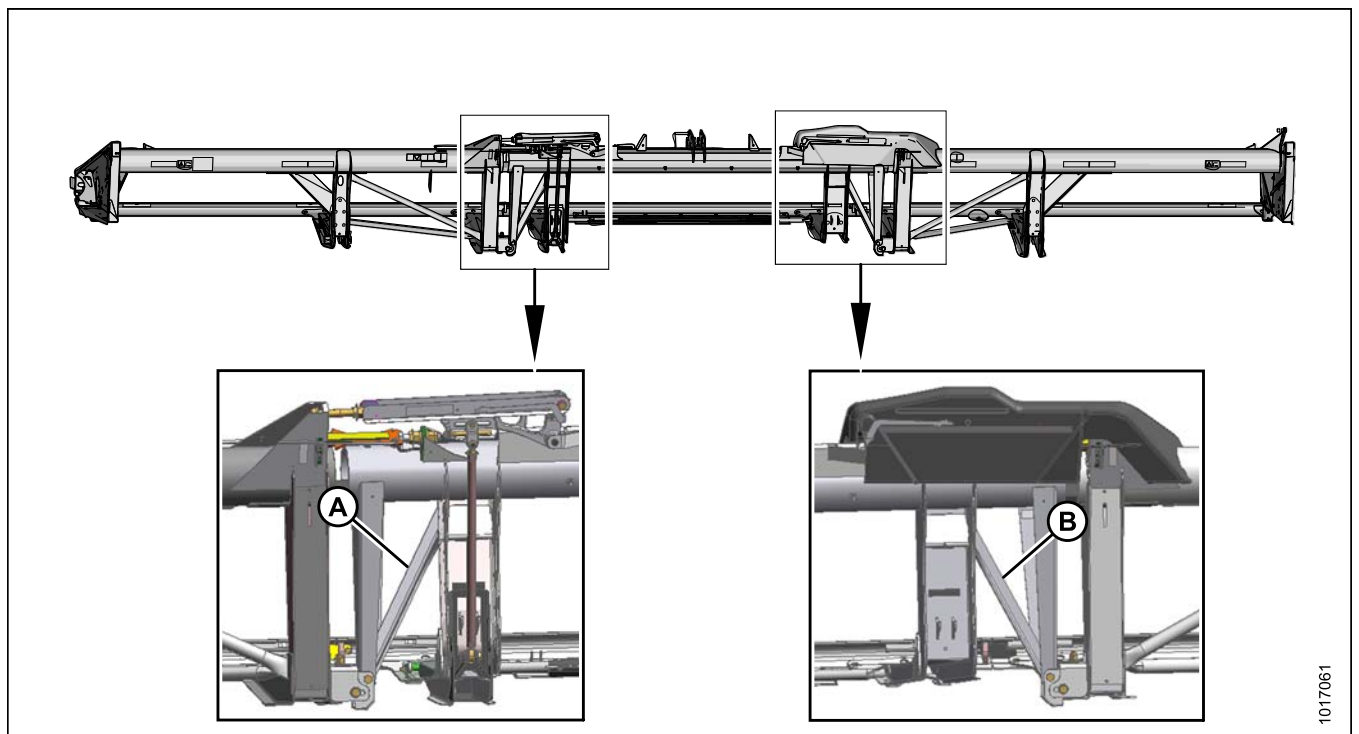


Figure 3.1: Rear View of FD75 Header Frame (FD70 is Similar)

A - Left-Hand Center Frame Brace

B - Right-Hand Center Frame Brace

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INSTALLATION INSTRUCTIONS

1. Examine the center frame braces on the header. If they have been deformed, there will be wrinkled or flaking paint near the center of the braces.
2. If one of the braces is deformed, cut the brace (A) near the center (at B), approximately 10-1/4 in. (260 mm) from the top of the brace.

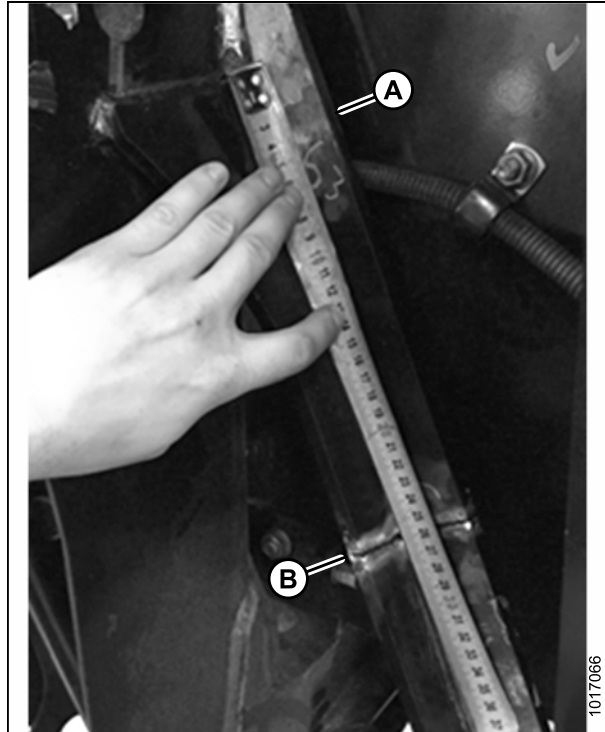


Figure 3.2: RH Center Frame Brace Cut Near Center

3. Using a jack or a threaded rod, spread the center frame leg and wing leg further apart as shown at right. The distance between the legs should be at least 12-3/16 in. (310 mm) as shown in Figure 3.4: [Measuring Distance between Legs, page 9](#).

