

**R85**  
**13-Foot Rotary Disc Self-Propelled  
Windrower Headers and Pull-Type  
Mower Conditioners**

Rotary Deflector Replacement Kit (MD #268169)  
Installation Instructions

214190 Revision A  
Original Instruction

13-Foot R85 Rotary Disc Self-Propelled Windrower Header and Pull-Type Mower Conditioner



1006549

Published in February 2017

# Introduction

The Rotary Deflector Replacement kit (MD #268169) enables you to replace the drive and driven deflectors and shields on a MacDon 13-foot R85 Rotary Disc Self-Propelled Windower Header or Pull-Type Mower Conditioner with solid deflectors and shields. This will reduce crop wrapping on the vertical shaft and improve crop into the conditioner.

## **NOTE:**

Once the kit is installed, the vertical driveline will need to be greased every 250 hours, not every 25 hours as previously required.

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 is approximately 5 hours.

## **Conventions**

The following conventions are used in this document:

- Right and left are determined from the operator's position. The front of the header or mower conditioner is the side that faces the crop.
- Unless otherwise noted, use the standard torque values provided in the header or mower conditioner 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 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 ear muffs or ear plugs 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.

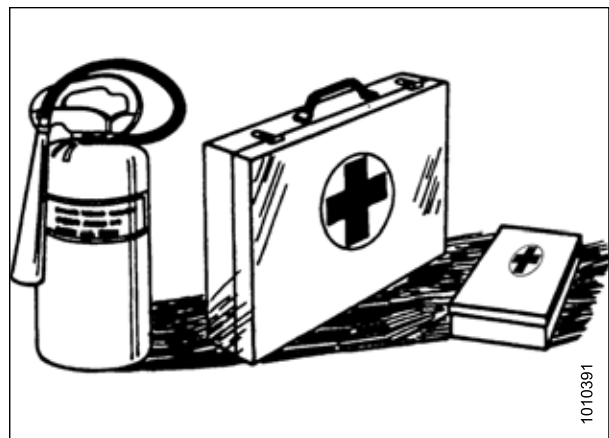


Figure 1.3: Safety Equipment



## 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 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.

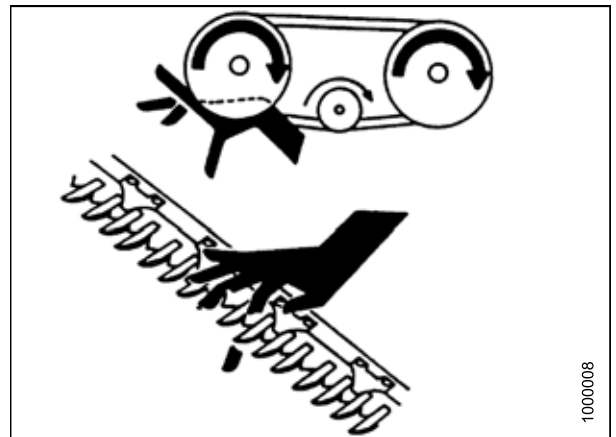


Figure 1.5: Safety around Equipment

