

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

Rotary Deflector Replacement Kit (MD #214191)
Installation Instructions

214191 Revision A
Original Instruction

R85 16-Foot Rotary Disc Self-Propelled Windrower Header and Pull-Type Mower Conditioner



1002166

Published in February 2017

Introduction

The Rotary Deflector Replacement kit (MD #268223) enables you to replace the drive and driven deflectors and shields on a MacDon 16-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 help feed crop into the conditioner better.

NOTE:

Once the kit is installed, the vertical driveline will need to be greased every 250 hours or once each year, 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.

TABLE OF CONTENTS

Introduction.....	i
Chapter 1: Safety	1
1.1 Signal Words	1
1.2 General Safety.....	2
Chapter 2: Parts List	5
Chapter 3: Installation Instructions	9
3.1 Opening the Cutterbar Doors: North America	9
3.2 Opening the Cutterbar Doors: Export Header or Mower Conditioner.....	11
3.3 Removing Driven Deflector	14
3.4 Installing New Driven Deflector	15
3.5 Removing Driveline Deflector.....	17
3.6 Installing New Driveline Deflector	18
3.7 Closing the Cutterbar Doors: North American Header or Mower Conditioner.....	22
3.8 Closing the Cutterbar Doors: Export Header or Mower Conditioner.....	24
Chapter 4: After Installation	27

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.

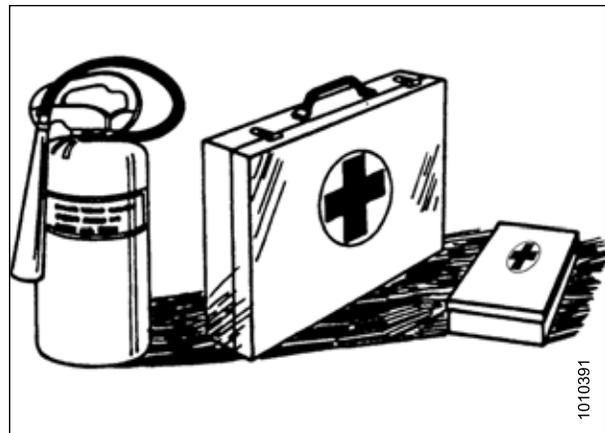


Figure 1.3: Safety Equipment

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.

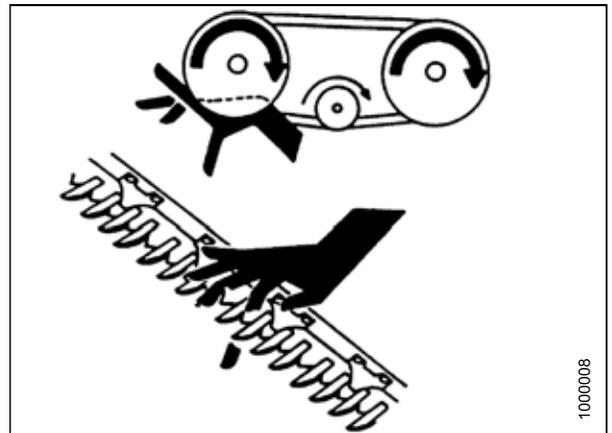


Figure 1.5: Safety around Equipment

- 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.