NOTE:

If header is on the ground (Slow Speed Transport option not installed), you can use a 5-ton porta power to move the wing sufficiently to achieve the required header leg spread.

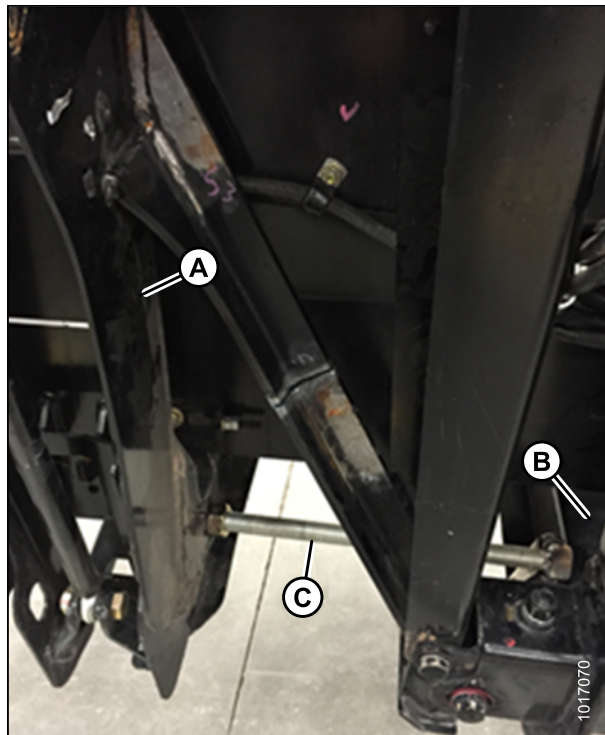


Figure 3.3: Spreading RH Legs Apart

INSTALLATION INSTRUCTIONS



Figure 3.4: Measuring Distance between Legs

4. Clean and V-groove brace to prepare for welding.



Figure 3.5: Cut in RH Brace Prepared for Welding

INSTALLATION INSTRUCTIONS

5. Clamp flat bars against brace to ensure the brace is straight during welding.
6. If both center frame braces are deformed, repeat Steps [2, page 8](#) to [5, page 10](#) for the second brace.



Figure 3.6: Flat Bars Clamped against Brace

3.2 Welding the Center Frame Brace

1. Fill V-groove in right-hand center frame brace with weld (A) as shown at right.



Figure 3.7: RH Brace with Groove Filled with Weld

2. Grind away excess weld to smooth surface of the welded brace.



Figure 3.8: RH Brace with Excess Weld Removed

INSTALLATION INSTRUCTIONS

3. Position right-hand cross brace tube (MD #279015) (A) over the right-hand center frame brace (B) to check fit as shown at right.