- 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

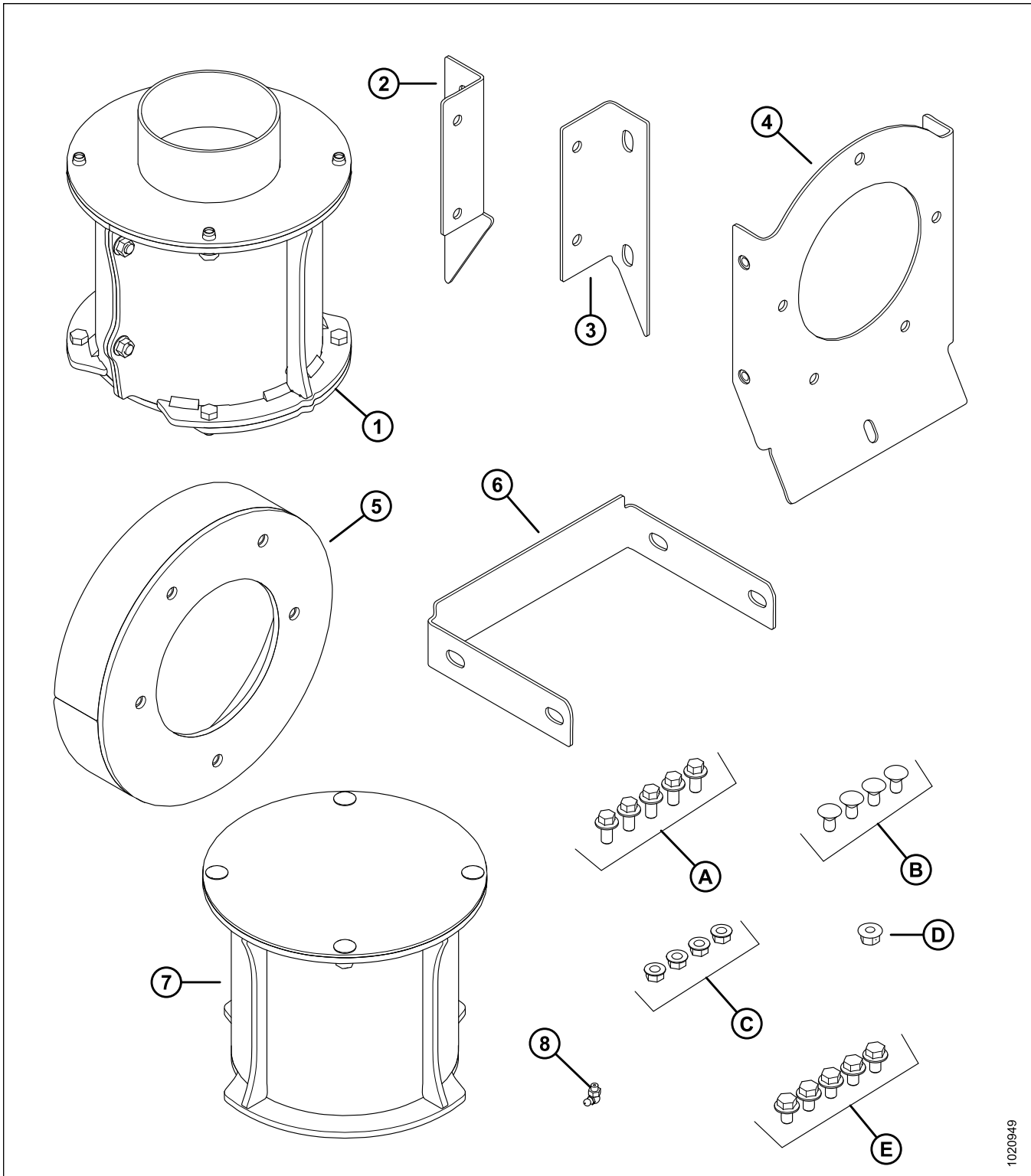


## 2 Parts List

The following parts are included in this kit.

# PARTS LIST

Figure 2.1: Parts Included in the Rotary Deflector Replacement Kit



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**PARTS LIST**

<b>Ref</b>	<b>Part Number</b>	<b>Description</b>	<b>Quantity</b>
1	268069	DRUM – SPLIT ASSEMBLY	1
2	268070	SHIELD – VERTICAL, RIGHT	1
3	268071	SHIELD – VERTICAL, LEFT	1
4	268086	SHIELD – HORIZONTAL	1
5	268084	DRUM TOP	1
6	268130	PLATE – FRONT SHIELD	1
7	268090	DRUM – SOLID ASSEMBLY	1
8	21010	FITTING – LUBE 90 DEG 1/4 - 28 TAPER THD	1
A	152655	BOLT – HEX FLG HD M10 X 1.5 X 20-8.8 A3L	5
B	21472	BOLT – RHSN 3/8-16 X 0.75 GR 5	4
C	30228	NUT – FLANGE DT SMOOTH FACE 0.375-16UNC	4
D	135799	NUT – HEX FLG CTR LOC M10 X 1.5-10 A3L	1
E	136151	BOLT – HEX FLG HD TFL M10 X 1.5 X 16-8.8 A3L	5



## 3 Installation Instructions

To install the Rotary Deflector Replacement kit, follow these steps and procedures in order.

### CAUTION

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

1. Lower the header/mower conditioner fully.
2. Stop the engine and remove the key.

### 3.1 Opening the Cutterbar Doors: North America

Follow these steps to open the cutterbar doors on a North American header/mower conditioner:

1. Unhook the curtain latches (A).

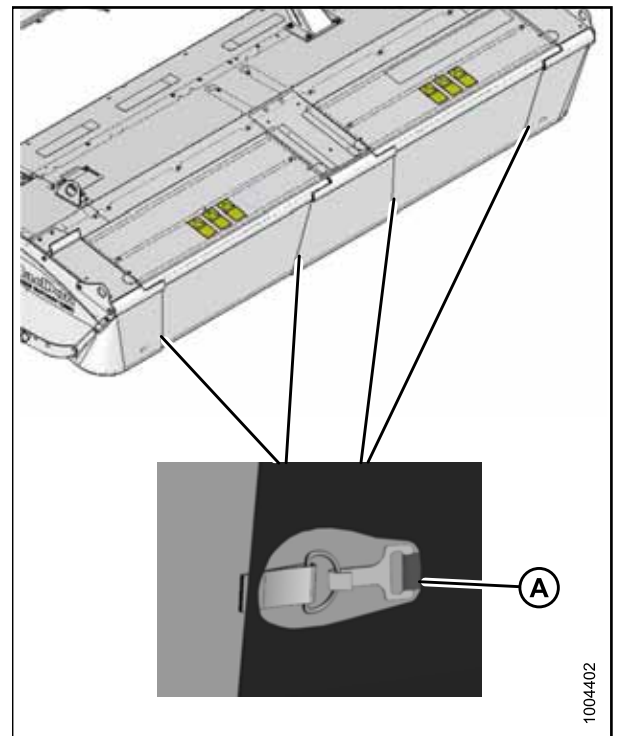
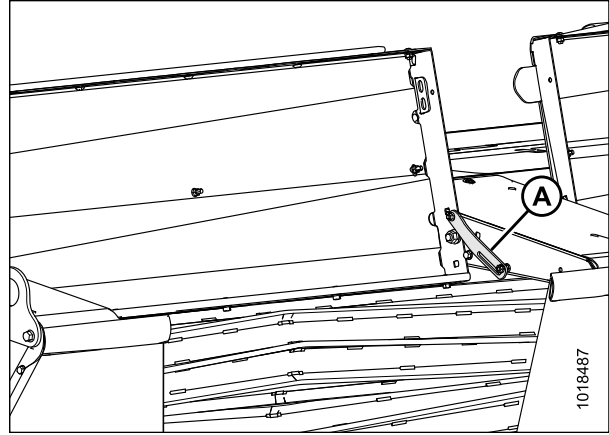


Figure 3.1: Curtain Latches

## INSTALLATION INSTRUCTIONS

2. Lift front of door to the open position. The front cover safety latch (A) will automatically drop into position and keep the cover from falling closed again during maintenance.