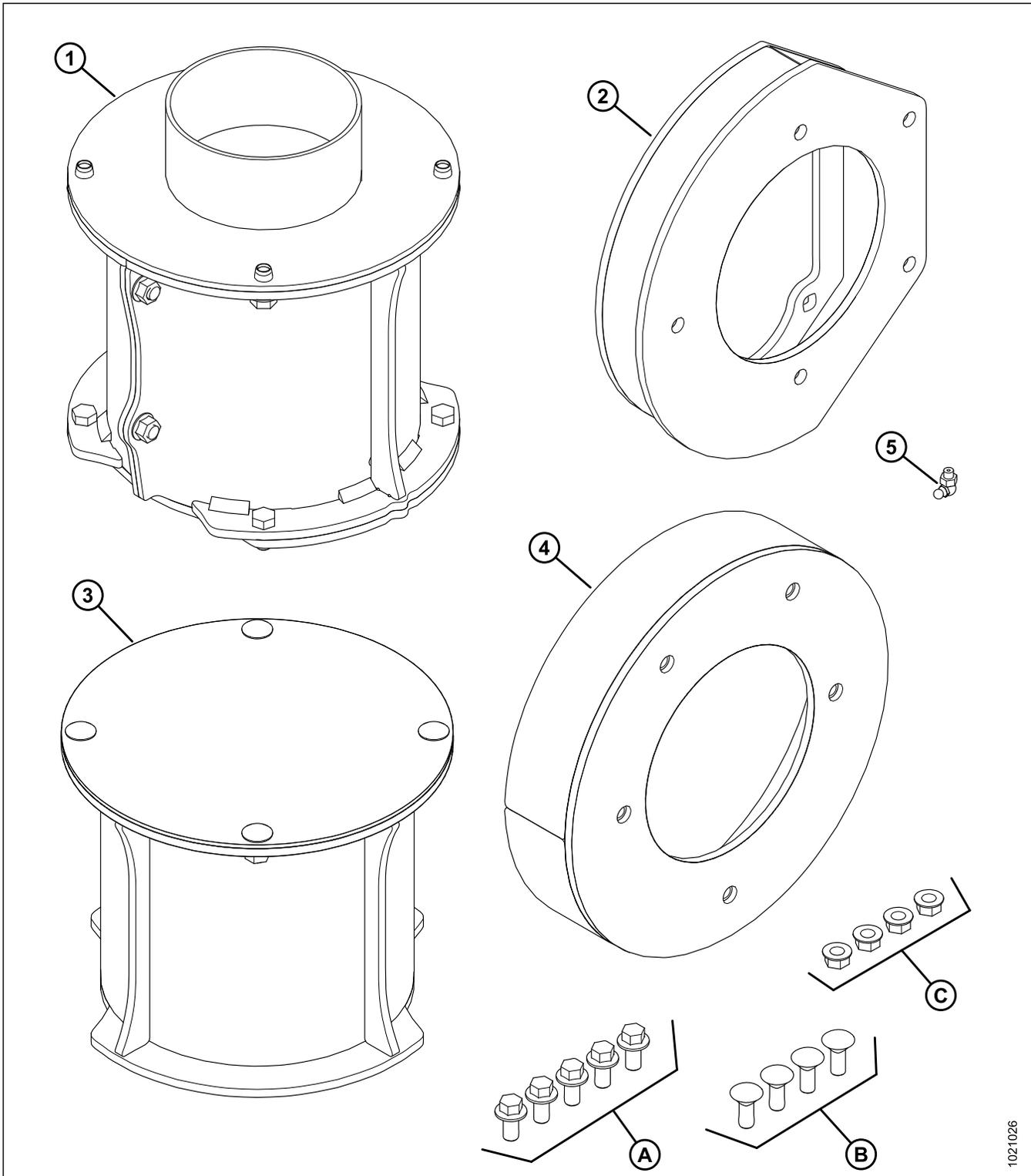
Figure 1.6: Safety around Equipment

2 Parts List

The following parts are included in this kit.

PARTS LIST

Figure 2.1: Parts Included in the R85 16-Foot Rotary Deflector Replacement Kit



1021026

PARTS LIST

Ref	Part Number	Description	Quantity
1	268069	DRUM – SPLIT ASSEMBLY	1
2	268219	ASSEMBLY – SHIELD MOUNT	1
3	268090	DRUM – SOLID ASSEMBLY	1
4	268084	DRUM TOP	1
5	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	19965	BOLT – RHSN 3/8-16 X 1 GR5 ZN PL	4
C	30228	NUT – FLG DT SMTH FACE 0.375-16UNC	4

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).

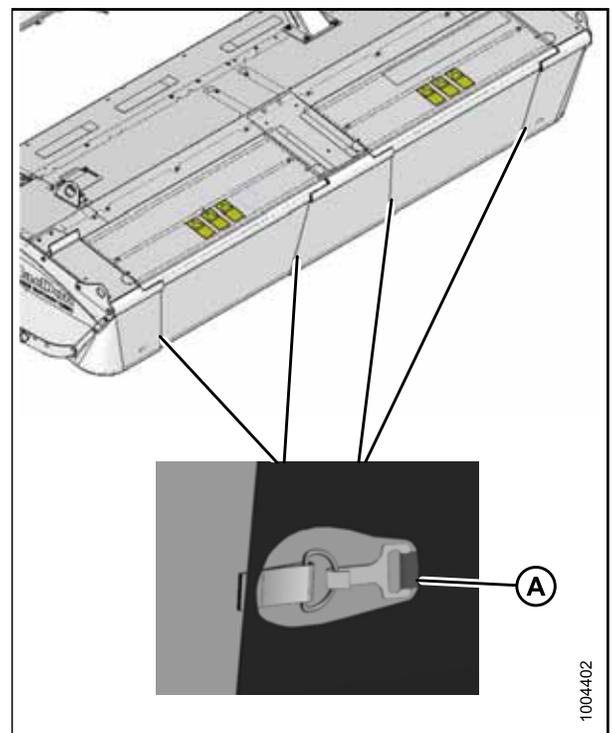


Figure 3.1: Curtain Latches: Pull-Type

INSTALLATION INSTRUCTIONS

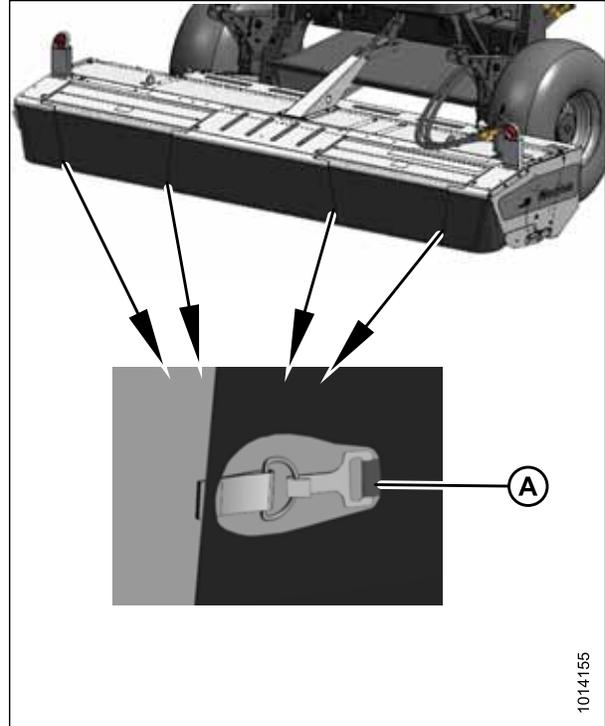


Figure 3.2: Curtain Latches: 16-Foot Windrower Header

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.

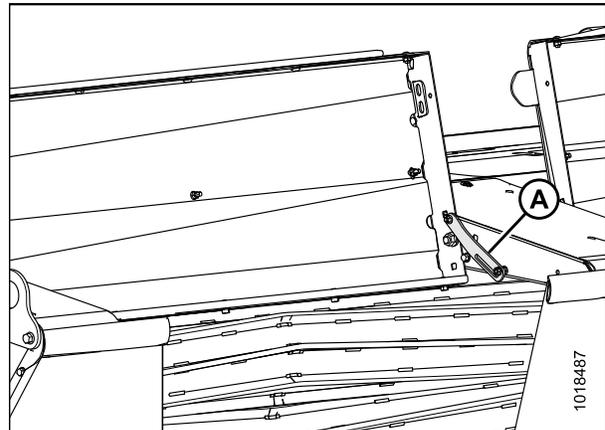


Figure 3.3: Cutterbar Doors

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).