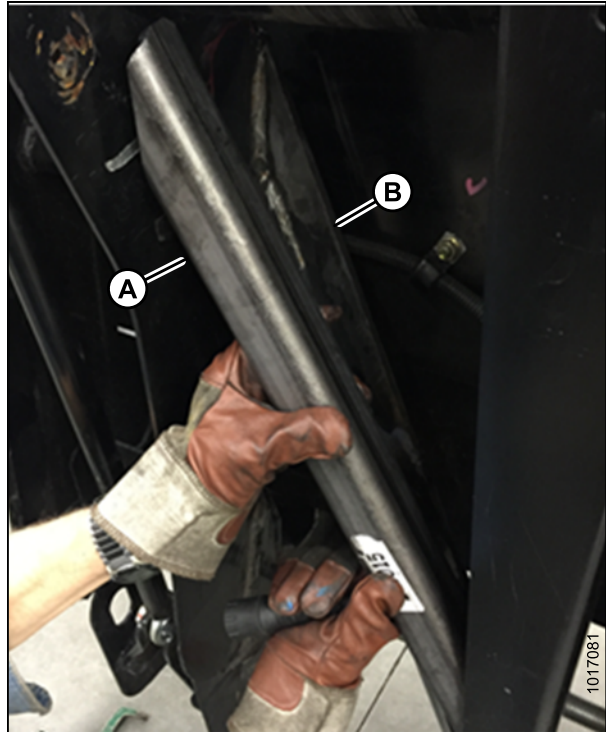


Figure 3.9: Positioning RH Cross Brace Tube

4. Use the tube (A) as a stencil to mark areas of paint to be removed at the ends of the brace (B) as shown at right.

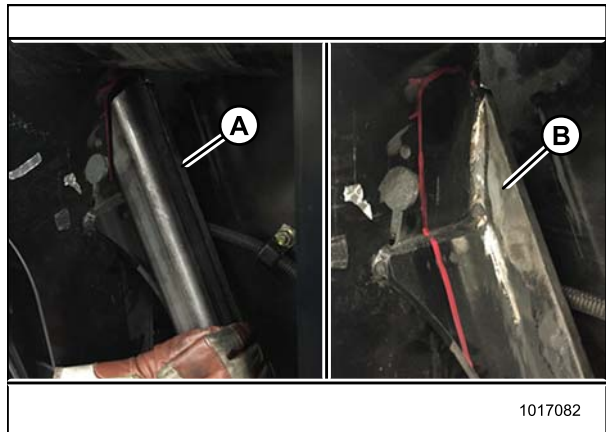


Figure 3.10: Marking Paint Removal Locations at Top of RH Center Frame Brace

INSTALLATION INSTRUCTIONS

5. Remove paint along the edges (A) of the brace to ensure good weld contact.



Figure 3.11: Middle Section of RH Center Frame Brace

6. Clamp right-hand cross brace tube (MD #279015) (A) against the brace (B) using four C-clamps as shown at right.

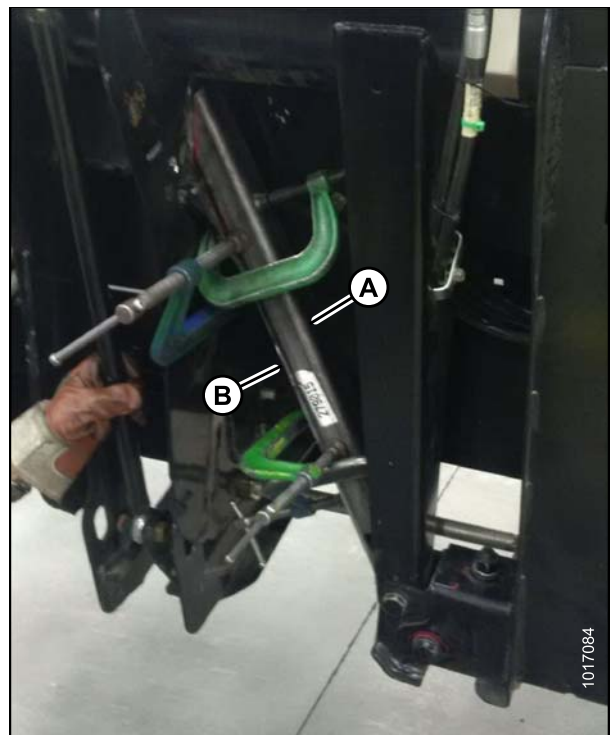


Figure 3.12: RH Cross Brace Tube Clamped to RH Center Frame Brace

INSTALLATION INSTRUCTIONS

7. Weld tube to brace using a stitch weld along the front and back edges. The stitch (A) should be 1 in. (25 mm) of weld every 2 in. (51 mm) as shown at right.

NOTE:

Welding may be easier if you first remove the clamps securing hoses to the frame, then reinstall the clamps when welding is complete.



Figure 3.13: Weld Locations along Edges of RH Cross Brace Tube

8. Place a 4 in. (102 mm) weld on the lower section of the brace as shown.

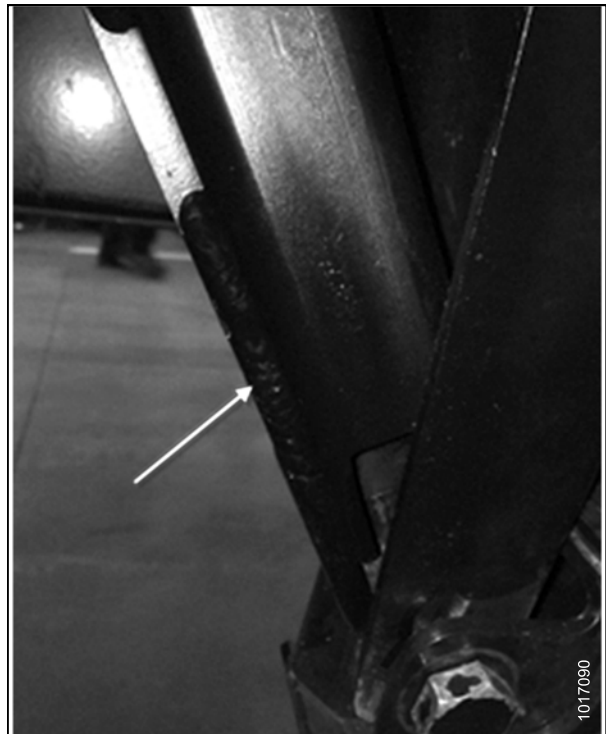


Figure 3.14: Weld Location on Lower Section of RH Cross Brace Tube

INSTALLATION INSTRUCTIONS

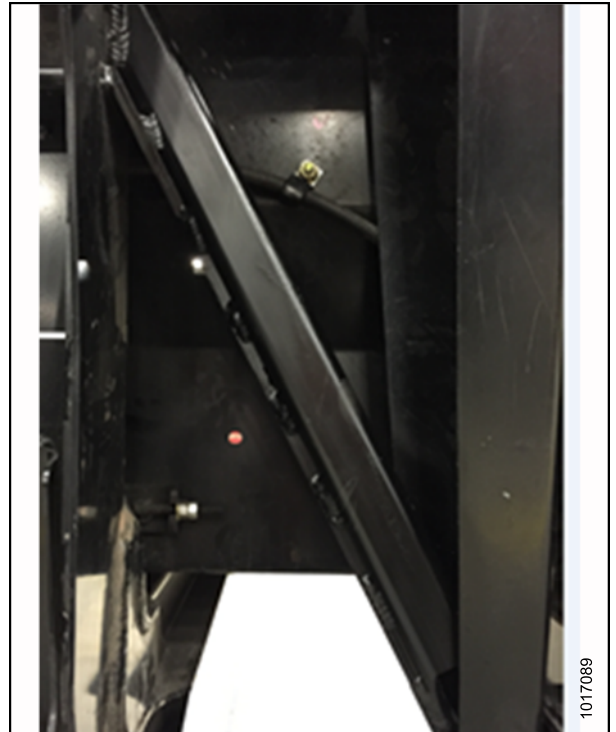
9. Weld all around the top of the tube connecting the tube to the center leg and brace as shown.



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Figure 3.15: Weld Location at Top of RH Cross Brace Tube

10. Once welding is completed paint all unpainted surfaces black.



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Figure 3.16: All Surfaces Painted Black

INSTALLATION INSTRUCTIONS

11. Repeat all steps in this procedure for the left-hand center frame brace (A), using left-hand cross brace tube (MD #279188).