**Figure 3.2: Cutterbar Doors**



### 3.2 Opening the Cutterbar Doors: Export Header or Mower Conditioner

Follow these steps to open the cutterbar doors on an export header/mower conditioner:

1. Unhook curtain latches (A).

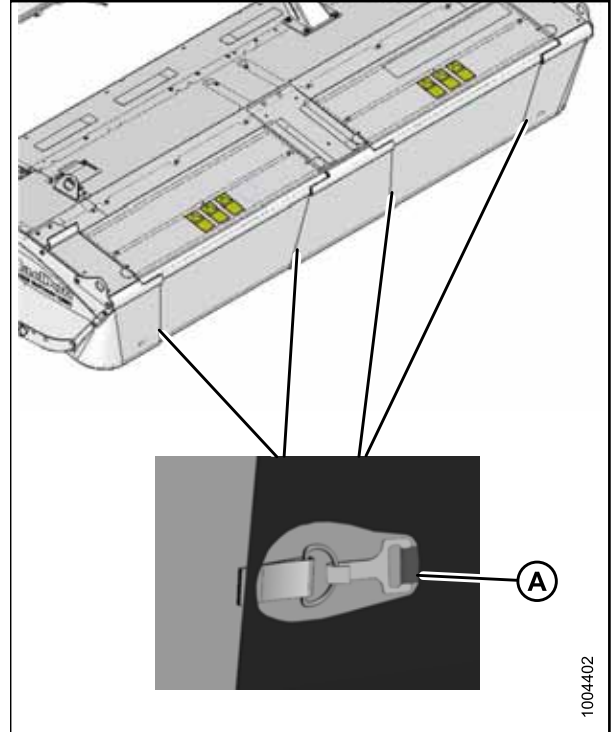


Figure 3.3: Curtain Latches

## INSTALLATION INSTRUCTIONS

2. Insert a screwdriver (or equivalent) through hole (A) in door into notch in latch (B) and push latch to disengage.
3. Lift at front of door to open.

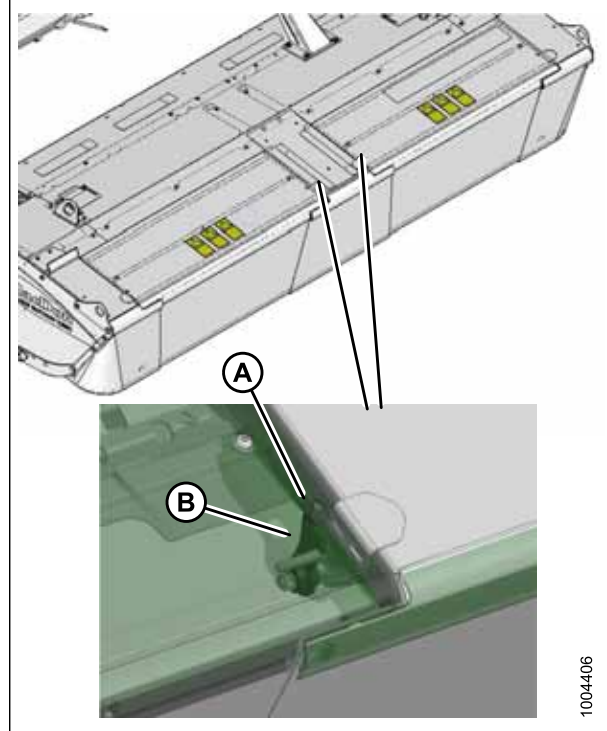


Figure 3.4: Cutterbar Door Latch

## INSTALLATION INSTRUCTIONS

### 3.3 Removing Driven Deflector

To remove the cage-style driven deflector, follow these steps:

1. On the right end of the cutterbar, remove four bolts (A). Retain for reassembly.
2. Remove and discard cover (B) and deflector (C).

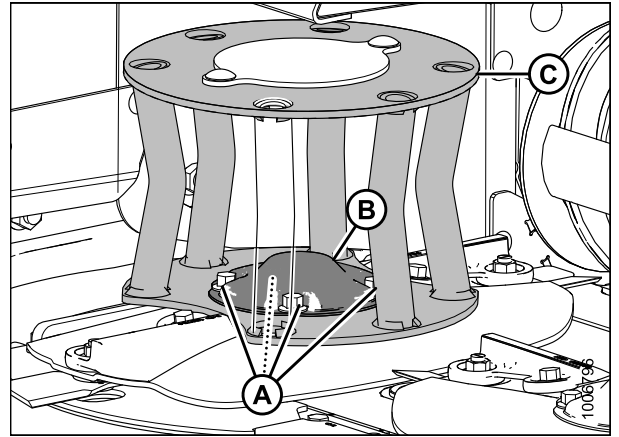


Figure 3.5: Driven Deflector

## INSTALLATION INSTRUCTIONS

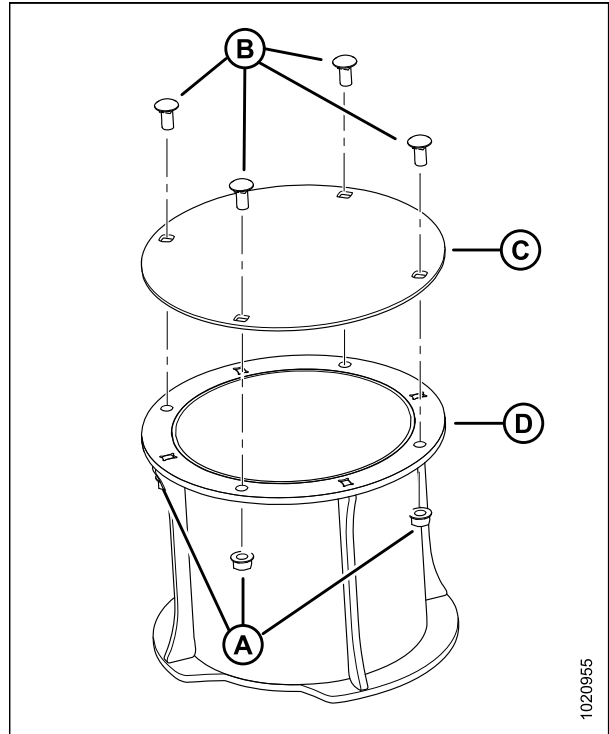
### 3.4 Installing New Driven Deflector

To install the new solid drum-style deflector (MD #268090) provided in the kit, follow these steps:

1. Remove the new deflector (MD #268090) from the kit.
2. Remove the four flange nuts (A) and carriage bolts (B) securing the cover plate (C) to the deflector drum (D).