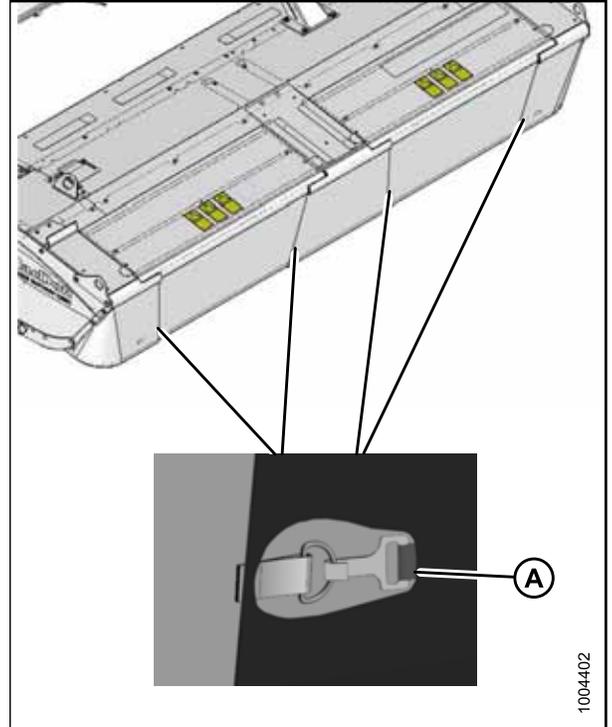


Figure 3.4: Curtain Latches: Pull-Type

INSTALLATION INSTRUCTIONS

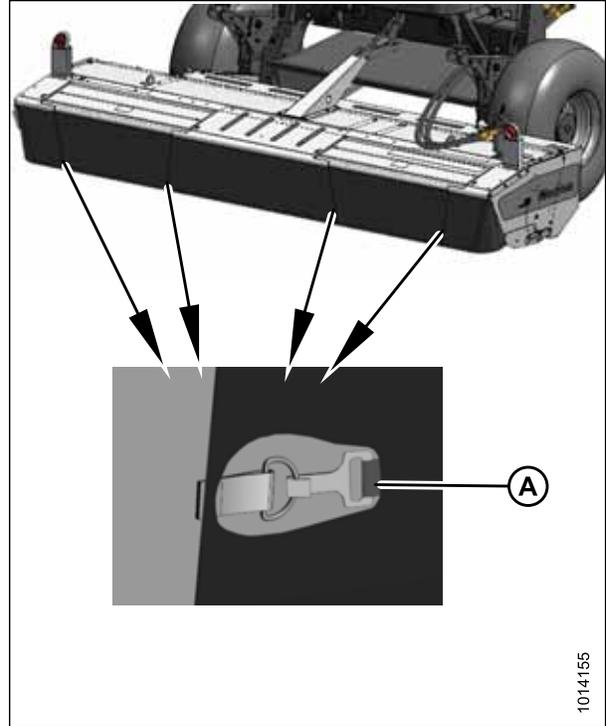


Figure 3.5: Curtain Latches 16-Foot Windrower Header

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.

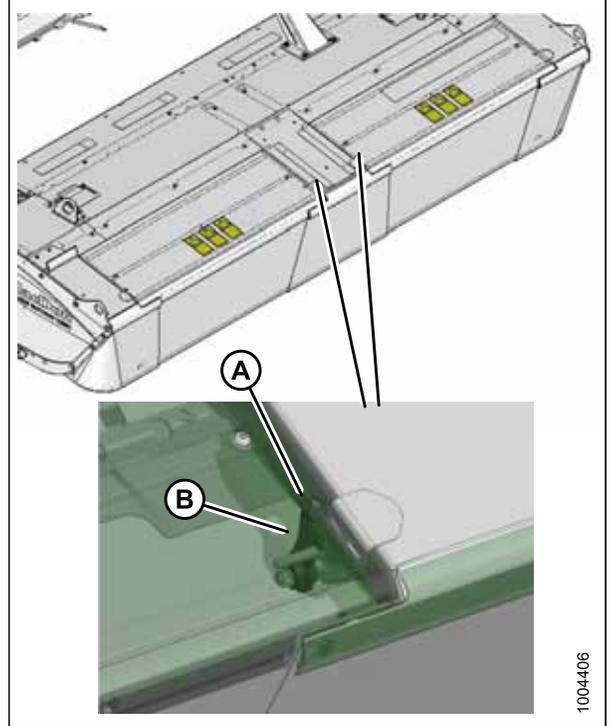


Figure 3.6: Cutterbar Door Latch

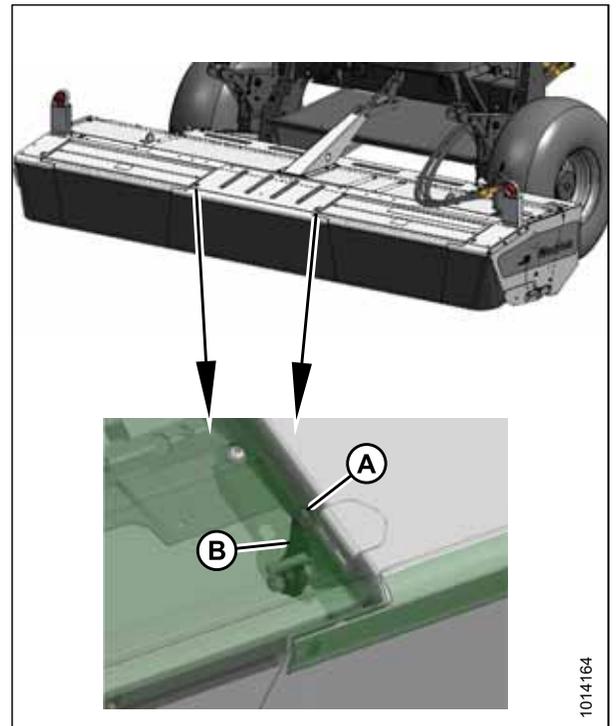


Figure 3.7: Cutterbar Door Latch

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).