Figure 3.17: LH Center Frame Brace

12. Reinstall combine adapter into header. For instructions, refer to the header operator's manual.

INSTALLATION INSTRUCTIONS

3.3 Stringing the Cutterbar

After installing the Center Frame Rework kit, you must check the cutterbar to see if it needs adjustment. You can use a string to determine the straightness of the cutterbar and the fore-aft position of the wings as follows.

DANGER

To avoid bodily injury or death from fall of raised machine, always engage lift cylinder stops before going under header for any reason. See your combine operator's manual for instructions for use and storage of header lift cylinder stops.

NOTE:

To accurately measure a cutterbar, it is critical that the header be suspended on a combine adapter.

1. Attach the header and adapter to a combine. For instructions, refer to the header operator's manual or technical manual.
2. Park combine on level ground.
3. Lock the header wings.
4. Raise the reel fully up, and then engage the safety props to prevent reel from dropping.
5. Extend the header angle hydraulic cylinder to B 1/2 on indicator.
6. Raise header until cutterbar is 6–10 in. (152–254 mm) off the ground.
7. Stop engine and remove key.
8. If installed, move transport/stabilizer wheels so that they are in storage position.

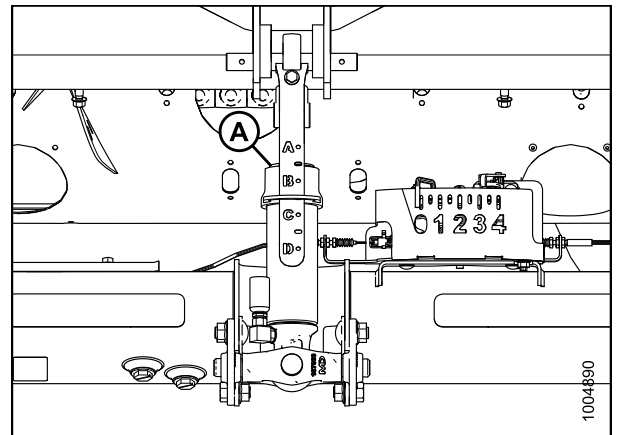


Figure 3.18: Header Angle Indicator

INSTALLATION INSTRUCTIONS

9. Remove one 7/16 x 2.5 in. bolt (A) from each left- and right-hand hinge cover. Refer to Figure 3.19: *Hinge Covers*, page 18.

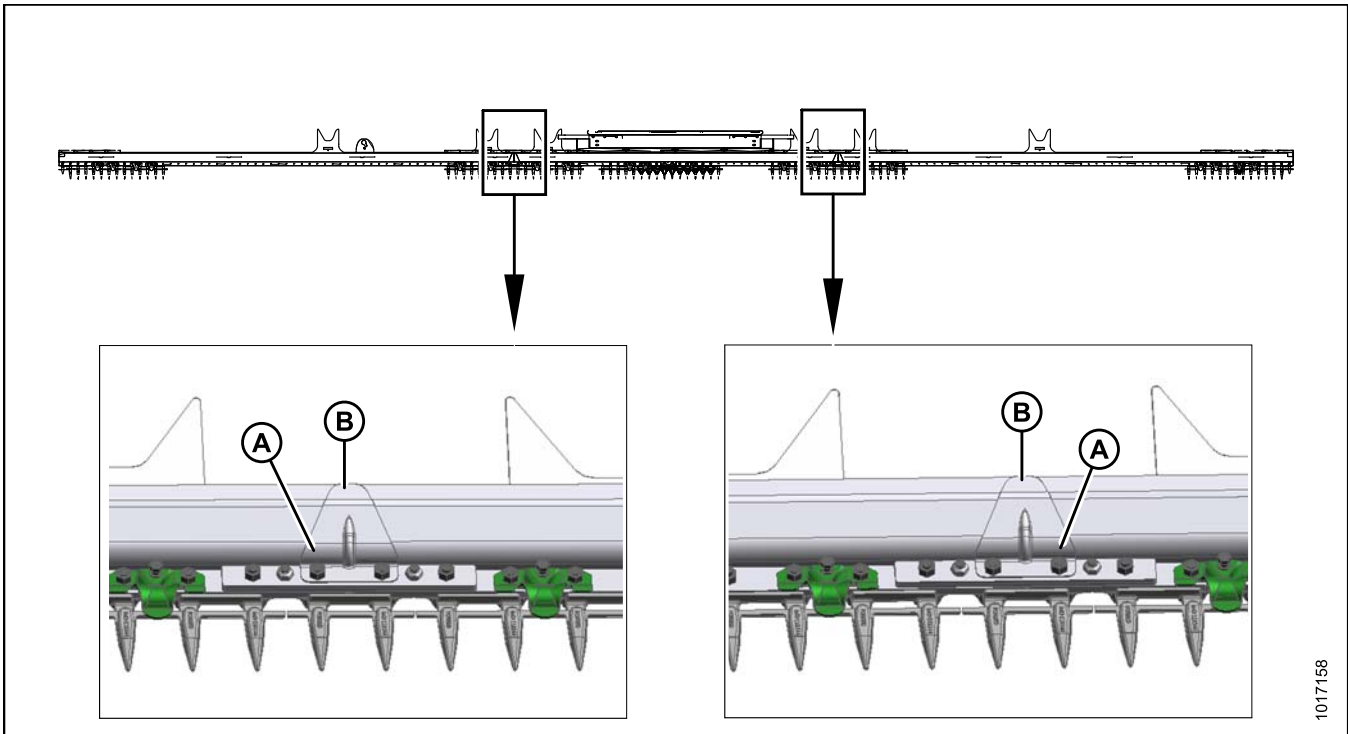


Figure 3.19: Hinge Covers

INSTALLATION INSTRUCTIONS

10. Install one bolt (A) removed in previous step on each end of the cutterbar by placing a 7/16 in. nut (B) over the existing guard bolt and then threading the bolt into the nut. Refer to Figure 3.20: *Side View of Cutterbar*, page 19.