**NOTE:**

Only three of the flange nuts are visible in the illustration.

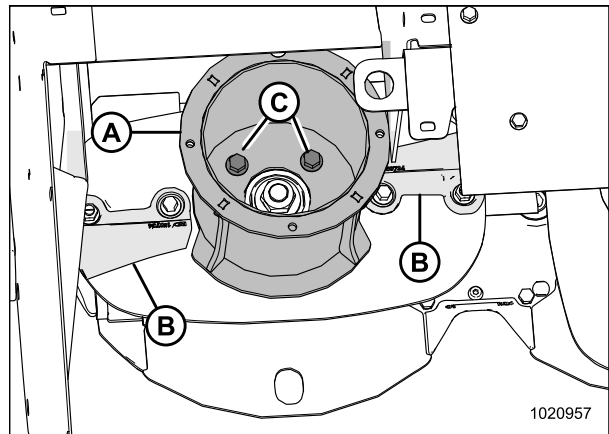


**Figure 3.6: New Solid Drum-Style Deflector (MD #268090)**

3. Position the deflector drum (A) on top of the spindle on the right-most disc, being careful to clear the accelerators (B).
4. Secure the deflector drum (A) to the disc with the four M12 hex bolts (C) retained from [3.3 Removing Driven Deflector, page 13](#).

**NOTE:**

Only two of the four bolts are visible in the illustration.



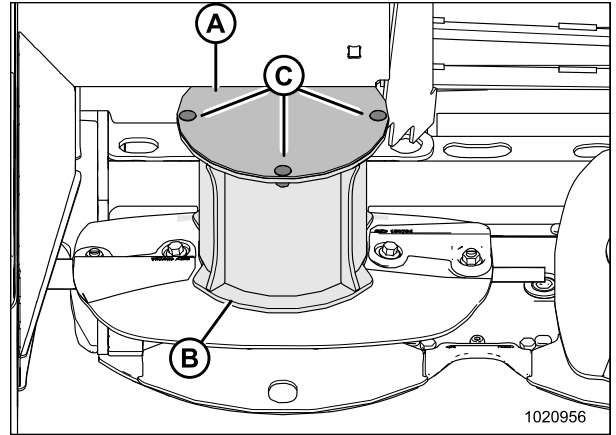
**Figure 3.7: New Deflector Drum Secured to Cutterbar**

## INSTALLATION INSTRUCTIONS

5. Position the cover plate (A) on the top of the deflector drum (B), lining up the holes.
6. Secure the cover plate (A) to the top of the deflector drum (B) with the hardware (C) provided with the deflector and removed at the beginning of this procedure.

**NOTE:**

Only three of the four bolts, and one of the four nuts are visible in the illustration.



**Figure 3.8: New Driven Deflector Installed**

## INSTALLATION INSTRUCTIONS

### 3.5 Removing Driveline Deflector

To remove the existing driveline deflector, follow these steps:

1. On the left end of the cutterbar, locate the deflector (C) with the driveline in the center of it.
2. Remove the four bolts (A) and flat washers that secure the driveline (B) and disc to the spindle.
3. Rotate the deflector (C) as required so the large opening in deflector faces you.
4. Remove the driveline (B) through the larger opening in the deflector.
5. Remove spacer plate (D).

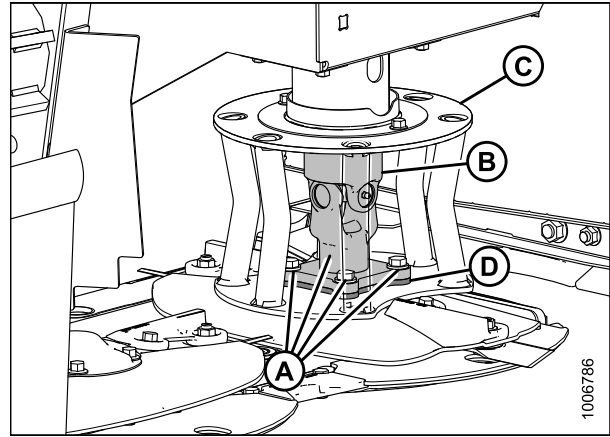


Figure 3.9: Driveline Deflector

6. Loosen the four bolts (A) in the two plates (B) that hold the upper driveline shield (C) in place.
7. Move the plates (B) so that shield (C) can be lowered into deflector (D).
8. Remove the deflector (D).

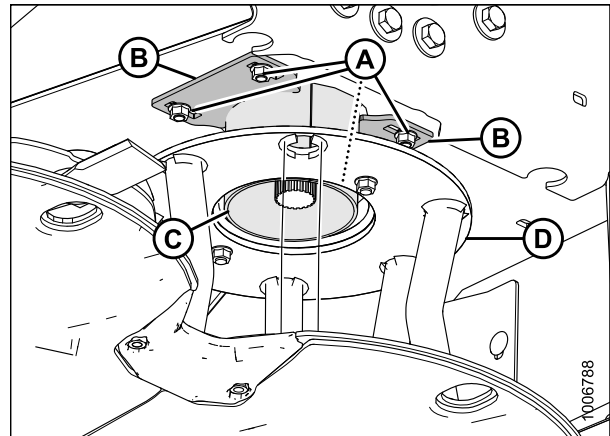


Figure 3.10: Driveline Deflector

## INSTALLATION INSTRUCTIONS

### 3.6 Installing New Driveline Deflector

To install the new driveline deflector, shields, etc., follow these steps:

**NOTE:**

All parts are provided in kit unless otherwise specified.