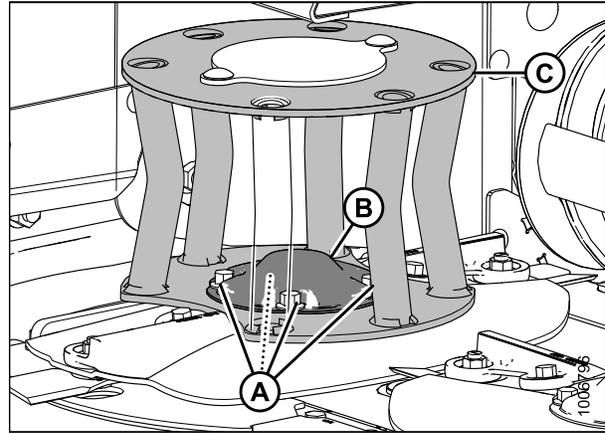


Figure 3.8: Driven Deflector

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.

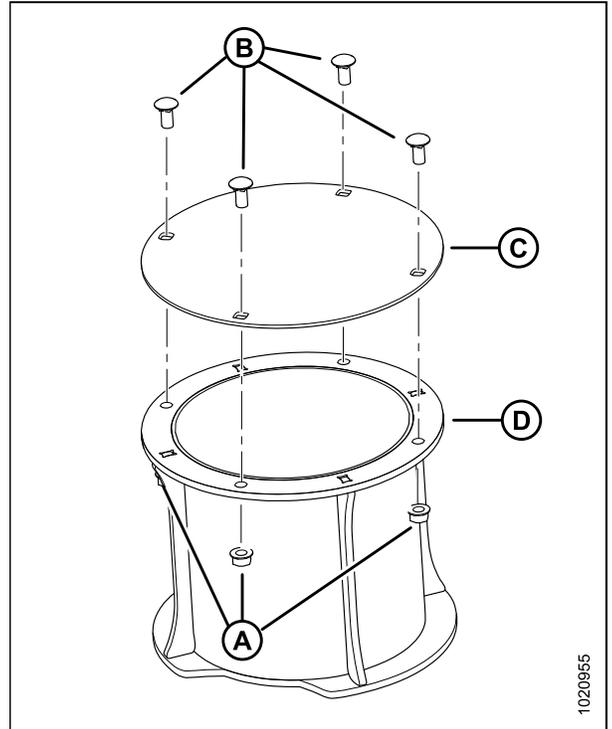


Figure 3.9: New Solid Drum-Style Deflector (MD #268090)

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 14](#).

NOTE:

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

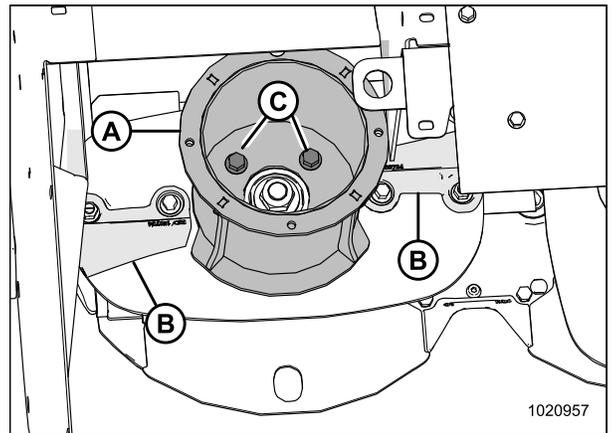


Figure 3.10: New Deflector Drum Secured to Cutterbar

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.

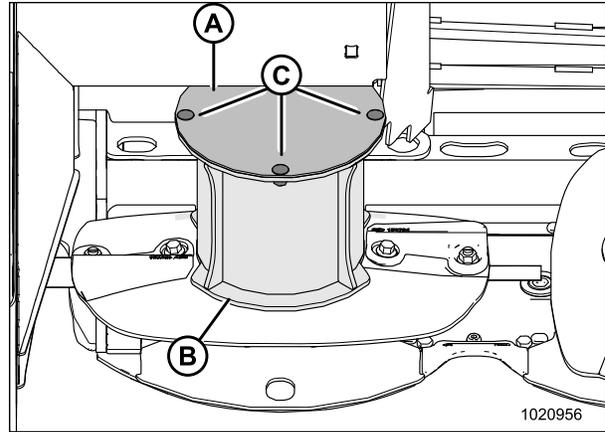


Figure 3.11: New Driven Deflector Installed

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.

