MacDon

R113 and R116
Rotary Disc Pull-Type

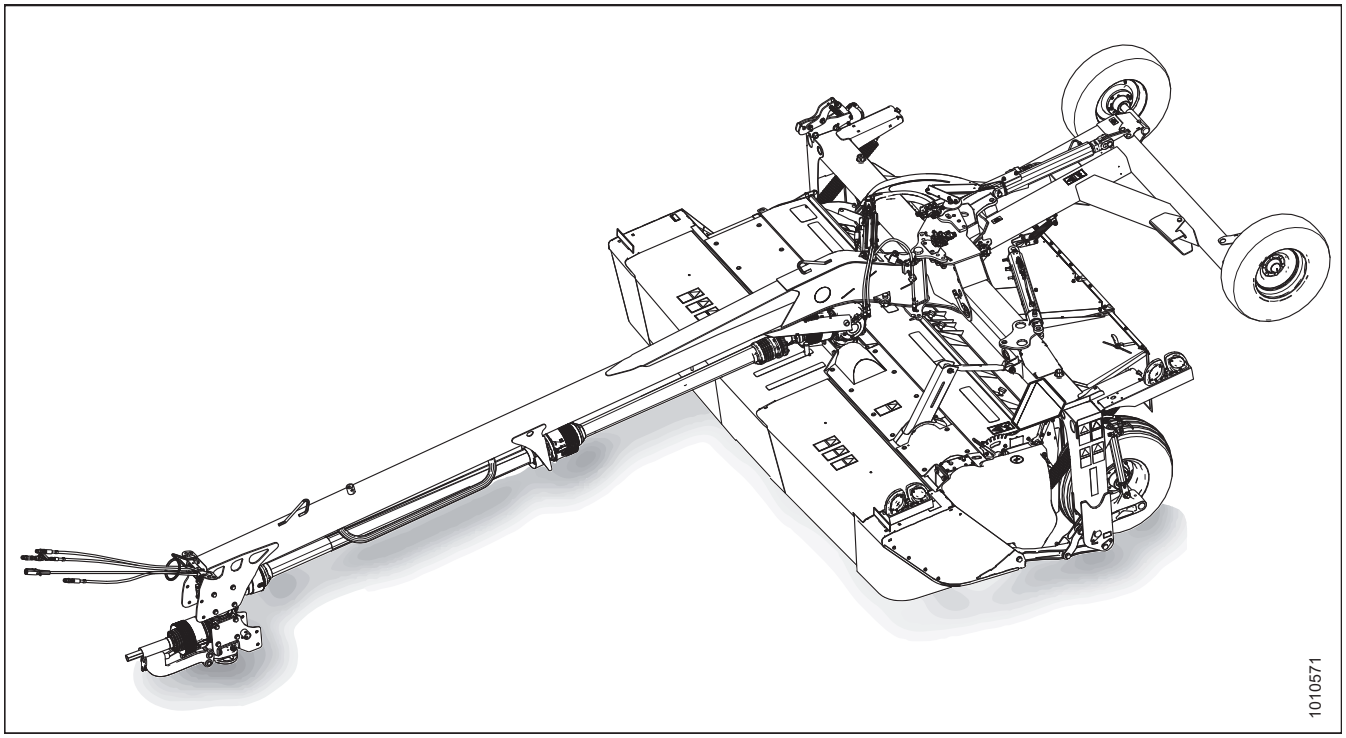
Gearbox Kit (MD #259516) Installation Instructions

214495 Revision C

Original Instruction

The Harvesting Specialists.

R116 Rotary Disc Pull-Type



Published June 2020

Introduction

The Gearbox kit (MD #259516) is used to replace a damaged or faulty cutterbar-conditioner drive gearbox (T-gearbox) on a MacDon R113 or R116 Rotary Disc Pull-Type.

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 4 hours.

Conventions

The following conventions are used in this document:

- Right and left are determined from the operator's position. The front of the rotary disc pull-type is the side that faces the crop.
- Unless otherwise noted, use the standard torque values provided in the rotary disc pull-type 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 currently available in English only.

Summary of Changes

At MacDon, we're continuously making improvements, and occasionally these improvements affect product documentation. The following list provides an account of major changes from the previous version of this document.

Section	Summary of Change	Internal Use Only
• Front cover • Introduction • *3 Installation Instructions, page 7*	MD #259414 superseded by MD #259516	ECN 58773
Inside front cover	Added copyright	Tech Pubs
2 Parts List, page 5	MD #307769 superseded by MD #325683	ECN 58773
• *3.4 Installing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R113 and Pre-2018 R116, page 20* • *3.5 Installing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R116, 2018 and Later, page 26*	Replaced image of drive alignment tool	ECN 58773

Chapter 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 general farm safety precautions 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 the 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

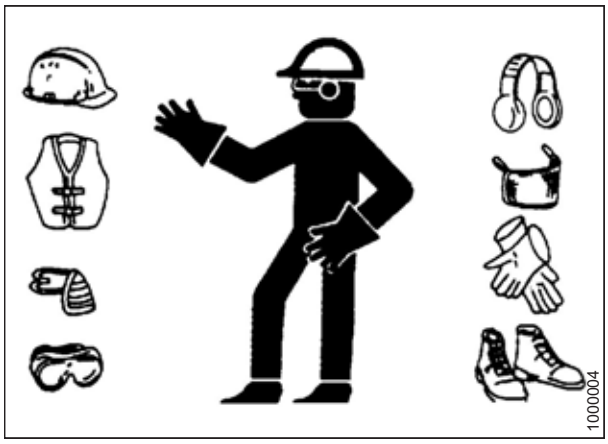


Figure 1.1: Safety Equipment

In addition, take the following precautions:

- 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 1.2: Safety Equipment

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

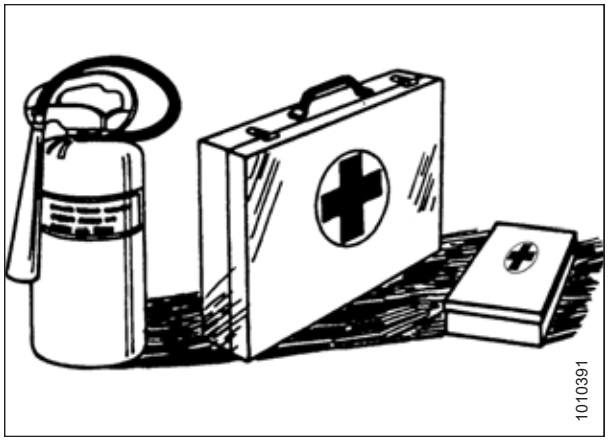


Figure 1.3: Safety Equipment

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

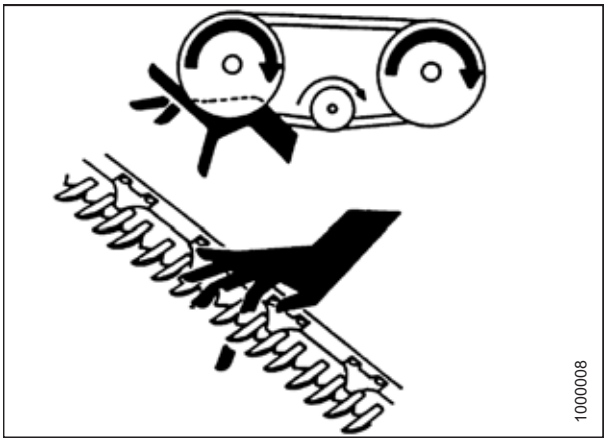


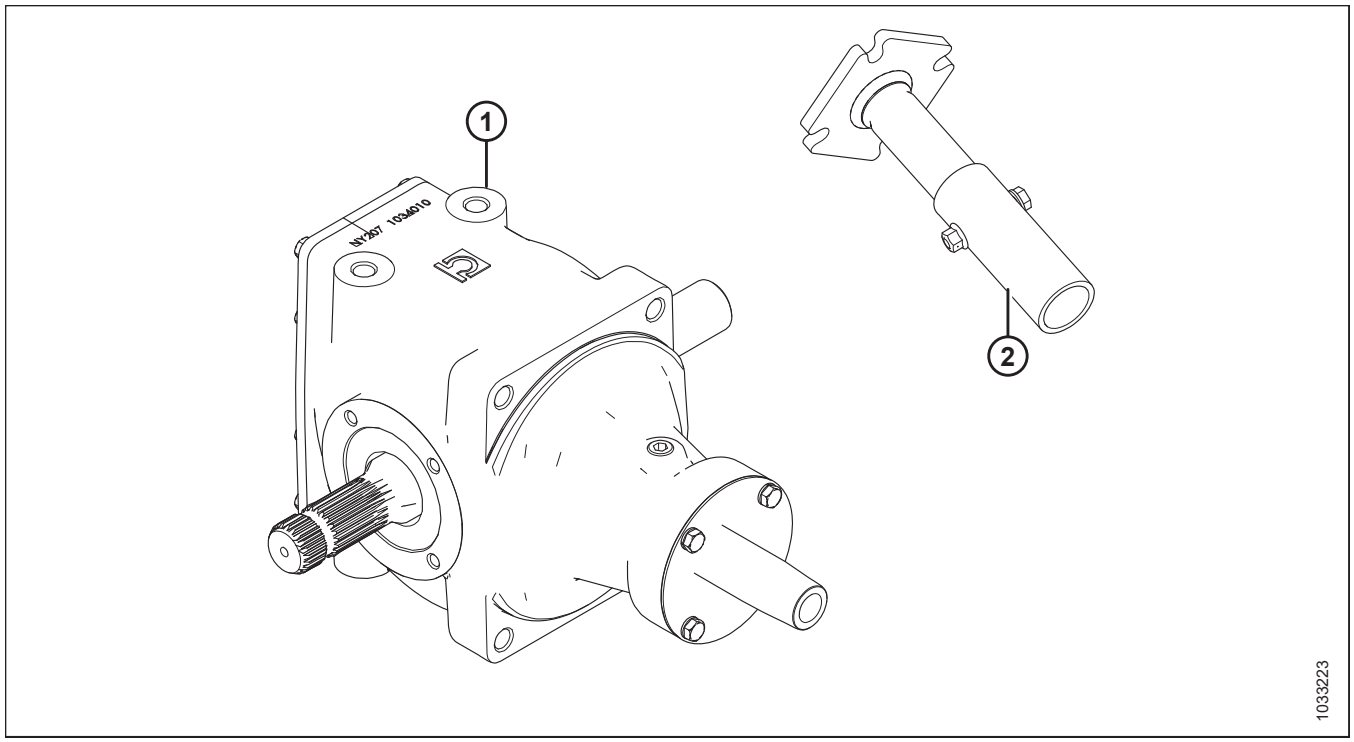
Figure 1.5: Safety around Equipment

- Keep service area clean and dry. Wet and/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 are fire hazards. 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