1. Remove the remaining parts from the kit.
2. Above the left-most cutterbar disc, mount the new right vertical shield (A) (MD #268070) and the new left vertical shield (B) (MD #268071) to the square slotted cutouts previously used to mount the old shields. Use two carriage bolts (MD #21472) and two flange nuts (MD #30228) to loosely secure each shield in place.

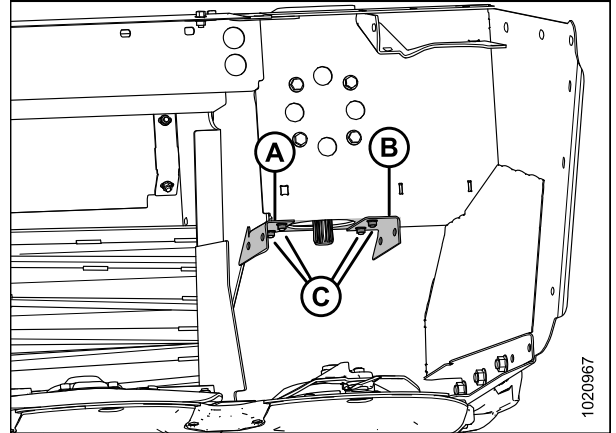


Figure 3.11: New Vertical Shields Installed

3. Position the new horizontal shield (A) (MD #268086) in between the two vertical shields (B) so that the back flange sits flush against the left frame member. Loosely secure the horizontal shield in place using four M10 hex flange bolts (C) (MD #152655).

**NOTE:**

Bolts securing horizontal shield to the left vertical shield are not visible in the illustration.

4. Drill an 11.5 mm (7/16 in.) hole at location (D), centered in the slot on the flange, through the left frame member.
5. Remove the four M10 hex flange bolts and the horizontal shield.
6. Tighten the hardware securing the vertical shields to the header.

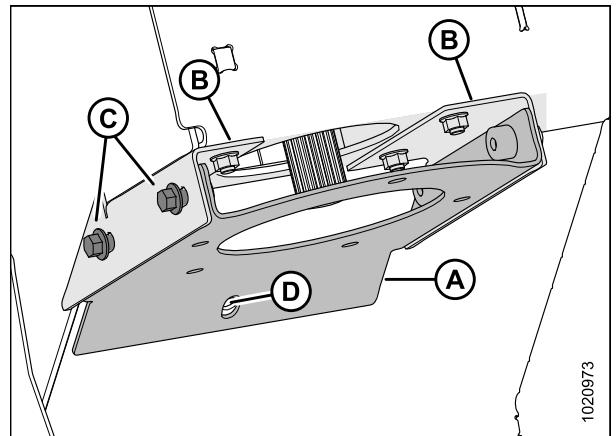
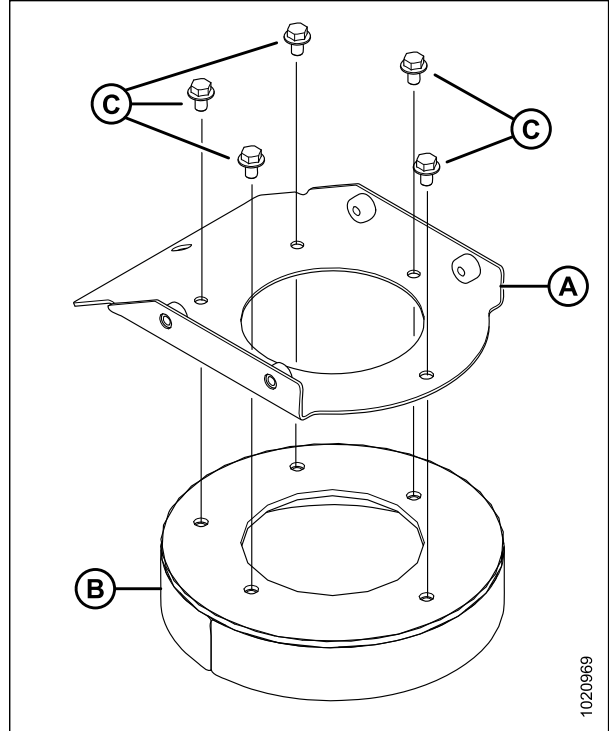


Figure 3.12: Hole Position on Horizontal Shield

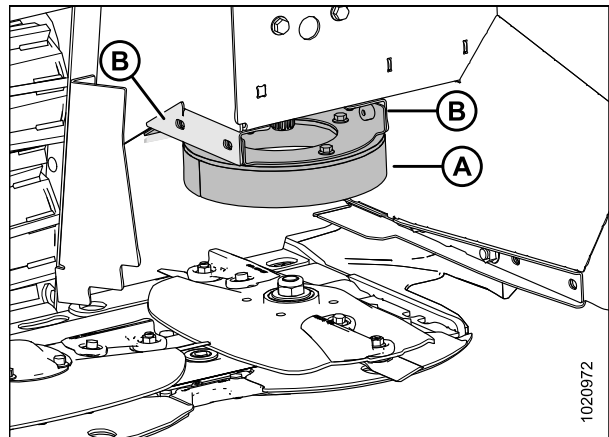
## INSTALLATION INSTRUCTIONS

- Secure the horizontal shield (A) to the new drum top (B) (MD #268084) using five M10 hex flange head bolts (C) (MD #136151) and Loctite® Blue #243 (or equivalent).
- Torque to 34 Nm (25 lbf·ft).



**Figure 3.13: Horizontal Shield Secured to Drum Top**

- Reposition horizontal shield (with drum top attached) (A) in between the vertical shields (B).