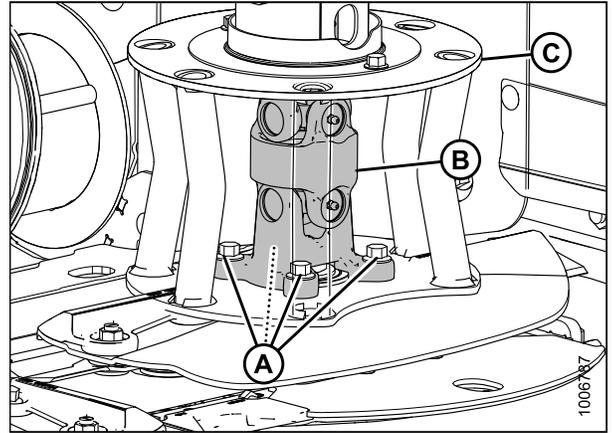


Figure 3.12: Driveline Deflector

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

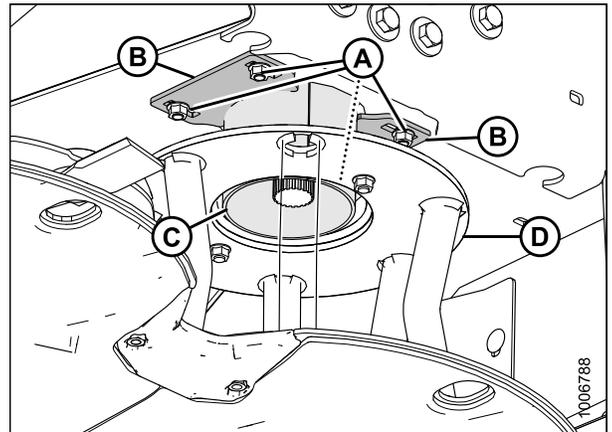


Figure 3.13: Driveline Deflector

INSTALLATION INSTRUCTIONS

3.6 Installing New Driveline Deflector

To install the new driveline reflector and shields, follow these steps:

NOTE:

All parts are provided in kit unless otherwise specified.

1. Remove the remaining parts from the kit.
2. Secure the shield mount assembly (A) (MD #268219) to the drum top (B) (MD #268084) using five M10 hex flange head bolts (C) (MD #152655) and Loctite® Blue #243 (or equivalent).
3. Torque to 47 Nm (35 lbf·ft).

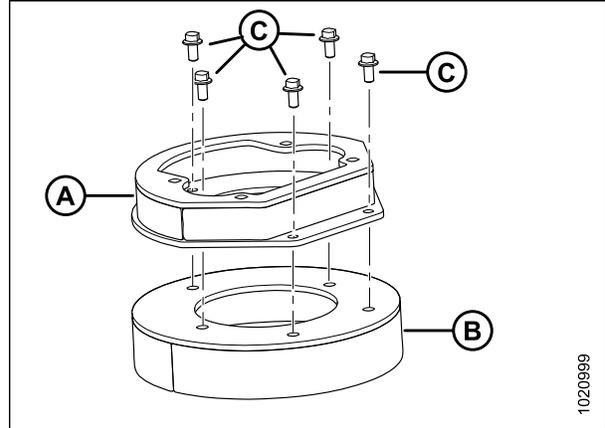


Figure 3.14: Securing Shield Mount Assembly to Drum Top

4. Above the left-most cutterbar disc, mount the shield mount assembly and drum top (A) to the square slotted cutouts previously used to mount the old shields. Use four carriage bolts (B) (MD #19965) and four flange nuts (MD #30228) to loosely secure them in place.

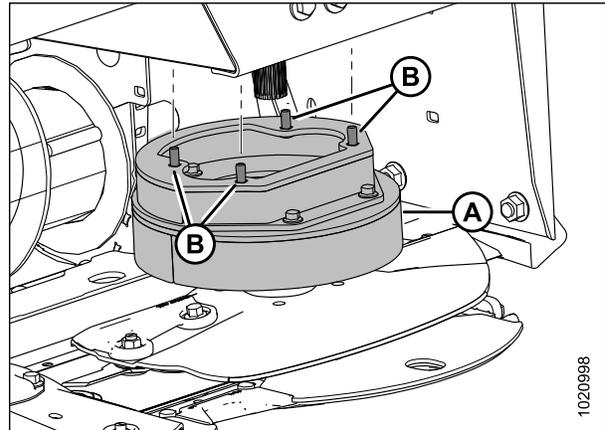


Figure 3.15: Shield Mount Assembly and Drum Top Installed

INSTALLATION INSTRUCTIONS

- 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 and nuts 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.

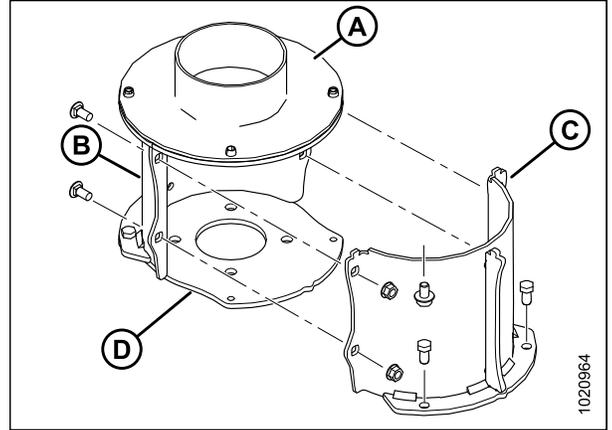


Figure 3.16: New Deflector Drum Assembly

- 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).