Chapter 2: Parts List

The following parts are included in this kit:



Ref	Part Number	Description	Quantity
1	NSS[1]	GEARBOX – T	1
2	325683	TOOL ASSEMBLY – DRIVE ALIGNMENT	1

1. Not sold separately.

Chapter 3: Installation Instructions

To install the Gearbox kit (MD #259516), follow these steps and procedures in order:

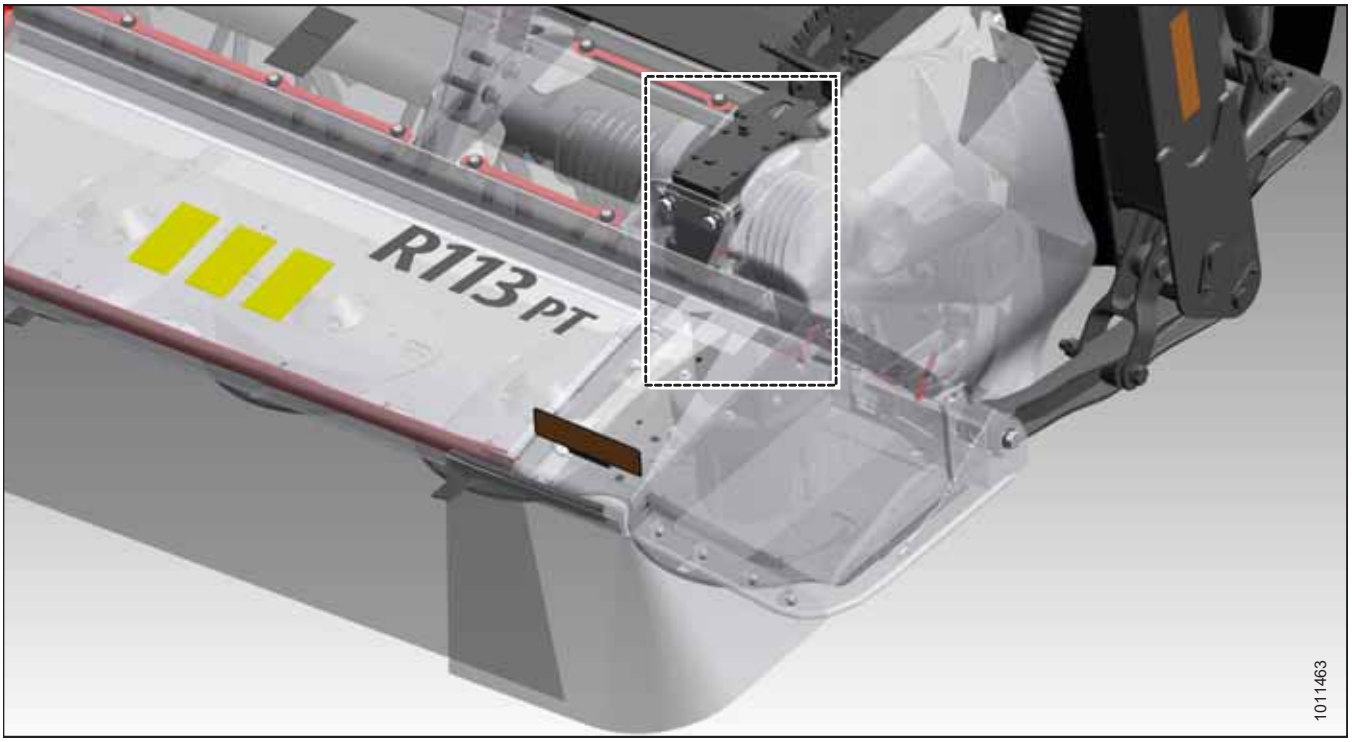


Figure 3.1: Gearbox Location – R113 Shown, R116 Similar

CAUTION

- **To prevent accidental movement of tractor, shut off engine, engage parking brake, and remove key.**
- **To maintain stability, always lower the machine completely. Block rotary disc pull-type wheels before detaching from tractor.**

3.1 Removing Left Driveshield

Remove left driveshield (A) as follows:

CAUTION

Do NOT operate the machine without the driveshields in place and secured.

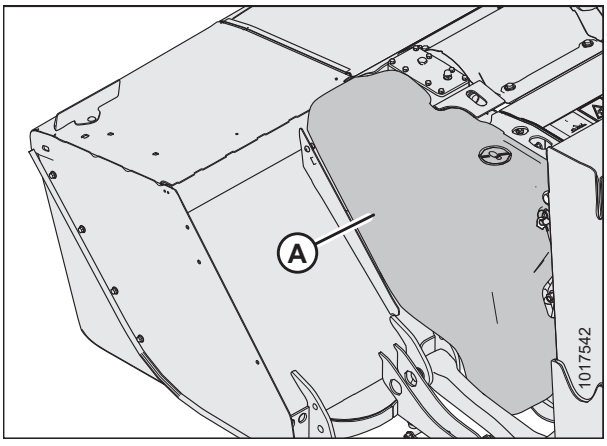


Figure 3.2: Left Driveshield

1. Lower the header, shut off the engine, and remove the key from the ignition.

2. Remove lynch pin (A) and tool (B) from pin (C).

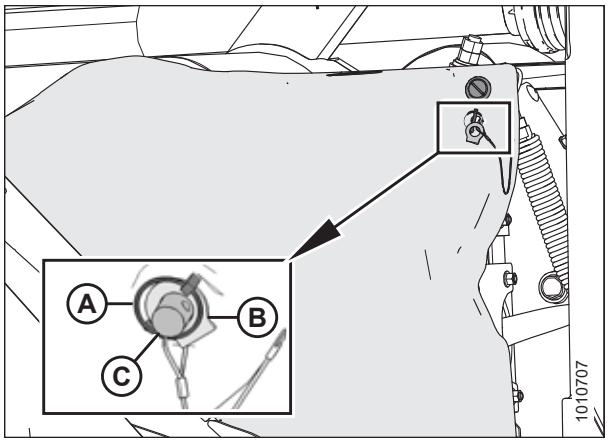


Figure 3.3: Tool to Unlock Driveshield

3. Insert the flat end of tool (A) into latch (B) and turn it counterclockwise to unlock.

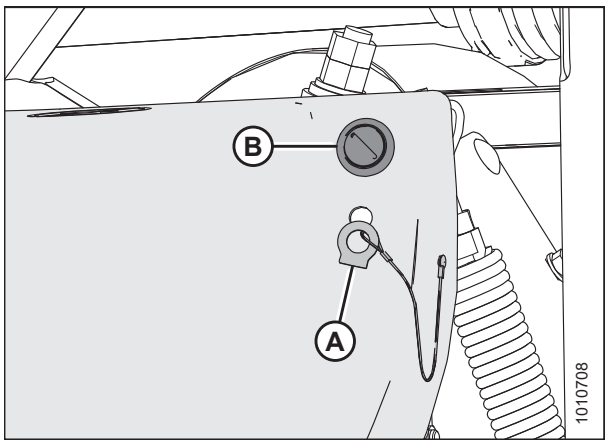


Figure 3.4: Tool to Unlock Driveshield and Latch

4. Pull the top of driveshield (A) away from the pull-type and lift off the pins at the base of the shield to remove.

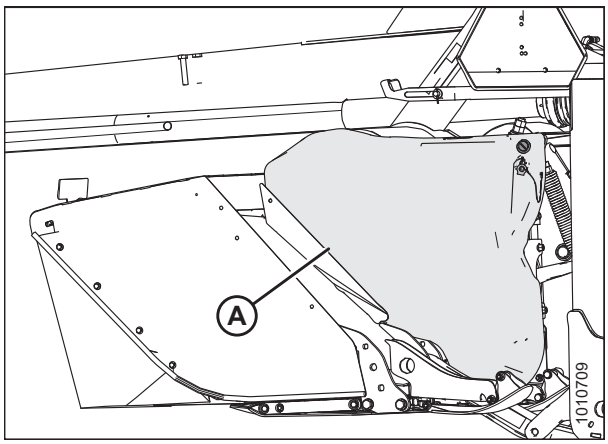


Figure 3.5: Driveshield

3.2 Removing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R113 and Pre-2018 R116

NOTE:

This procedure applies to R113 Rotary Disc Pull-Types and to R116 Rotary Disc Pull-Types from model year 2017 and earlier. For R116 Rotary Disc Pull-Types from model year 2018 and later, refer to *3.3 Removing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R116, 2018 and Later, page 14*.

To remove the old gearbox, follow these steps:

1. Loosen jam nut (A).
2. Loosen nut below jam nut (A) until belt (B) is sufficiently loose to allow removal.
3. Remove belt (B).

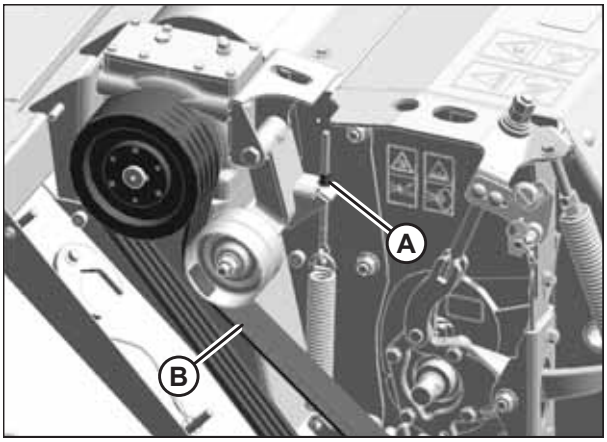


Figure 3.6: Belt Removal

4. Use a ruler or depth gauge and measure the shaft protrusion (or cavity). Record this measurement to help with alignment during installation.
5. Remove bolts (A).

   NOTE:

   When removing the taper lock bushing, don't lose the key.
6. Insert bolts removed in last step into holes (B) and tighten bolts evenly (1/4 turn at a time) in a crisscross pattern. This will push pulley (C) away from the taper lock bushing and allow pulley removal. For more information, refer to Removing/Installing Taper Lock Hub in the rotary disc pull-type technical manual.