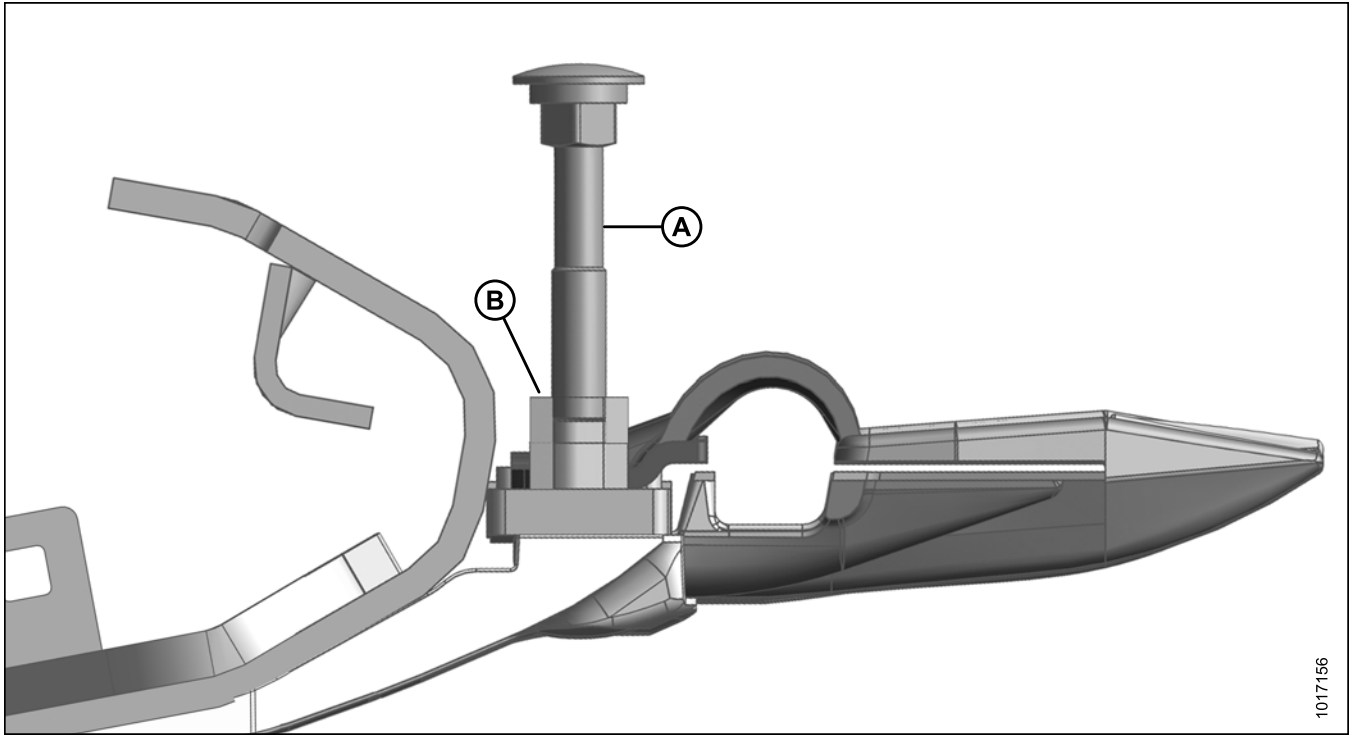


Figure 3.20: Side View of Cutterbar

INSTALLATION INSTRUCTIONS

11. Tie a string (C) to one of the bolts (A), and then to the other (B), so that the string spans the whole distance of the header. Adjust the string so that is the exact same height above the guard bar on both ends. Refer to [Figure 3.21: Top View of Cutterbar with String in Place, page 20](#).

NOTE:

Ensure the string is tight so that it has very little deflection. It will allow for more accurate measurements