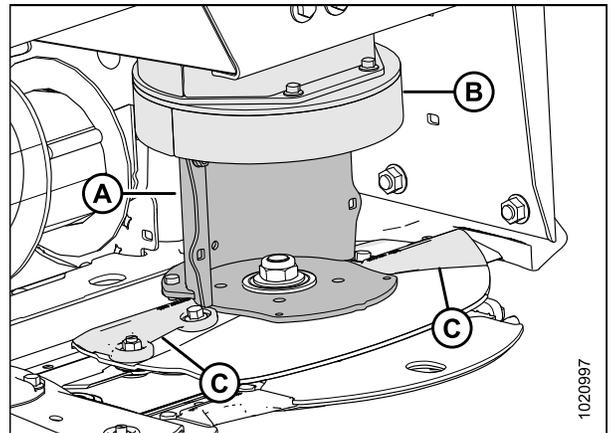


Figure 3.17: New Deflector Drum Assembly Installed (One Drum Half Removed)

INSTALLATION INSTRUCTIONS

7. Replace the grease fitting on the vertical driveline (A) (removed in [3.5 Removing Driveline Deflector, page 17](#)) with the new 90 degree fitting (B) (MD #21010). The new fitting should be pointed down as shown at right.

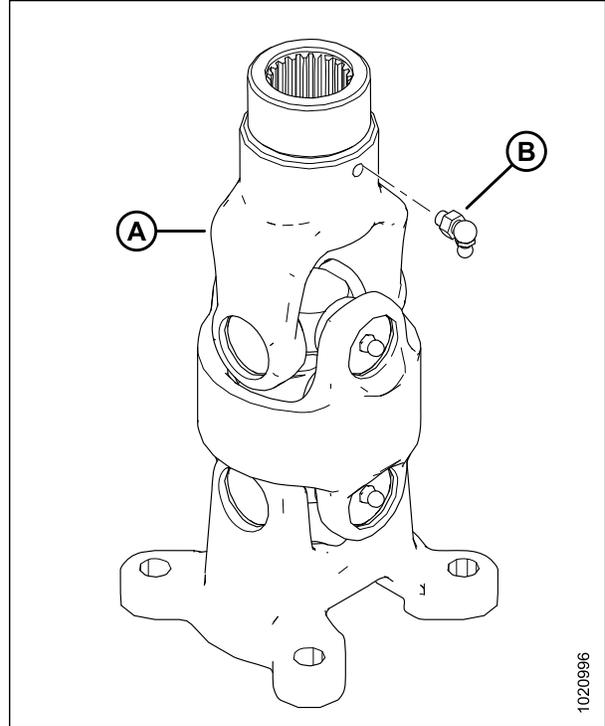


Figure 3.18: Vertical Driveline with New Grease Fitting

8. Install the vertical driveline (A) inside the new deflector drum assembly (B) and secure in place with four and M12 hex head bolts (C) (removed in [3.5 Removing Driveline Deflector, page 17](#)). The grease fittings (D) on the cross shafts of the driveline should be lined up with the notch (E) in the split drum so that the driveline can be greased with only one half of the drum removed.

NOTE:

Only three of the four bolts are visible in the illustration at right. The fourth bolt is on the other side of the driveline.

9. Grease the driveline cross shafts and spline while they are still easily accessible.

NOTE:

The driveline cross shafts and spline will need to be greased every 250 hours or annually.

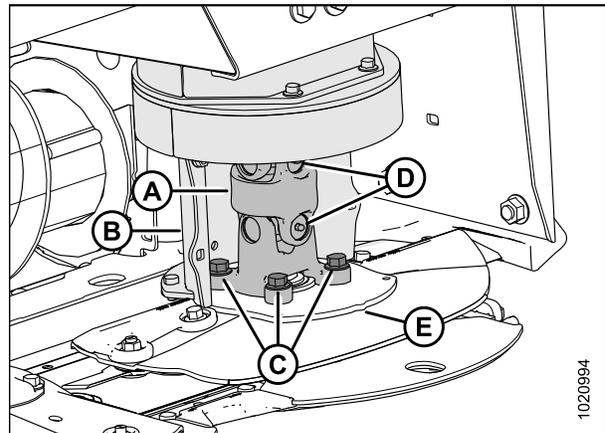


Figure 3.19: Vertical Driveline Installed

INSTALLATION INSTRUCTIONS

10. Install the other half of the deflector drum (A) and secure in place with the removed hardware (B). The hardware securing the sides of the drum to the bottom and top should be installed with Loctite® Blue #243 (or equivalent).

NOTE:

Not all of the hardware is shown in the illustration. There should be two bolts at the top and two at the bottom as well as two bolts and nuts at the sides.

11. Tighten the bolts securing the top of the drum to 68 Nm (50 lbf·ft). Tighten the bolts securing the bottom of the drum to 41 Nm (30 lbf·ft).
12. Center the drum top and shield mount assembly (C) over the deflector drum (A), and tighten the hardware securing them in place.

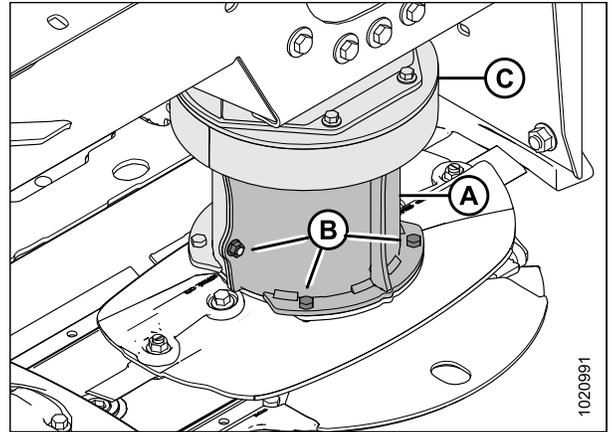


Figure 3.20: New Driveline Deflector Fully Installed

3.7 Closing the Cutterbar Doors: North American Header or Mower Conditioner

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

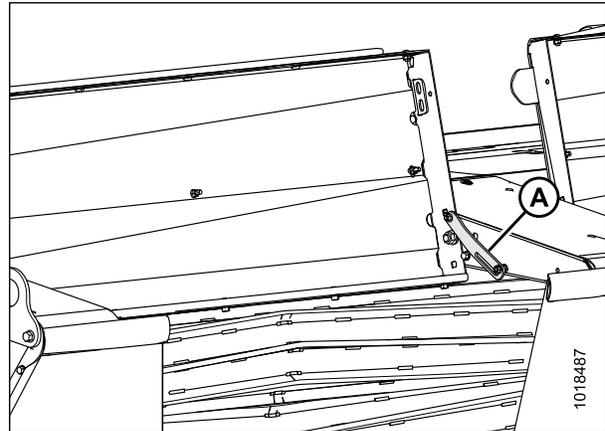


Figure 3.21: Cutterbar Doors

2. Hook curtain latches (A).

NOTE:

Ensure that curtains hang properly and completely enclose cutterbar area.