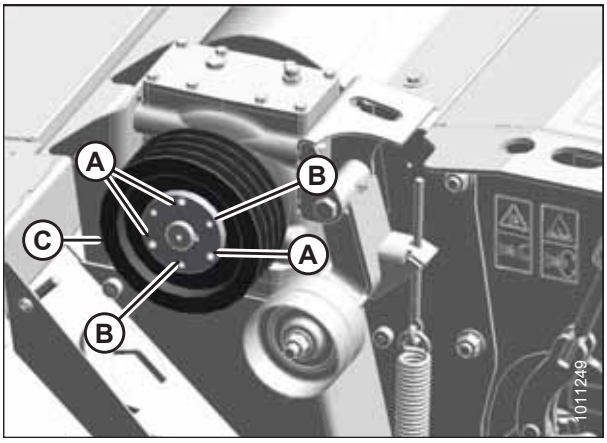


Figure 3.7: Taper Lock Bushing

7. Lift cutterbar doors at front to open.

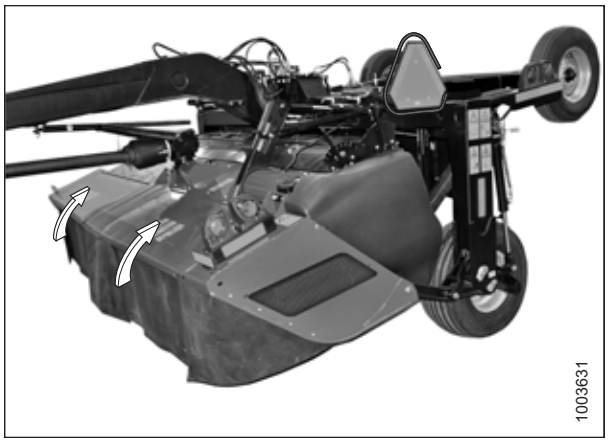


Figure 3.8: Cutterbar Doors

8. Remove four bolts (A), and remove the vertical drive plate shield.

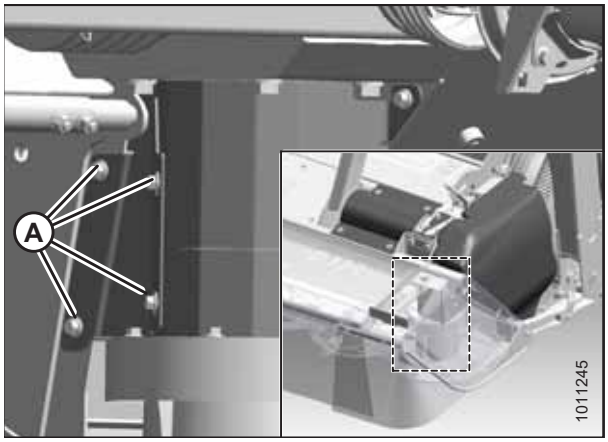


Figure 3.9: Vertical Drive Plate Shield

9. Remove two bolts (A) and cover plate (B).

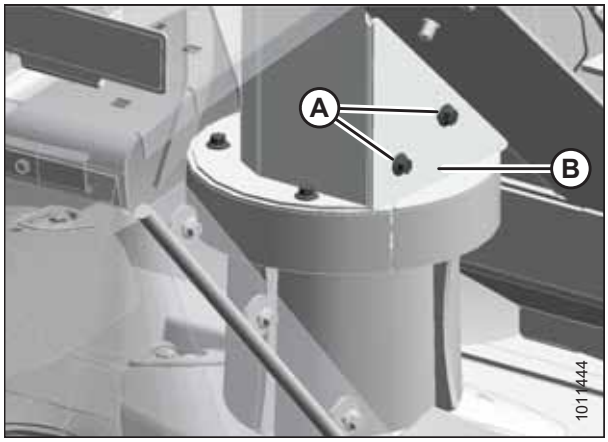


Figure 3.10: Driveline Shields

10. Remove four bolts (C).
11. Remove bolt (A) and remaining two bolts (B).
12. Remove vertical driveshield (D).

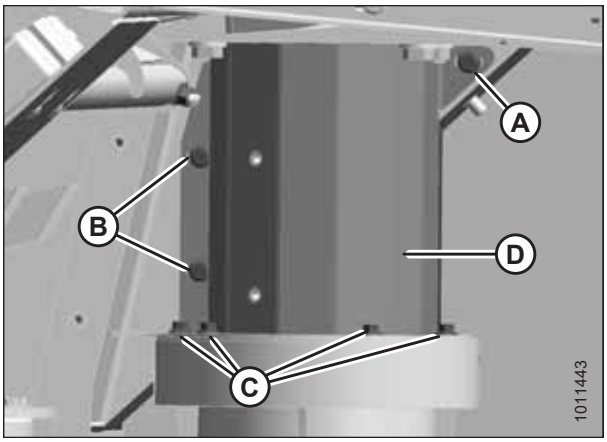


Figure 3.11: Driveline Shields

13. Remove four flange bolts (A) and spacers to separate the gearbox from the cutterbar U-joint flange.

    NOTE:

    Only three of the bolts are visible in the illustration at right. The fourth is on the other side of the U-joint.

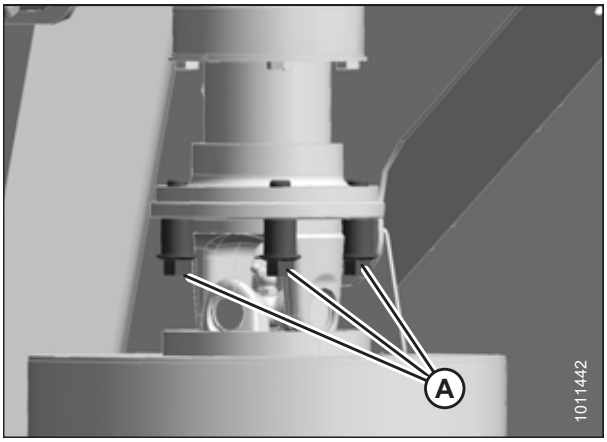


Figure 3.12: U-Joint Flange Bolts

14. Remove four bolts and washers (A), and top shield (B).

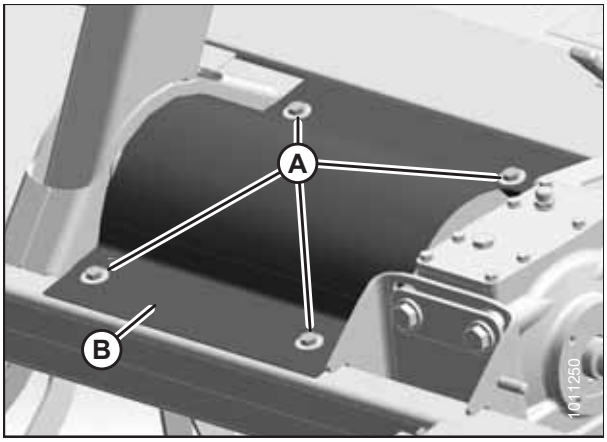


Figure 3.13: Top Shield

15. Loosen hose clamp bolt (A). Compress shield in direction (B) to allow access to taper lock pin (not shown).

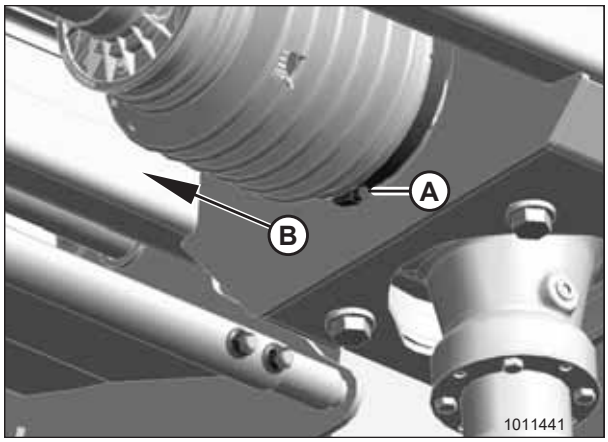


Figure 3.14: Driveline Shield

16. Remove nut (A).
17. Remove taper lock pin (B) by tapping it with a brass-headed hammer to release U-joint assembly (C).
18. Slide the U-joint assembly in direction (D) until it clears the gearbox input shaft.

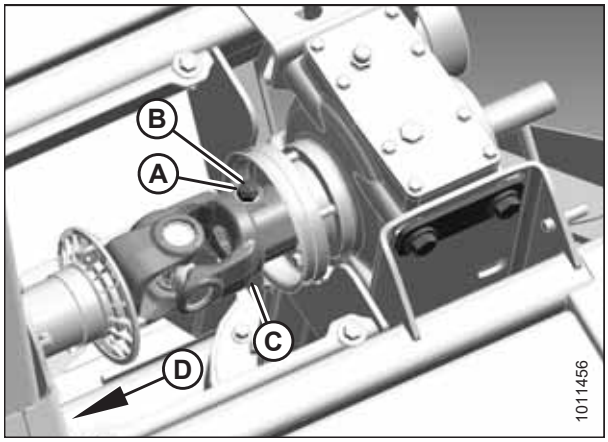


Figure 3.15: U-Joint

19. Remove the two gearbox mounting bolts, washers (A), and plate (B).

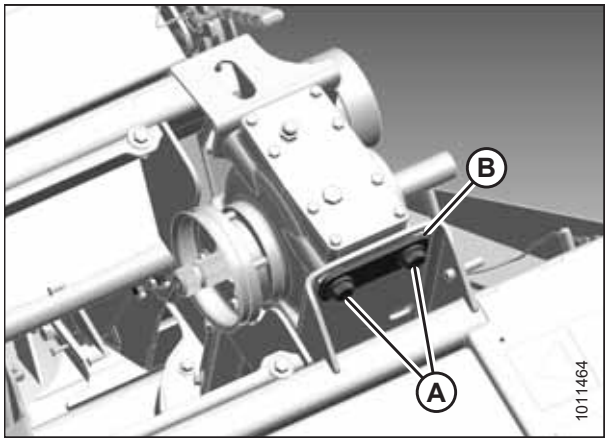


Figure 3.16: Gearbox Mounting Bolts

20. Remove four bolts (A) (one is hidden from view).

    NOTE:

    The gearbox is heavy. Use a pulley or engine hoist and sling to support the gearbox during removal.

21. Remove the gearbox from the frame.

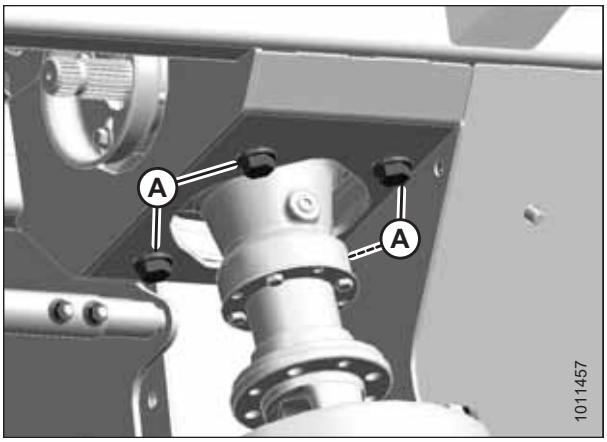


Figure 3.17: Gearbox Bolts

22. Clamp the gearbox securely into a soft-jawed vise.
23. Remove four bolts (A) and flanged shield plate.
24. Remove two bolts (B) and idler arm assembly.