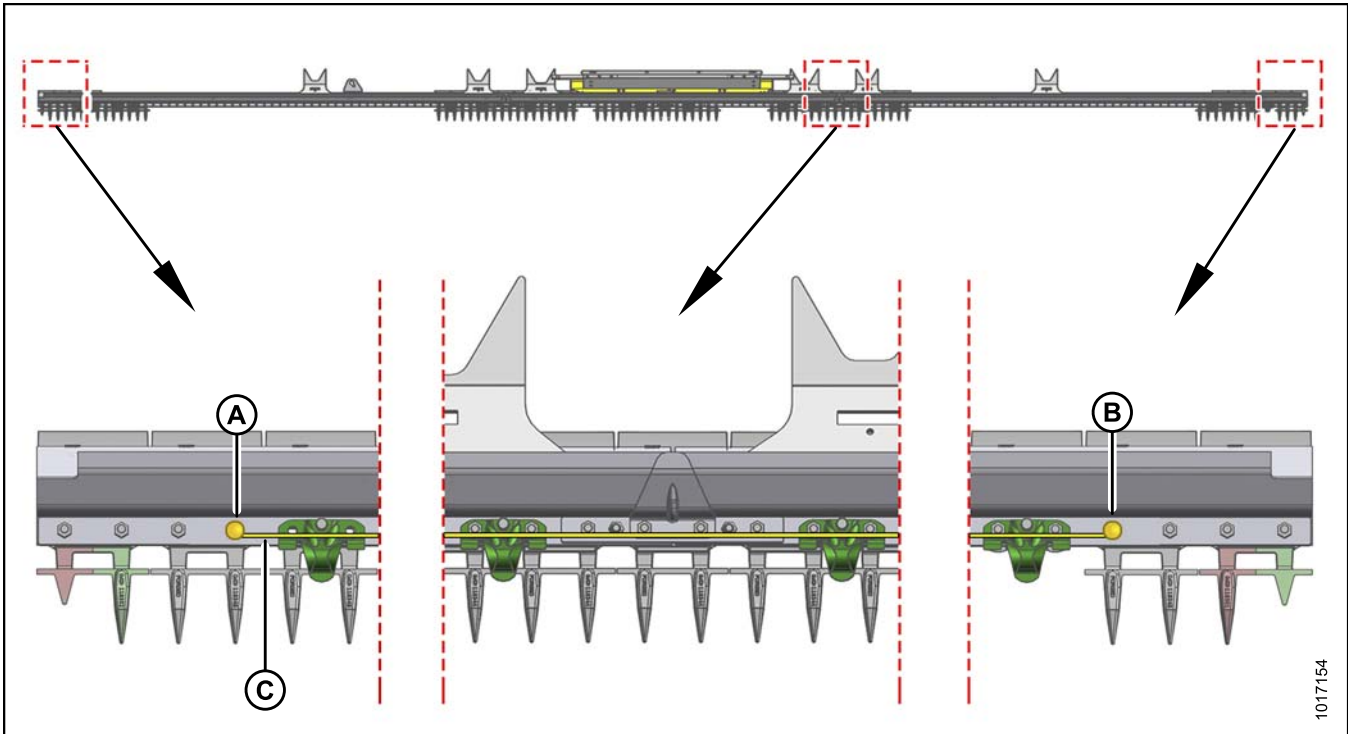


Figure 3.21: Top View of Cutterbar with String in Place

INSTALLATION INSTRUCTIONS

12. To measure fore-aft wing position, measure distance (A) from the string to the back edge of the cutterbar at the center and outside positions. The difference between these measurements should be no more than 3/16 in. (5 mm). Refer to Figure 3.22: *Side View of Cutterbar*, page 21.

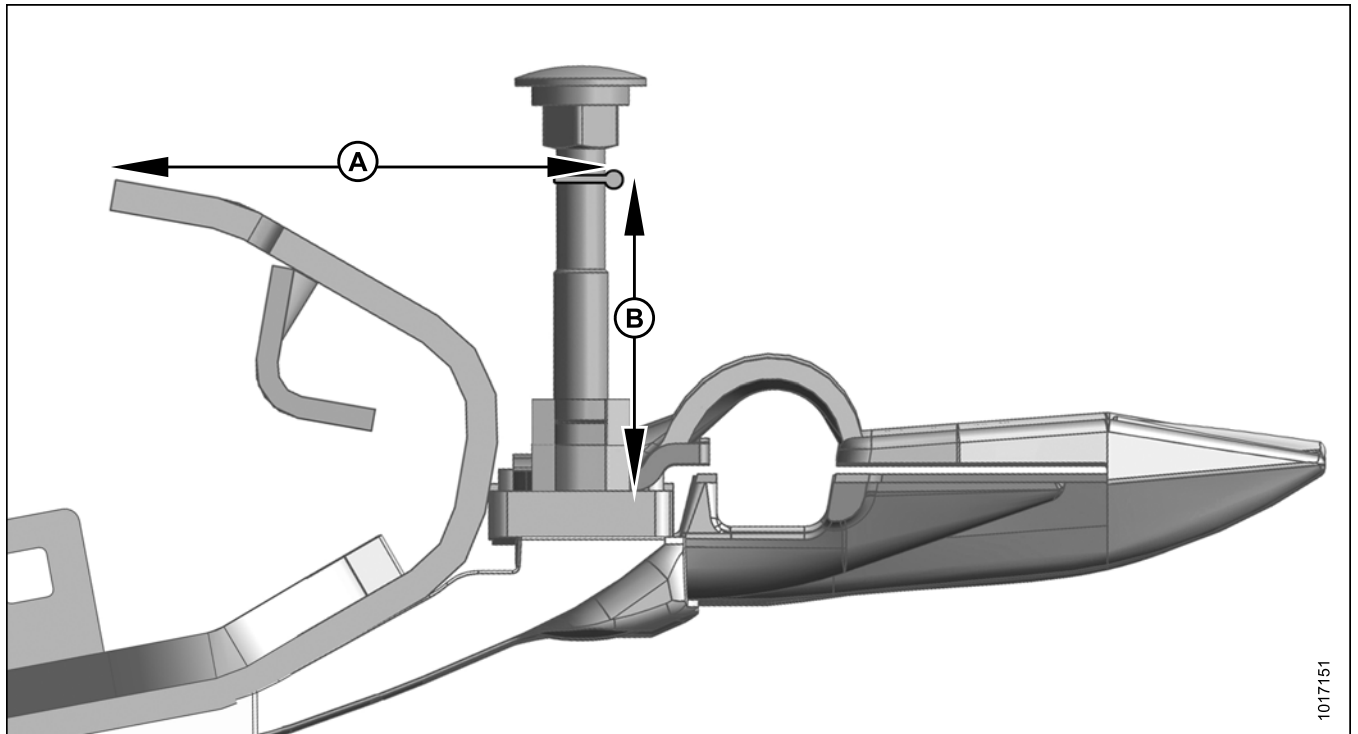


Figure 3.22: Side View of Cutterbar

A - Fore-Aft Measurement

B - Straightness Measurement

13. To measure vertical wing position straightness (frown or smile), measure distance (B) from the string to the cutterbar at center and outside wing positions. Wings should be straight, and the difference between the center and outside measurements should be no more than 3/16 in. (5 mm). Refer to Figure 3.22: *Side View of Cutterbar*, page 21.