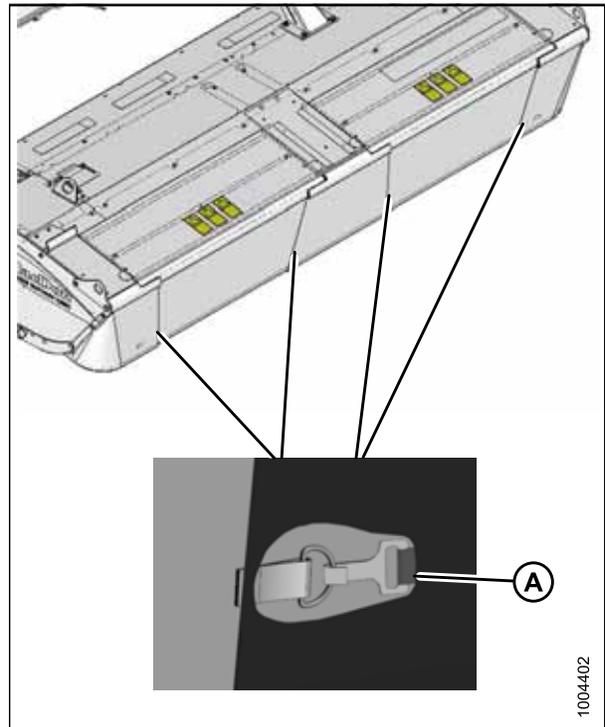


Figure 3.22: Curtain Latches: 16-Foot Pull-Type

INSTALLATION INSTRUCTIONS

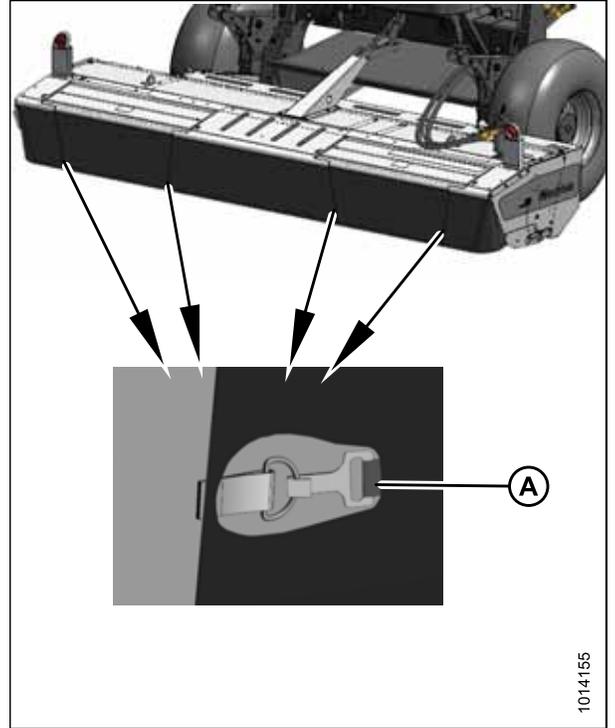


Figure 3.23: Curtain Latches: 16-Foot Windrower Header

1014155

3.8 Closing the Cutterbar Doors: Export Header or Mower Conditioner

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.