**Figure 3.14: Horizontal Shield and Drum Top Installed**

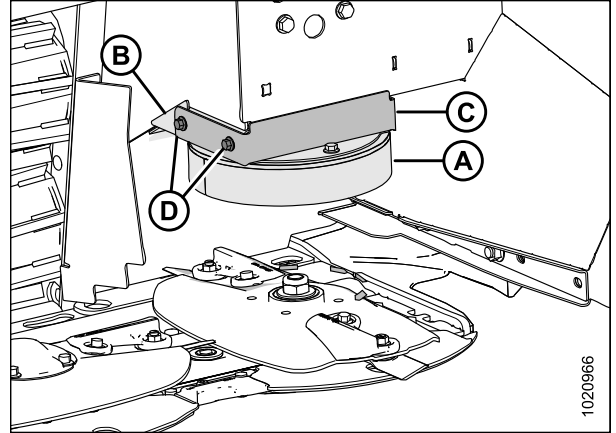


## INSTALLATION INSTRUCTIONS

10. Position front shield plate (C) (MD 268130) over the front of the horizontal shield (A) and the vertical shields (B), and secure in place with four M10 hex flange head bolts (D) (MD #152655), and Loctite® Blue #243 (or equivalent).

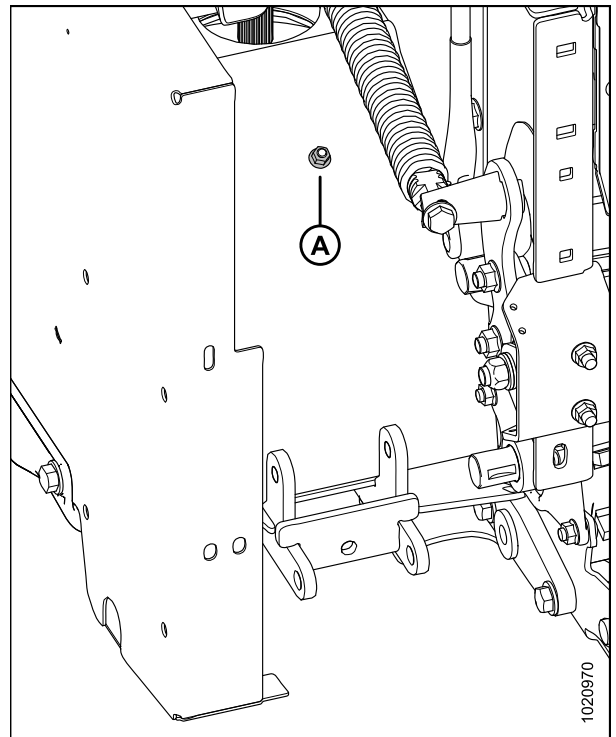
**NOTE:**

One of the vertical shields and two of the bolts are not visible in the illustration. They are on the other side of the front shield plate.



**Figure 3.15: Front Shield Plate Installed**

11. Secure the back of the horizontal shield to the left frame member using one M10 hex flange head bolt (MD #152655) and one M10 hex flange center lock nut (A) (MD #135799).



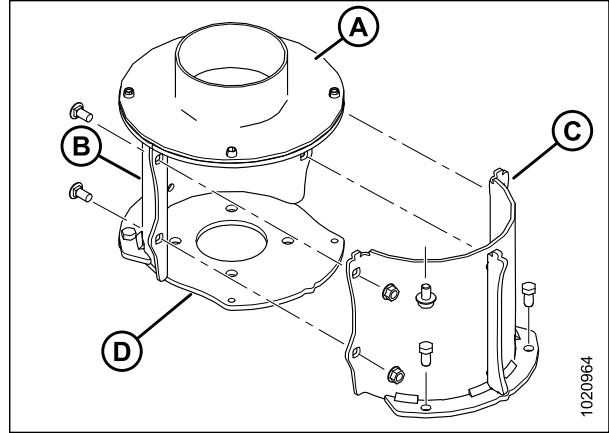
**Figure 3.16: Back View of Left Frame Member**

## INSTALLATION INSTRUCTIONS

12. The new deflector drum assembly (MD #268069) is composed of a top shield (A), two drum halves (B) and (C), and a bottom plate (D) fastened together with hex head bolts and flange nuts. Remove the bolts (E) and nuts (F) securing one of the drum halves (C) to the drum assembly, and then remove that drum half. Set aside for later installation.

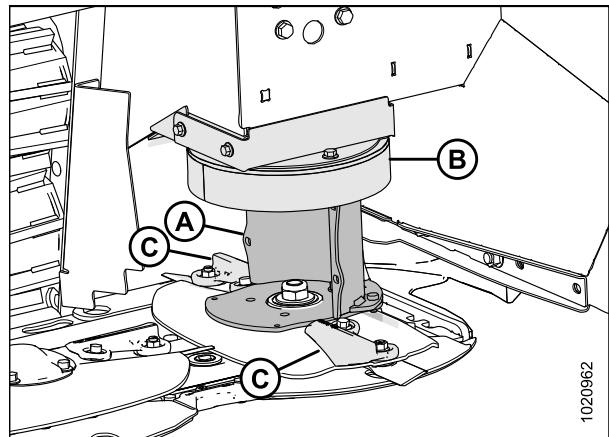
**NOTE:**

Eight bolts and four nuts need to be removed. Not all of them are visible in the illustration.