NOTE:

Be careful to measure only to the surface of the guard bar and not to guards or hold-downs.

14. If the fore-aft position needs adjustment, refer to [3.4 Adjusting Cutterbar Fore-Aft](#), page 22.
15. If the cutterbar is not straight, refer to [3.5 Adjusting Cutterbar Straightness](#), page 24.
16. Once all adjustments are complete, remove the string and return the bolts to their original positions in the hinge covers. Torque bolts to 50 ft·lbf (68 N·m).

3.4 Adjusting Cutterbar Fore-Aft

1. Extend the header angle hydraulic cylinder to B 1/2 on indicator.
2. Park combine on level ground and raise header until cutterbar is 6–10 in. (152–254 mm) off the ground.

⚠ WARNING

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key before making adjustments to machine.

3. Stop engine and remove key.
4. If installed, move transport/stabilizer wheels so that they are in storage position.
5. Run a string from one end of the header to the other end, parallel to the front edge of the center section of the guard bar.
6. Set wing fore-aft as close to 0 or as straight as possible.

Adjust rear hinge as follows:

NOTE:

Left-hand side shown, procedure for the right-hand side is the same.

7. Loosen bolts (A) and (B).

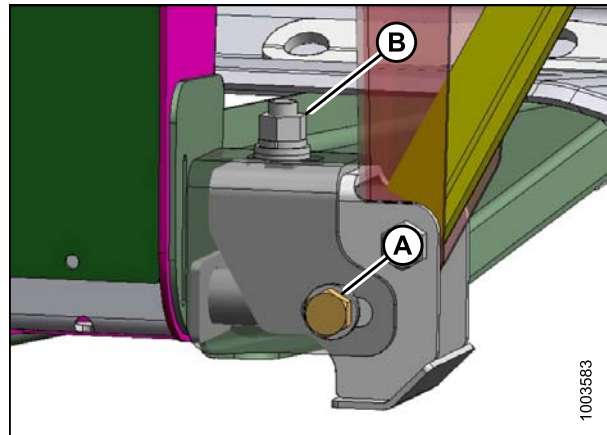


Figure 3.23: Cutterbar Rear Hinge

8. Loosen jam nut (A) and adjust bolt (B) until cutterbar is as straight as possible.
9. Tighten jam nut (A).

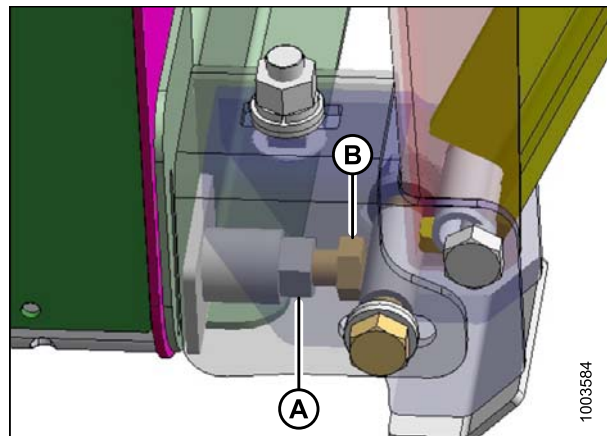


Figure 3.24: Cutterbar Rear Hinge

INSTALLATION INSTRUCTIONS

10. Tighten bolt (B) first, then (A). Torque both bolts to 269 ft·lbf (365 N·m).

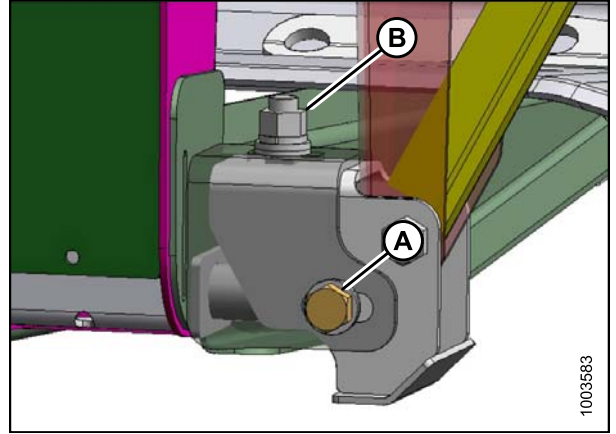


Figure 3.25: Cutterbar Rear Hinge

INSTALLATION INSTRUCTIONS

3.5 Adjusting Cutterbar Straightness

This procedure will adjust cutterbar straightness. If the cutterbar is not straight when the wings are in LOCK mode, proceed as follows:

NOTE:

Procedure is shown on left-hand side, perform steps to both sides of the header.

1. Extend the header angle hydraulic cylinder to B 1/2 on indicator.
2. Park combine on level ground and raise header until cutterbar is 6–10 in. (152–254 mm) off the ground.

WARNING

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key before making adjustments to machine.

3. Stop engine and remove key.
4. If installed, move transport/stabilizer wheels so that they are in storage position.
5. Remove linkage cover (A) by removing bolt (B).