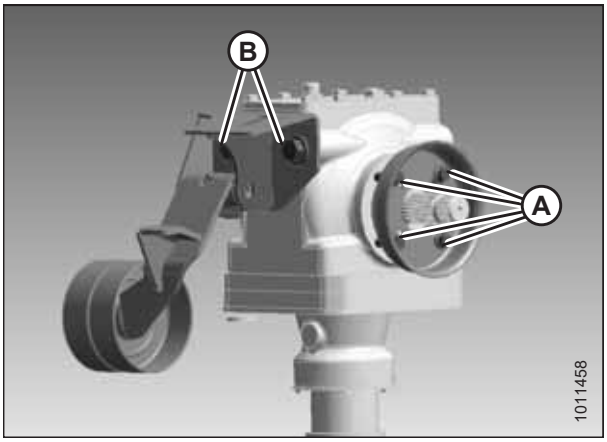


Figure 3.18: Gearbox

3.3 Removing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R116, 2018 and Later

NOTE:

This procedure applies to R116 Rotary Disc Pull-Types from model year 2018 and later. For R113 Rotary Disc Pull-Types or for R116 Rotary Disc Pull-Types from previous years, refer to *3.2 Removing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R113 and Pre-2018 R116, page 9*.

NOTE:

Unless otherwise stated, retain all parts for reassembly.

To remove the old gearbox, follow these steps:

1. Loosen jam nut (A).
2. Loosen nut below jam nut (A) until belt (B) is sufficiently loose to allow removal.
3. Remove belt (B).

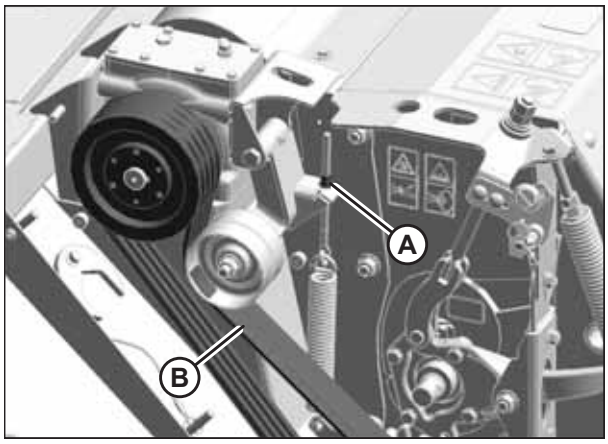


Figure 3.19: Belt Removal

4. Use a ruler or depth gauge and measure the shaft protrusion (or cavity). Record this measurement to help with alignment during installation.
5. Remove bolts (A).

   NOTE:

   When removing the taper lock bushing, don't lose the key.
6. Insert bolts removed in last step into holes (B) and tighten bolts evenly (1/4 turn at a time) in a crisscross pattern. This will push pulley (C) away from the taper lock bushing and allow pulley removal. For more information, refer to Removing/Installing Taper Lock Hub in the rotary disc pull-type technical manual.

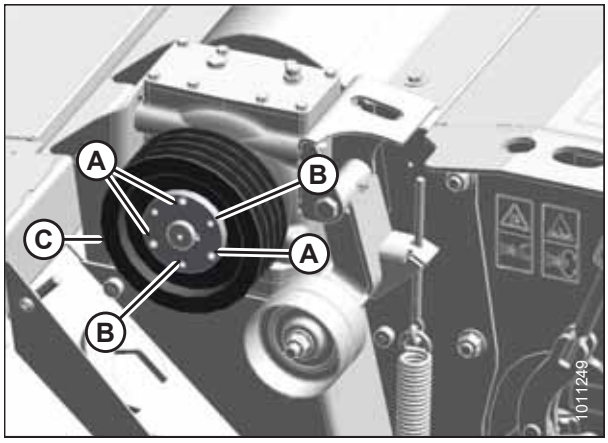


Figure 3.20: Taper Lock Bushing

7. Lift cutterbar doors at front to open.

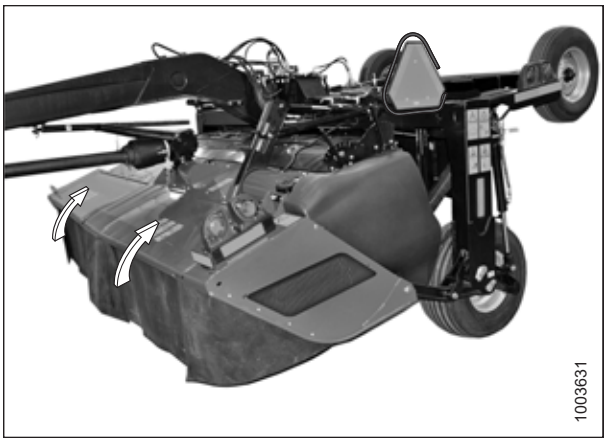


Figure 3.21: Cutterbar Doors

8. Remove four bolts (B) and cover plate (A).

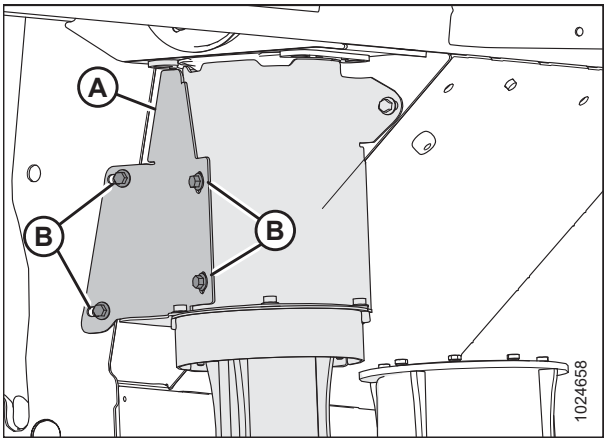


Figure 3.22: Driveline Shields

9. Remove two bolts (B) and cover plate (A).

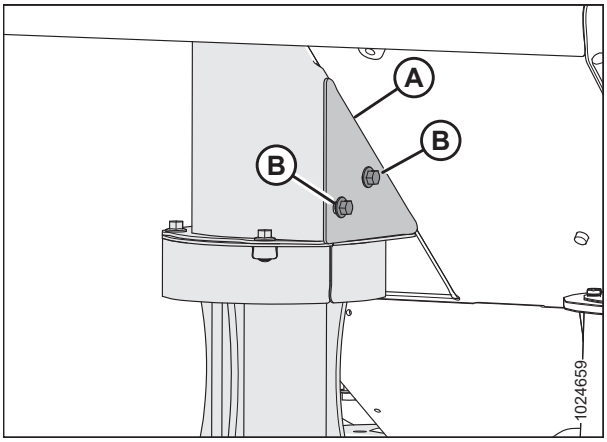


Figure 3.23: Driveline Shields

10. Remove bolts (C), drum top (A), and back plate (B).

    NOTE:

    There are three bolts, although only two of them are visible in the illustration.