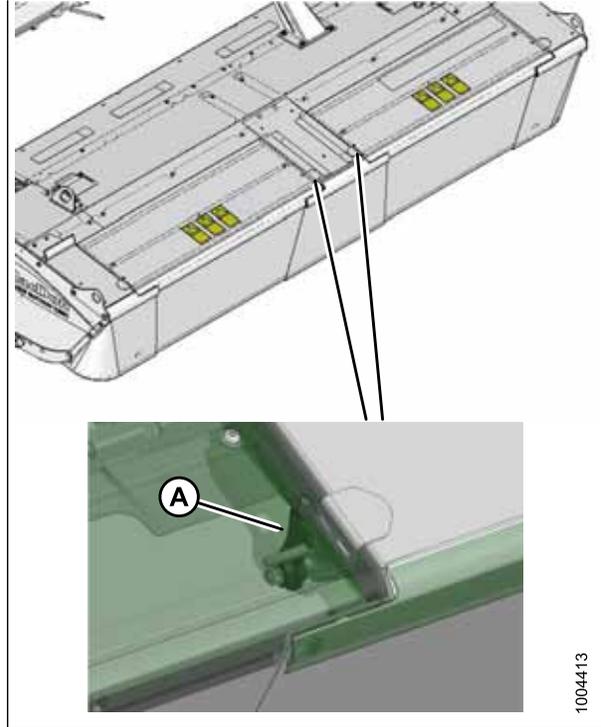


Figure 3.24: Cutterbar Door Latch: 16-Foot Pull-Type

1004413

INSTALLATION INSTRUCTIONS

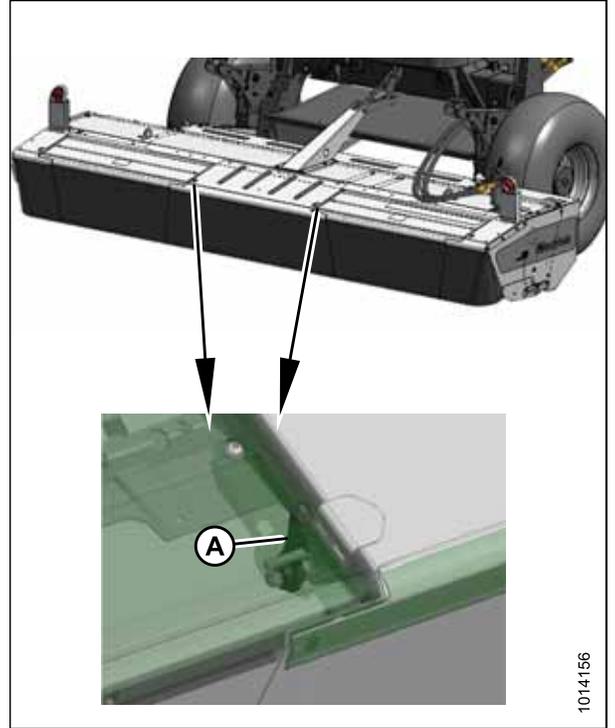


Figure 3.25: Cutterbar Door Latch: 16-Foot Windrower Header

- 2. Hook curtain latches (A).

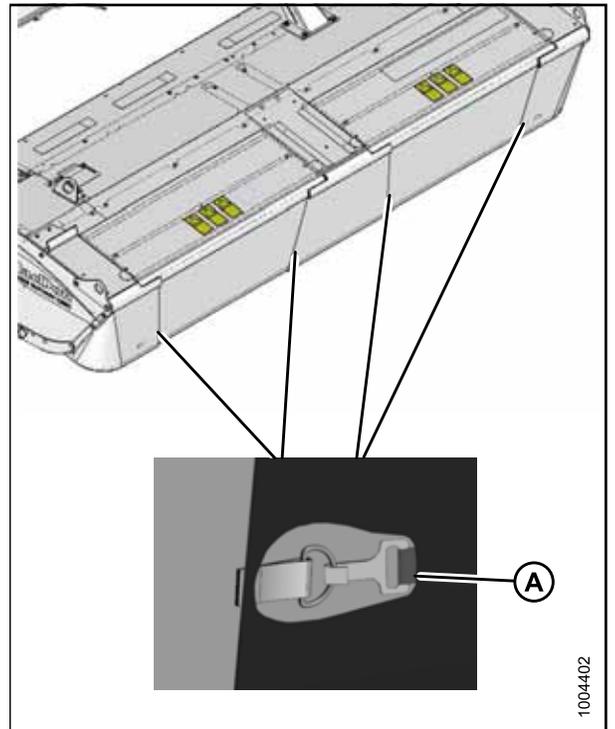
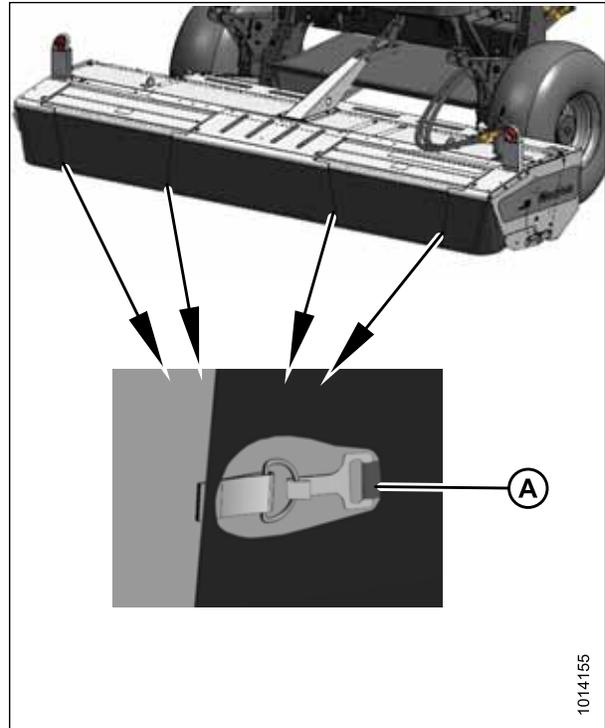


Figure 3.26: Curtain Latches: 16-Foot Pull-Type

INSTALLATION INSTRUCTIONS



**Figure 3.27: Curtain Latches: 16-Foot
Windrower Header**

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.

MacDon Industries Ltd.

680 Moray Street
Winnipeg, Manitoba
Canada R3J 3S3
t. (204) 885-5590
f. (204) 832-7749

MacDon, Inc.

10708 N. Pomona Avenue
Kansas City, Missouri
United States 64153-1924
t. (816) 891-7313
f. (816) 891-7323

MacDon Australia Pty. Ltd.

A.C.N. 079 393 721
P.O. Box 243, Suite 3, 143 Main Street
Greensborough, Victoria, Australia 3088
t. 03 9432 9982
f. 03 9432 9972

MacDon Brasil Agribusiness Ltda.

Rua Grã Nicco, 113, sala 202, B. 02
Mossunguê, Curitiba, Paraná
CEP 81200-200 Brasil
t. +55 (41) 2101-1713
f. +55 (41) 2101-1699

LLC MacDon Russia Ltd.

123317 Moscow, Russia
10 Presnenskaya nab, Block C
Floor 5, Office No. 534, Regus Business Centre
t. +7 495 775 6971
f. +7 495 967 7600

CUSTOMERS

MacDon.com

DEALERS

Portal.MacDon.com

Trademarks of products are the marks of their respective manufacturers and/or distributors.

Printed in Canada