**Figure 3.17: New Deflector Drum Assembly**

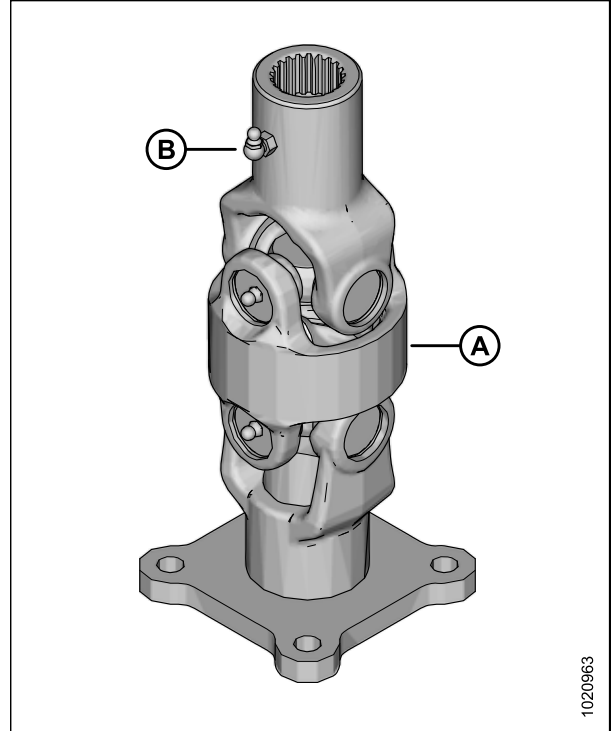
13. Position the new deflector drum assembly (A) (without the drum half you removed in the previous step) on top of the left-most cutterbar disc, with the assembly's top shield inside the drum top (B). Be careful to clear the accelerators (C).
14. Use Loctite® Blue #243 (or equivalent) on the free spinning hardware. Leave hardware loose to make final assembly easier.



**Figure 3.18: New Deflector Drum Assembly Installed (One Drum Half Missing)**

## INSTALLATION INSTRUCTIONS

15. Replace the grease fitting on the vertical driveline (A) (removed in [3.5 Removing Driveline Deflector, page 16](#)) with the new 90 degree fitting (B) (MD #21010). This will allow the driveline to be greased from above, without the need to remove any of the shielding.



**Figure 3.19: Vertical Driveline with New Grease Fitting**

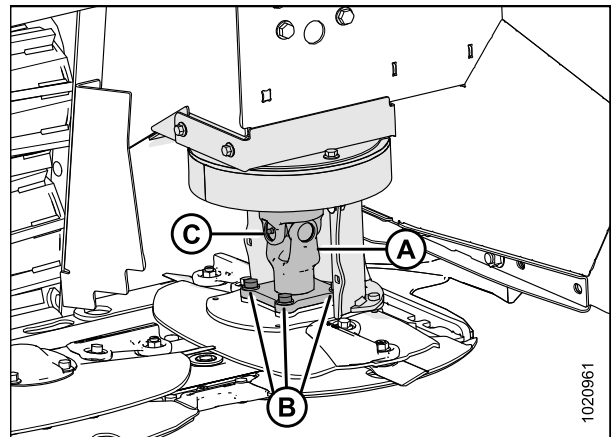
16. Install the vertical driveline (A) inside the new deflector drum assembly and secure in place with four flat washers and M12 hex head bolts (B) (removed in [3.5 Removing Driveline Deflector, page 16](#)). The grease fittings (C) on the U-joint should point towards the missing drum half so that the driveline can be greased with only one half of the drum removed.

**NOTE:**

Only three of the four washers and bolts are visible in the illustration. The fourth is on the other side of the driveline.

**NOTE:**

The grease fittings on the U-joint will need to be lubricated every 250 hours or annually.



**Figure 3.20: Vertical Driveline Installed**

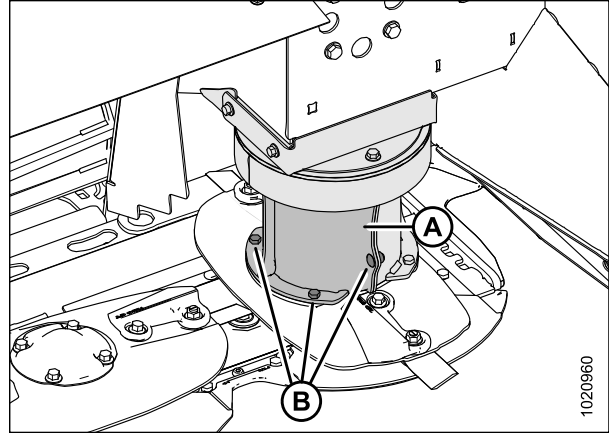
## INSTALLATION INSTRUCTIONS

17. Install the other half of the deflector drum (A) and secure in place with the removed hardware (B).

**NOTE:**

Not all of the hardware is visible in the illustration. There should be two bolts at the bottom, two at the top, and two bolts and nuts at the sides of the drum half.

18. Tighten all hardware.



**Figure 3.21: New Driveline Deflector Fully Installed**

### 3.7 Closing the Cutterbar Doors: North American

Follow these steps to close the cutterbar doors on a North American header / mower conditioner.

 **CAUTION**

To avoid injury, keep hands and fingers away from corners of doors when closing.

1. Holding the door open, lift the safety door latch (A) to disengage its lock, then move the door down to its closed position over the cutterbar.

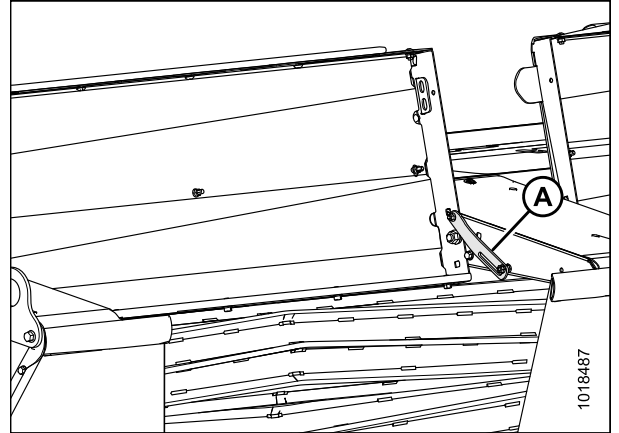


Figure 3.22: Cutterbar Doors

2. Hook curtain latches (A).

**NOTE:**

Ensure that curtains hang properly and completely enclose cutterbar area.