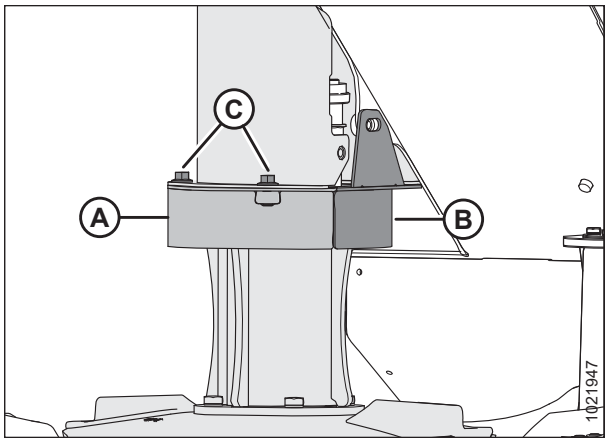


Figure 3.24: Driveline Shields

11. Remove bolts (B) and vertical shield (A).

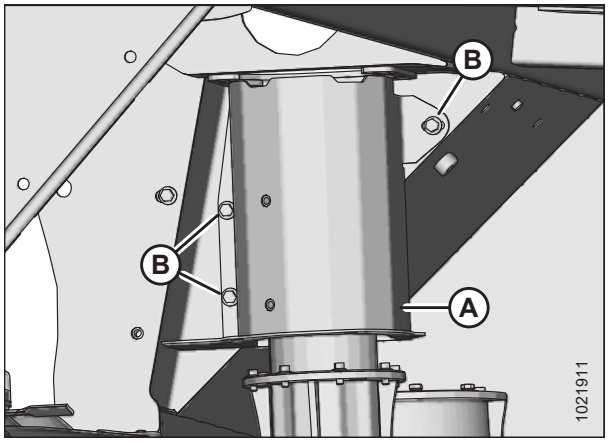


Figure 3.25: Vertical Shield

12. Remove bolts (B) and drum shields (A).

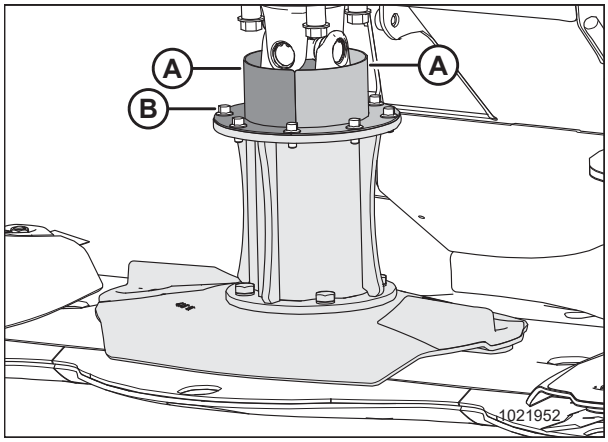


Figure 3.26: Drum Shields

13. Remove four flange bolts and spacers (A) to separate gearbox (C) from cutterbar U-joint flange (B).

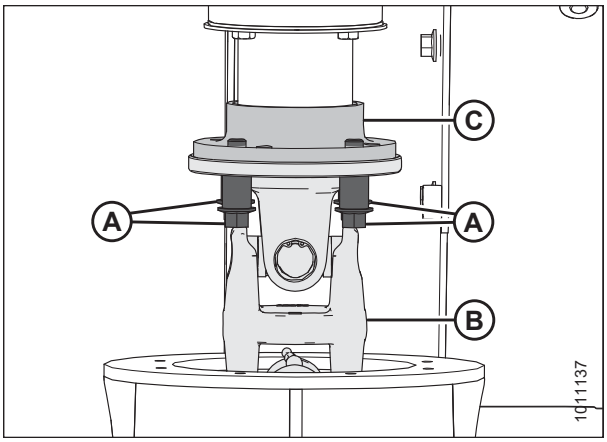


Figure 3.27: Driveline Hardware

14. Remove four bolts and washers (A), and top shield (B).

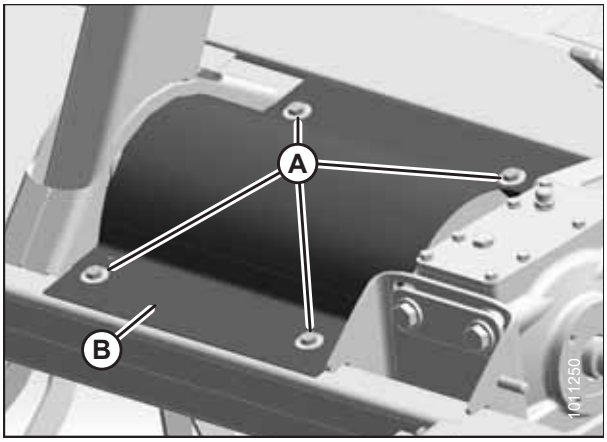


Figure 3.28: Top Shield

15. Loosen hose clamp bolt (A). Compress shield in direction (B) to allow access to taper lock pin (not shown).

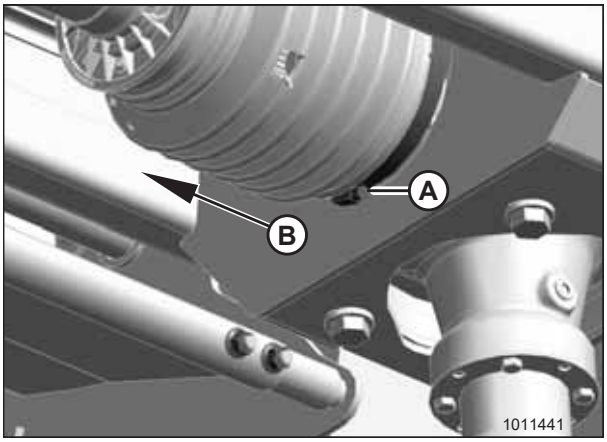


Figure 3.29: Driveline Shield

16. Remove nut (A).
17. Remove taper lock pin (B) by tapping it with a brass-headed hammer to release U-joint assembly (C).
18. Slide the U-joint assembly in direction (D) until it clears the gearbox input shaft.

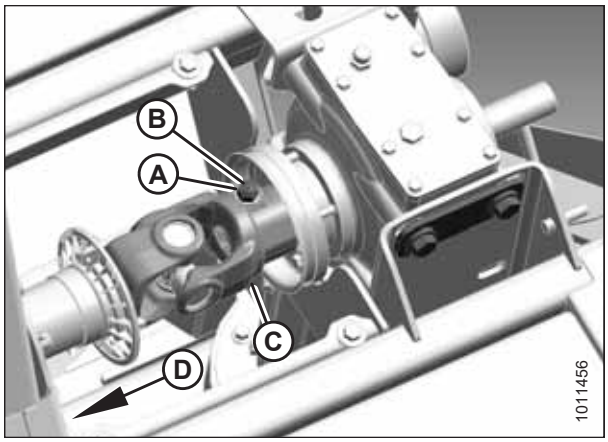


Figure 3.30: U-Joint

19. Remove the two gearbox mounting bolts, washers (A), and plate (B).

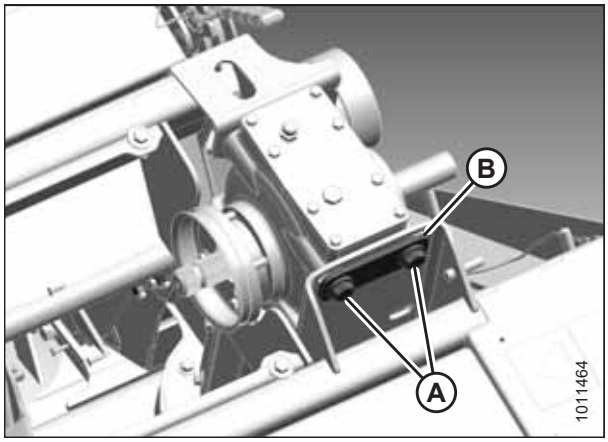


Figure 3.31: Gearbox Mounting Bolts

20. Remove four bolts (A) (one is hidden from view).

    NOTE:

    The gearbox is heavy. Use a pulley or engine hoist and sling to support the gearbox during removal.

21. Remove the gearbox from the frame.

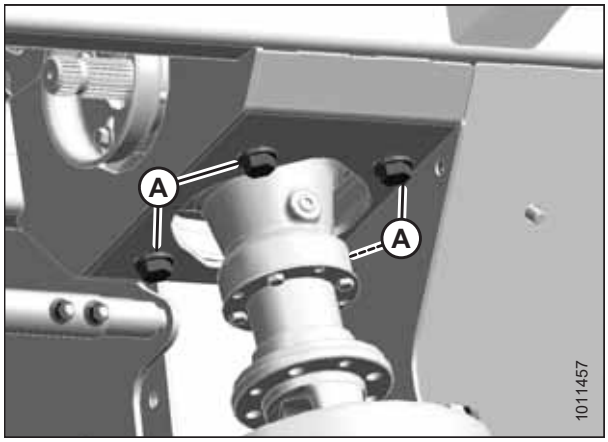


Figure 3.32: Gearbox Bolts

22. Clamp the gearbox securely into a soft-jawed vise.
23. Remove four bolts (A) and flanged shield plate.
24. Remove two bolts (B) and idler arm assembly.

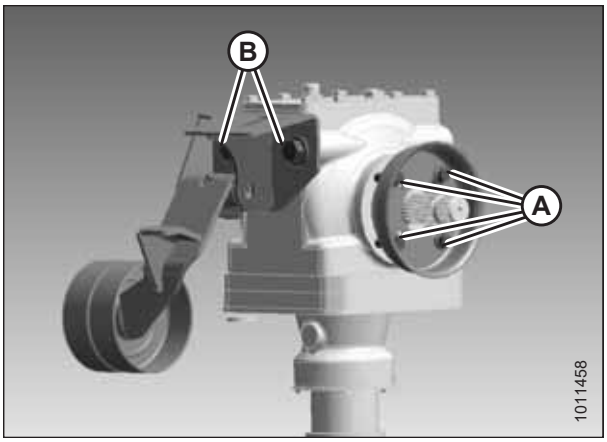


Figure 3.33: Gearbox

3.4 Installing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R113 and Pre-2018 R116

NOTE:

This procedure applies to R113 Rotary Disc Pull-Types and to R116 Rotary Disc Pull-Types from model year 2017 and earlier. For R116 Rotary Disc Pull-Types from 2018 and later, refer to *3.5 Installing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R116, 2018 and Later, page 26*.

To install the new gearbox provided in the kit, follow these steps:

IMPORTANT:

When using threadlocker on threads, be sure to use only on clean and **LUBRICANT-FREE** threads.

1. Clamp the gearbox securely into a soft-jawed vise.
2. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to the four M8 bolts (A).
3. Install four M8 bolts and washers (A), and torque bolts to 20 Nm (15 lbf·ft).
4. Apply high-strength threadlocker (Loctite® 262 or equivalent) to the two idler arm assembly bolts (B).
5. Install bolts and washers (B), and torque bolts to 203 Nm (150 lbf·ft).
6. Lower the gearbox assembly into the frame.

   NOTE:

   The gearbox is heavy. Use a pulley or engine hoist and sling to support the gearbox during installation.

7. Remove bolt, washer, and nut (A) from the drive alignment tool (MD #325683), and slide the bottom tube up.

   NOTE:

   The bolt, washer, and nut are provided for storage reasons only. They are not needed for drive alignment.

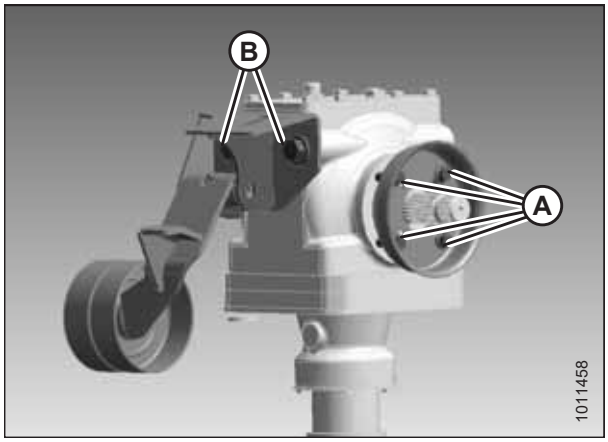


Figure 3.34: Gearbox

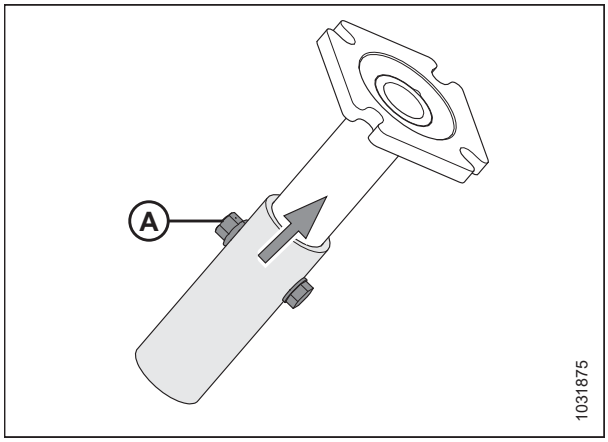


Figure 3.35: Drive Alignment Tool (MD #325683)

8. Attach drive alignment tool (A) to the drive hub (B) using four bolts, and torque to 95 Nm (70 lbf·ft). Slide the bottom tube down over the cutterbar driveshaft.

   IMPORTANT:

   If the alignment tool is not secured to the gearbox using all four bolts, the drive hub will be misaligned.

9. Use a pry bar to move the cutterbar fore or aft until the alignment tool's bottom tube slides freely over the cutterbar driveshaft.

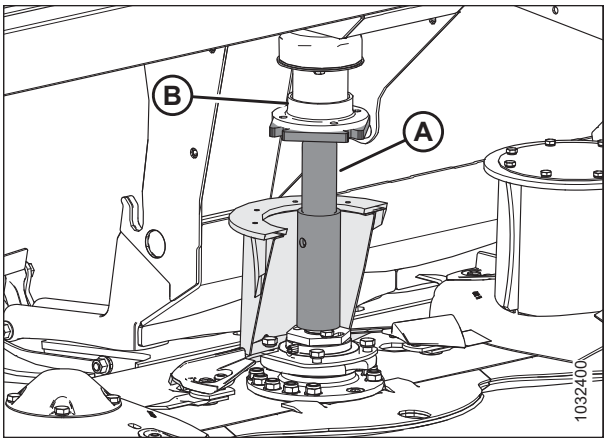


Figure 3.36: Alignment Tool on Gearbox

10. Apply high-strength threadlocker (Loctite® 262 or equivalent) to the four bolts (A).
11. Install four mounting bolts (A), and torque to 203 Nm (150 lbf·ft).