6. Unlock the wings by moving handle (A) to lower UNLOCK position.
7. Lower header on four blocks that are even (one block at each end and one block at each hinge point) until the auto header height indicator reads approximately 2.
8. Check that the cutterbar makes contact with all four blocks. If not, the wing balance and/or float may need to be adjusted. Refer to the header operator's manual or technical manual.

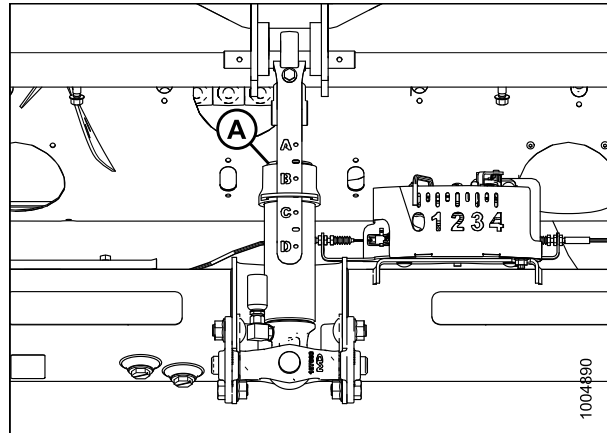


Figure 3.26: Header Angle Hydraulic Cylinder Indicator

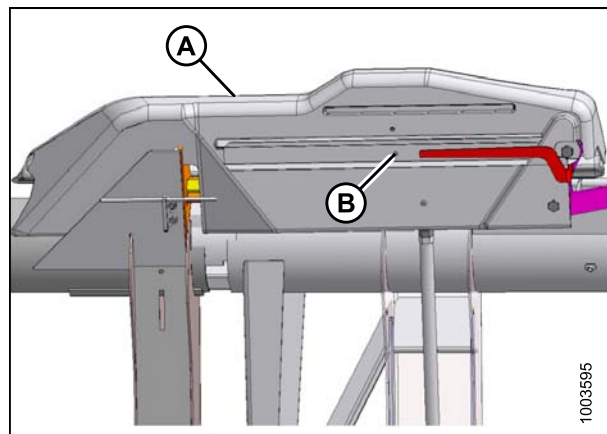


Figure 3.27: Left-Hand Side Shown

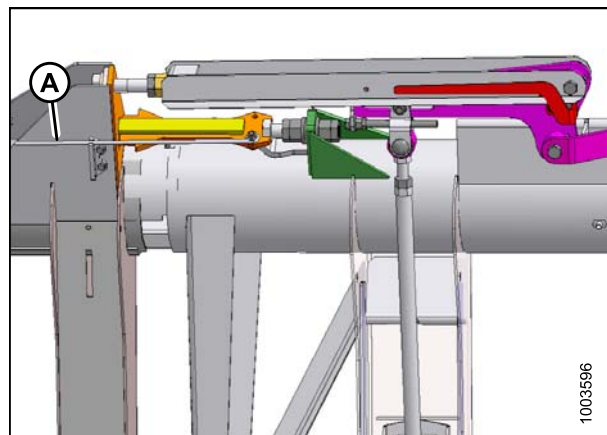


Figure 3.28: Wing Lock

INSTALLATION INSTRUCTIONS

9. Loosen stop link (C) nuts (A, A1) and (B, B1).
10. Move stop link (C) to LOCK position.
11. Tighten stop link (C) nuts (A1) and (B1) against the spacer to 150 ft·lbf (203 N·m). Then tighten nuts (A, B) against (A1, B1). Torque these to 150 ft·lbf (203 N·m).
12. Raise header off the ground and check that cutterbar is straight.

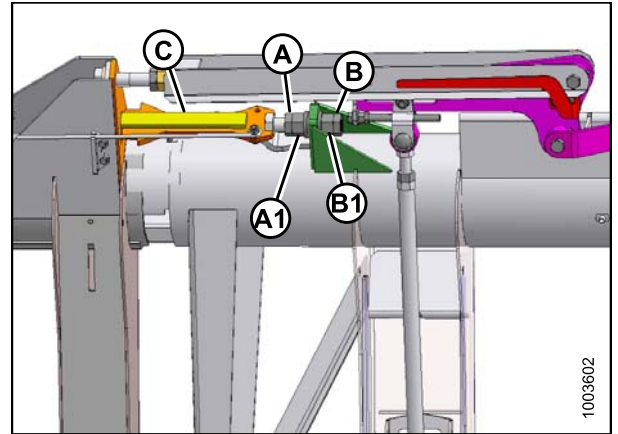


Figure 3.29: Stop Link Nuts

13. Install linkage cover (A) and secure with bolt (B).
14. If cutterbar is straight, proceed to . If cutterbar requires further straightening, repeat Steps [1, page 24](#) to [13, page 25](#).

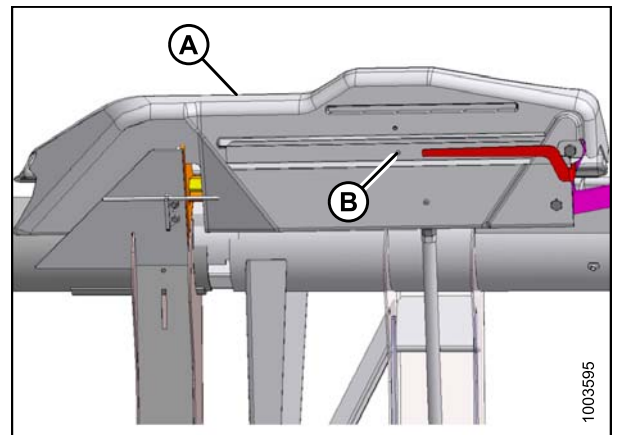


Figure 3.30: Left-Hand Side Shown

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