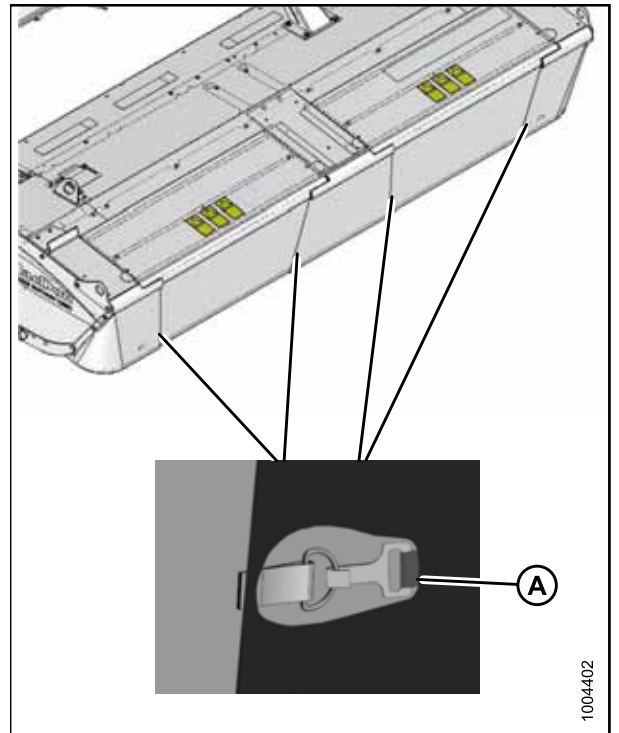


Figure 3.23: Curtain Latches

### 3.8 Closing the Cutterbar Doors: Export

To close the cutterbar doors on an export header / mower conditioner, follow these steps:

**⚠ CAUTION**

To avoid injury, keep hands and fingers away from corners of doors when closing.

1. Pull at top and move to closed position. Ensure latch (A) has engaged the door.

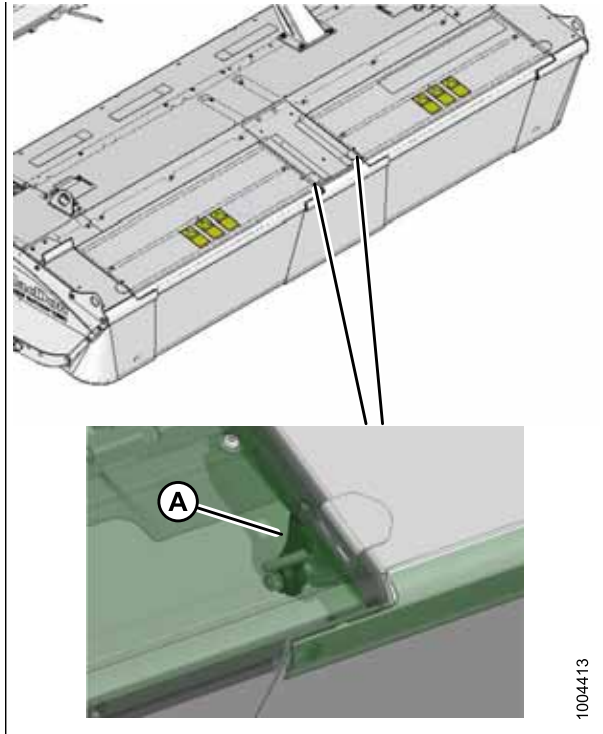


Figure 3.24: Cutterbar Door Latch

## INSTALLATION INSTRUCTIONS

2. Hook curtain latches (A).

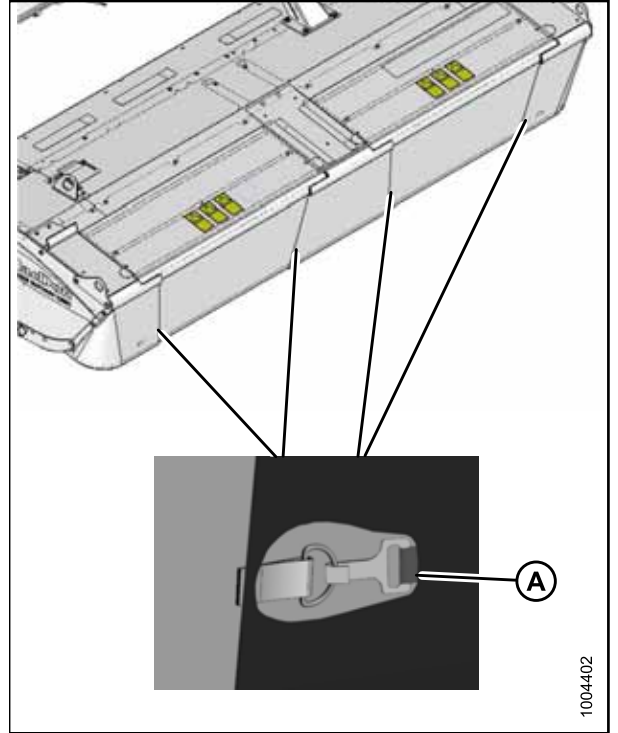


Figure 3.25: Curtain Latches

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## 4 After Installation

After installing the new deflectors, follow these steps:

### CAUTION

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

1. With the shields closed and the curtains buckled, run the header at idle. From the cab, listen for any signs of contact.
2. Stop the header, and turn off the windrower/tractor engine.
3. Inspect the new deflectors for any wear that would indicate contact.





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