    NOTE:

    Only three of the four bolts are visible in the illustration. The fourth one is hidden on the other side of the gearbox.

12. Remove drive alignment tool.

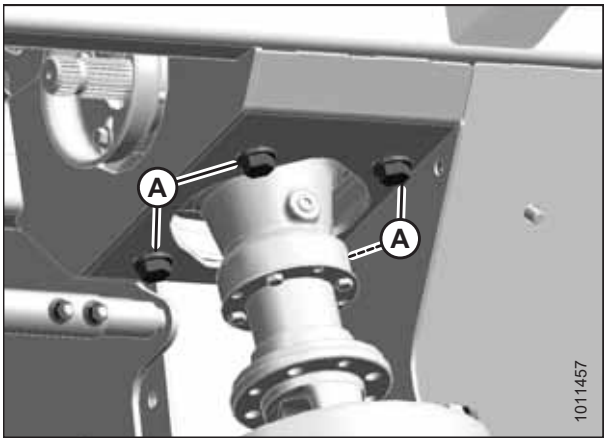


Figure 3.37: Gearbox Bolts

13. Apply high-strength threadlocker (Loctite® 262 or equivalent) to the two bolts (A).
14. Install plate (B), two gearbox mounting bolts, and two washers (A).
15. Torque bolts to 203 Nm (150 lbf·ft).
16. Lubricate spline only with grease.

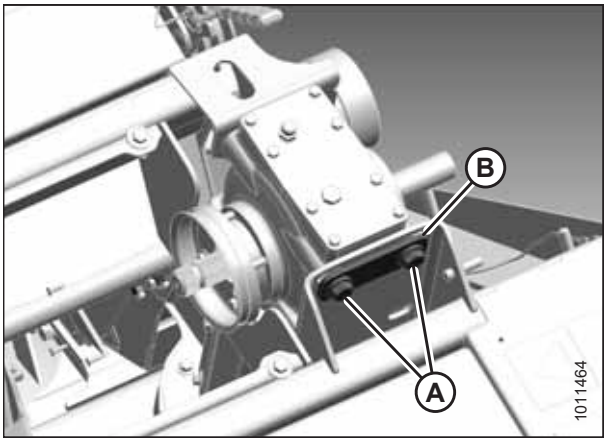


Figure 3.38: Gearbox Bolts

17. Slide the U-joint assembly in direction (C) until the taper pin hole lines up with the shaft groove.
18. Install tapered pin (A) into the groove so that nut is on the machined flat of the U-joint (B). Torque to 149 Nm (110 lbf·ft).

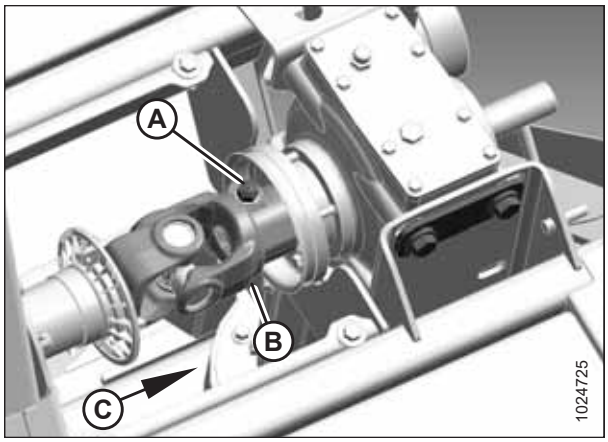


Figure 3.39: U-Joint

19. Slide the driveline shield over the flange in direction (B).
20. Install and tighten hose clamp bolt (A).

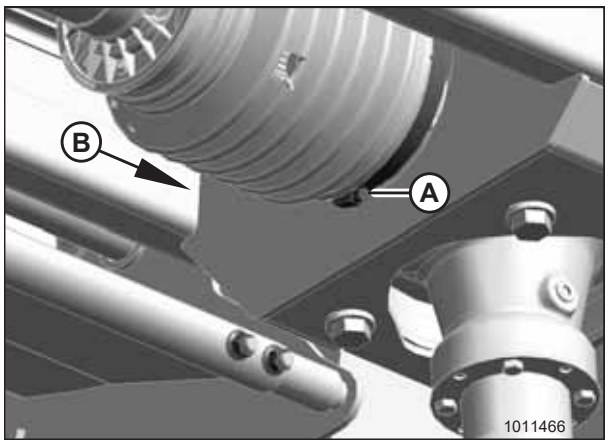


Figure 3.40: Driveline Shield

21. Install top shield (B).
22. Install four washers and bolts (A). Torque to 55 Nm (40 lbf·ft).

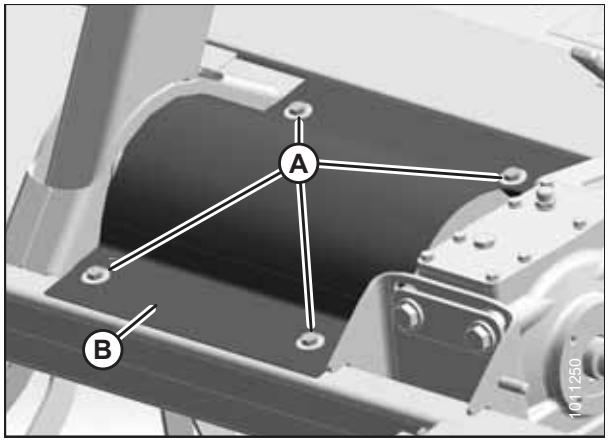


Figure 3.41: Top Shield

23. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to the four bolts (A).
24. Install four flange bolts and spacers (A) (three shown). Torque to 102 Nm (75 lbf·ft).
25. Install top drum.

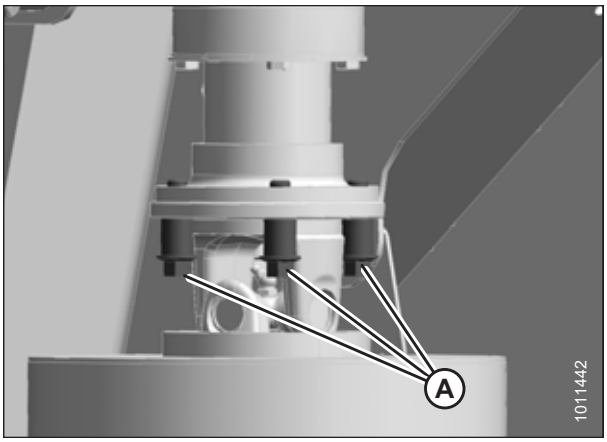


Figure 3.42: U-Joint Flange Bolts

26. Align the top drum so that measurement (A) equals 15 mm (5/8 in.) all around.

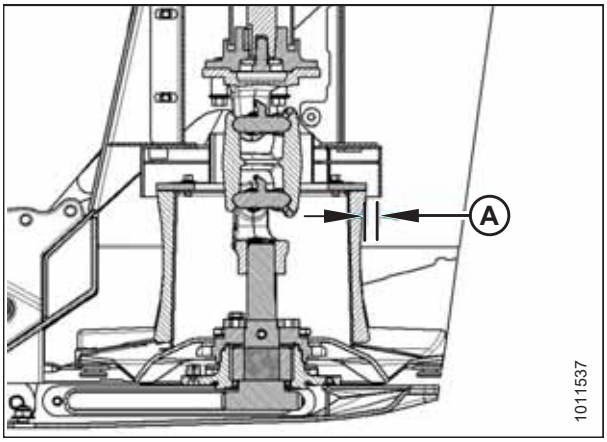


Figure 3.43: Driveline Shields

27. Install bolt (A) and two bolts (B) to secure driveline cover (D) in place. Torque to 61 Nm (45 lbf·ft).
28. Install four remaining bolts (C). Torque to 61 Nm (45 lbf·ft).

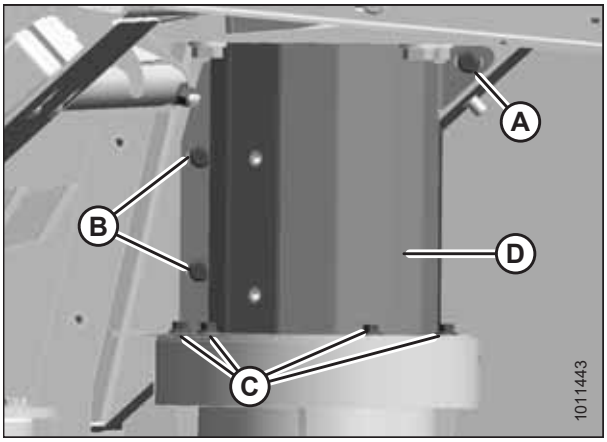


Figure 3.44: Driveline Shields

29. Install cover plate (B) and two bolts (A). Torque to 61 Nm (45 lbf·ft).

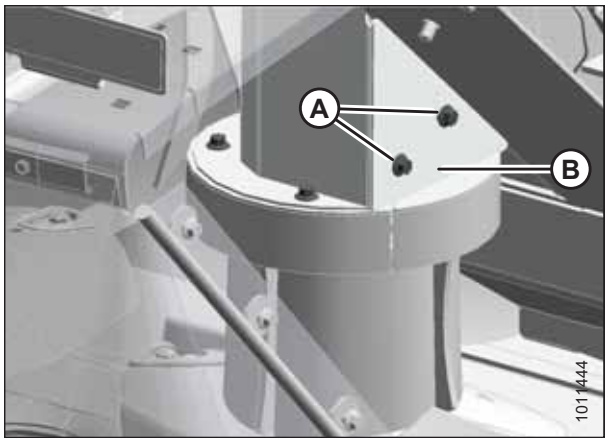


Figure 3.45: Cover Plate

30. Install Vertical plate shield and four bolts (A). Torque to 61 Nm (45 lbf·ft).

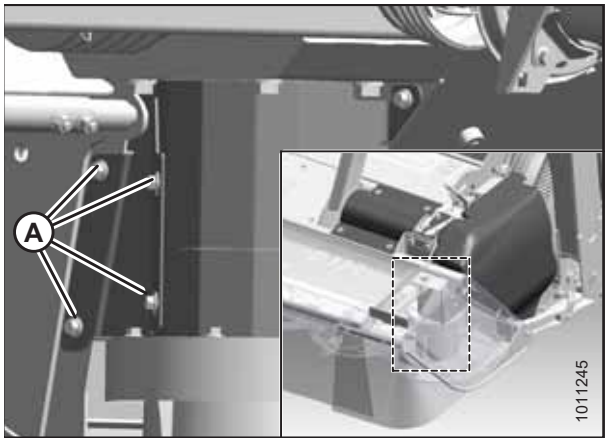


Figure 3.46: Vertical Plate Shield

31. Close cutterbar doors.

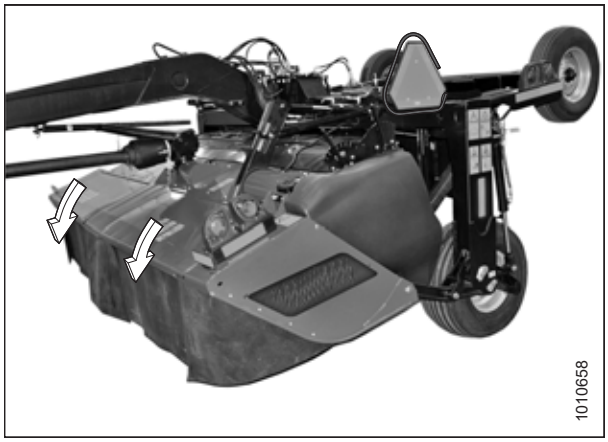


Figure 3.47: Cutterbar Doors in Closed Position

32. Install pulley (C) over the shaft.
33. Insert the key into the keyway.
34. Slide taper lock bushing (B) over the shaft to the depth noted during disassembly. If measurement was misplaced, align pulley (C) to the driven pulley.
35. Pull pulley (C) over bushing (B).
36. Install three washers and bolts (A), and pull pulley into taperlock by tightening the three bolts (A) evenly (1/4 turn at a time) working in a crisscross pattern. This will pull the pulley in evenly. For more information, refer to Removing/ Installing Taper Lock Hub in the rotary disc pull-type technical manual.

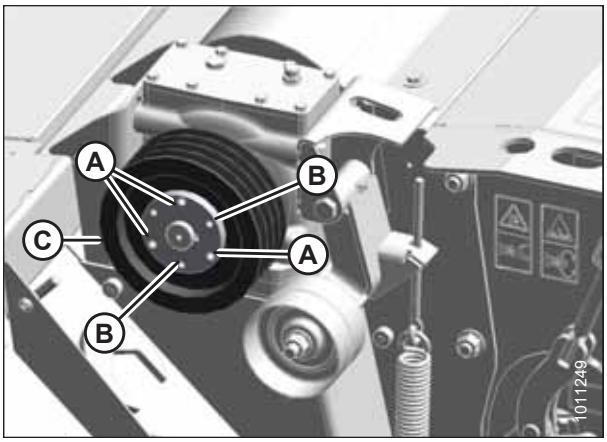


Figure 3.48: Taperlock Bushing

3.5 Installing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R116, 2018 and Later

NOTE:

This procedure applies to R116 Rotary Disc Pull-Types from model year 2018 and later. For R113 Rotary Disc Pull-Types or for R116 Rotary Disc Pull-Types from previous years, refer to *3.4 Installing Cutterbar-Conditioner Drive Gearbox (T-Gearbox) – R113 and Pre-2018 R116, page 20*.

To install the new gearbox provided in the kit, follow these steps:

IMPORTANT:

When using threadlocker on threads, be sure to use only on clean and **LUBRICANT-FREE** threads.

1. Clamp the gearbox securely into a soft-jawed vise.
2. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to the four M8 bolts (A).
3. Install four M8 bolts and washers (A), and torque bolts to 20 Nm (15 lbf·ft).
4. Apply high-strength threadlocker (Loctite® 262 or equivalent) to the two idler arm assembly bolts (B).
5. Install bolts and washers (B), and torque bolts to 203 Nm (150 lbf·ft).
6. Lower the gearbox assembly into the frame.

   NOTE:

   The gearbox is heavy. Use a pulley or engine hoist and sling to support the gearbox during installation.

7. Remove bolt, washer, and nut (A) from the drive alignment tool (MD #325683), and slide the bottom tube up.

   NOTE:

   The bolt, washer, and nut are provided for storage reasons only. They are not needed for drive alignment.

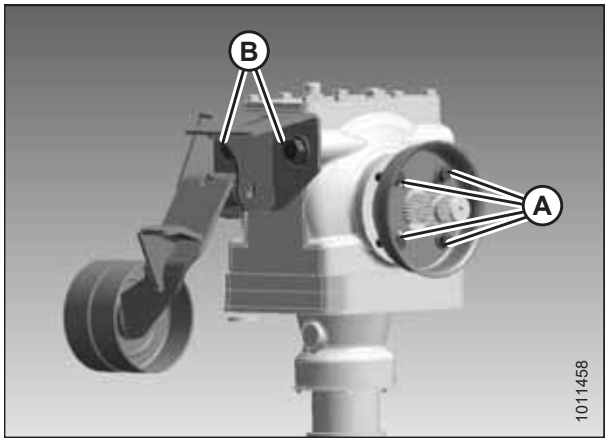


Figure 3.49: Gearbox

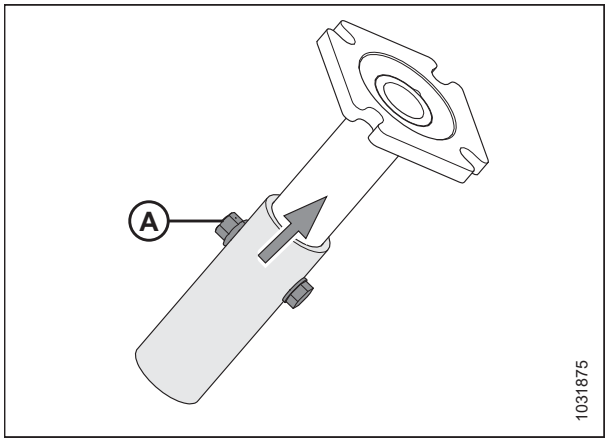


Figure 3.50: Drive Alignment Tool (MD #325683)

8. Attach drive alignment tool (A) to the drive hub (B) using four bolts, and torque to 95 Nm (70 lbf·ft). Slide the bottom tube down over the cutterbar driveshaft.

   IMPORTANT:

   If the alignment tool is not secured to the gearbox using all four bolts, the drive hub will be misaligned.

9. Slide the bottom tube down over the cutterbar driveshaft.

   NOTE:

   Proper alignment is achieved when bottom of tube slides freely over the cutterbar driveshaft.

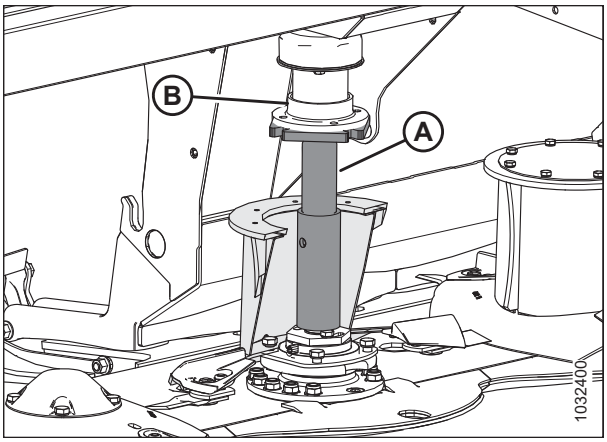


Figure 3.51: Alignment Tool on Gearbox

10. Apply high-strength threadlocker (Loctite® 262 or equivalent) to the four bolts (A).
11. Install four mounting bolts (A), and torque to 203 Nm (150 lbf·ft).

    NOTE:

    Only three of the four bolts are visible in the illustration. The fourth one is hidden on the other side of the gearbox.

12. Remove drive alignment tool.

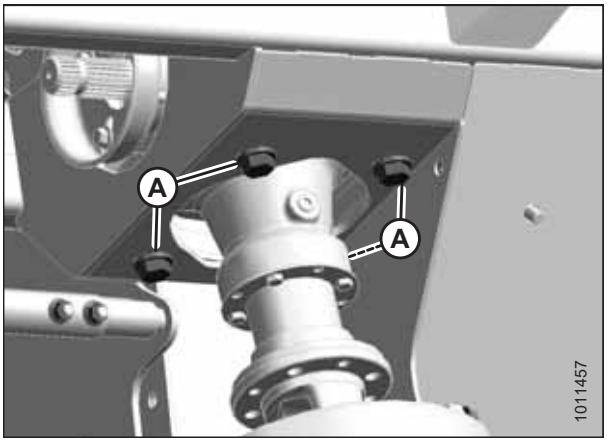


Figure 3.52: Gearbox Bolts

13. Apply high-strength threadlocker (Loctite® 262 or equivalent) to the two bolts (A).
14. Install plate (B), two gearbox mounting bolts, and two washers (A).
15. Torque bolts to 203 Nm (150 lbf·ft).
16. Lubricate spline only with grease.

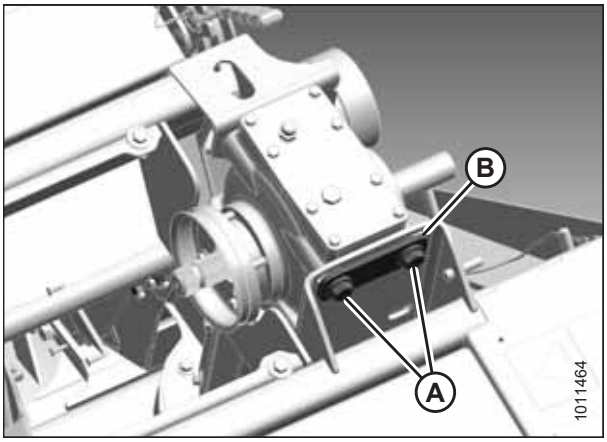


Figure 3.53: Gearbox Bolts

17. Slide the U-joint assembly in direction (C) until the taper pin hole lines up with the shaft groove.
18. Install tapered pin (A) into the groove so that nut is on the machined flat of the U-joint (B). Torque to 149 Nm (110 lbf·ft).

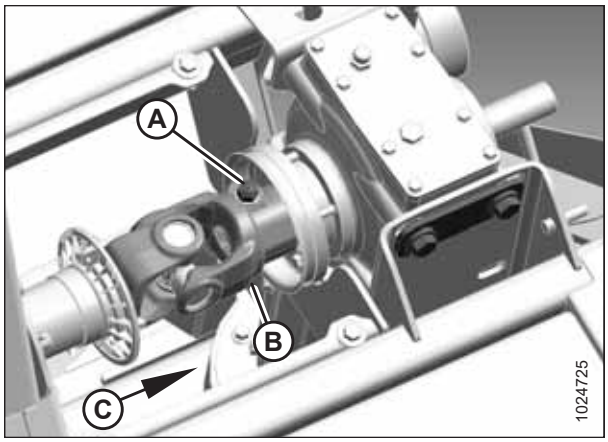


Figure 3.54: U-Joint

19. Slide the driveline shield over the flange in direction (B).
20. Install and tighten hose clamp bolt (A).

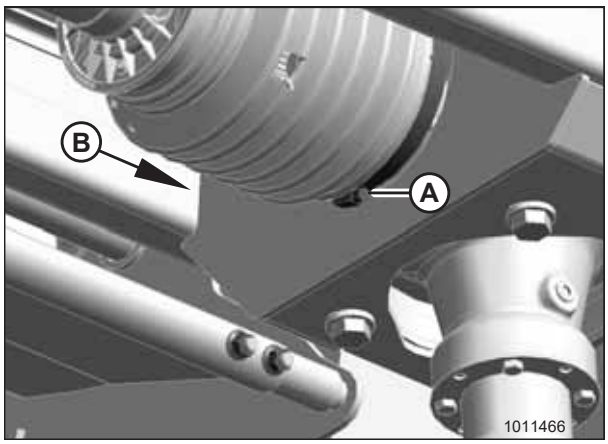


Figure 3.55: Driveline Shield

21. Install top shield (B).
22. Install four washers and bolts (A). Torque to 55 Nm (40 lbf·ft).

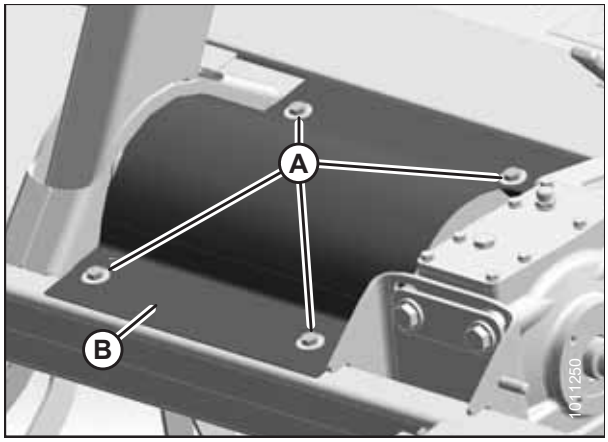


Figure 3.56: Top Shield

23. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to the four bolts (A).
24. Install four flange bolts and spacers (A) (three shown). Torque to 102 Nm (75 lbf·ft).

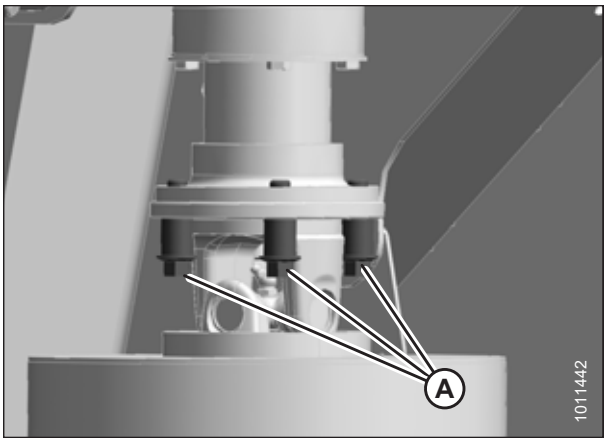


Figure 3.57: U-Joint Flange Bolts

25. Position two drum shields (A) on top of the new drum as shown.
26. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to eight M8 hex flange head bolts (B), and use them to secure the shields in place.
27. Torque to 27 Nm (20 lbf·ft).

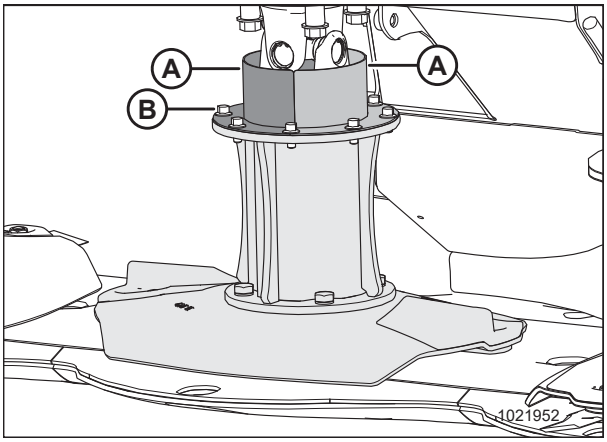


Figure 3.58: Drum Shields

28. Position vertical shield (A) on top of the drum shields, covering the driveline as shown at right.
29. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to three M10 hex flange head bolts (B), and then use them to secure vertical shield (A).
30. Torque to 61 Nm (45 lbf·ft).

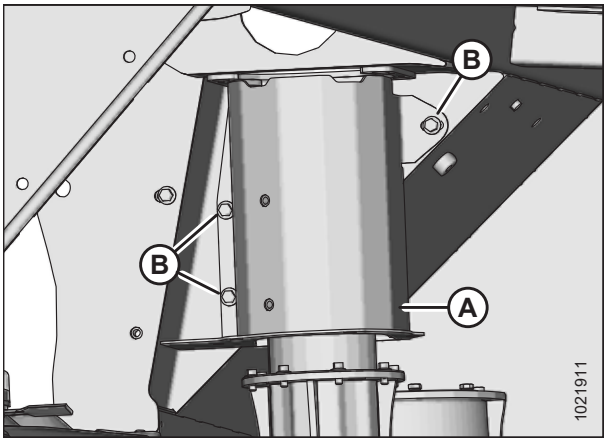


Figure 3.59: Vertical Shield

31. Position drum top (A) and back plate (B) onto drum as shown.
32. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to three M10 hex flange head bolts (C), then use them to secure drum top (A) and back plate (B) to the vertical shield.

    NOTE:

    Only two of the bolts are visible in the illustration. The other one is on the other side of the vertical shield.
33. Torque to 61 Nm (45 lbf·ft).

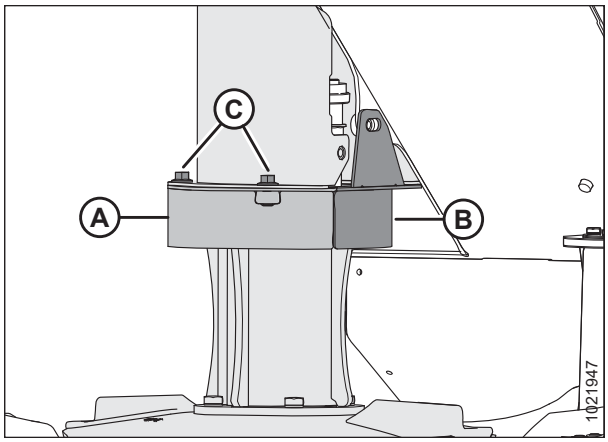


Figure 3.60: Top Plate and Drum Top

34. On the outboard side of vertical shield (B), position cover plate (A) as shown at right.
35. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to two M10 hex flange head bolts (C) and (E), and then use them to secure cover plate (A) to the vertical shield and to back plate (D).
36. Torque bolts (C) and (E) to 61 Nm (45 lbf·ft).

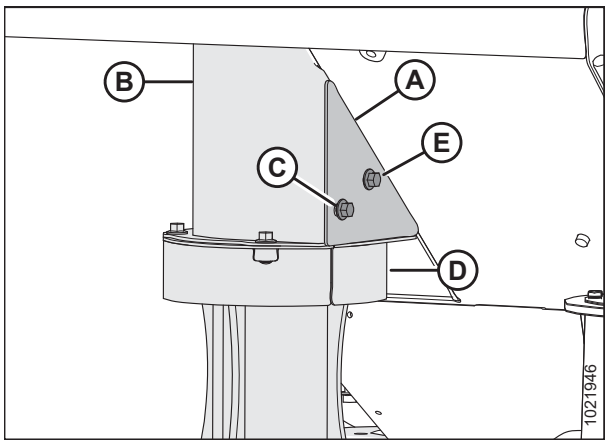


Figure 3.61: Cover Plate Installed

37. Install shield plate (A) on the inboard side of the vertical shield.
38. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to two M10 hex flange head bolts (B) and (C), and then use the bolts to secure shield plate (A) to the vertical shield and to the frame panel.
39. Torque bolts (B) and (C) to 61 Nm (45 lbf·ft).

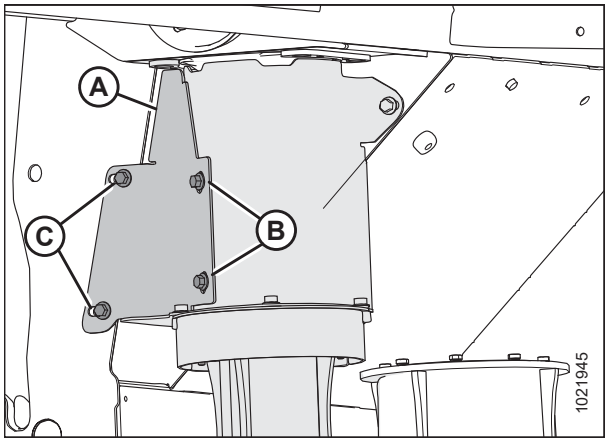


Figure 3.62: Shield Plate Installed

WARNING

Ensure cutterbar is completely clear of foreign objects. Foreign objects can be ejected with considerable force when the machine is started and may result in serious injury or machine damage.

40. Close cutterbar doors.

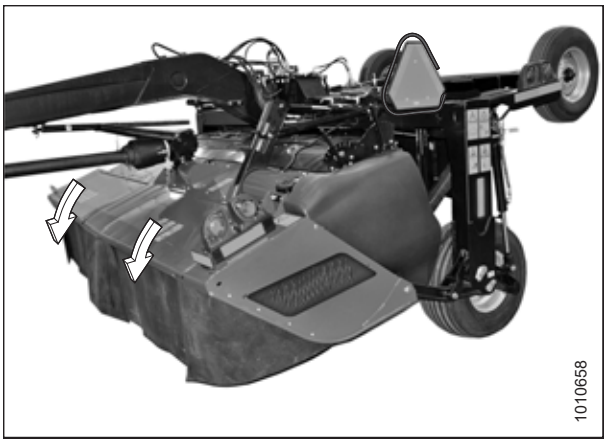


Figure 3.63: Cutterbar Doors in Closed Position

41. Install pulley (C) over the shaft.
42. Insert the key into the keyway.
43. Slide taper lock bushing (B) over the shaft to the depth noted during disassembly. If measurement was misplaced, align pulley (C) to the driven pulley.
44. Pull pulley (C) over bushing (B).
45. Install three washers and bolts, and pull pulley into taperlock by tightening the three bolts (A) evenly (1/4 turn at a time) working in a crisscross pattern. This will pull the pulley in evenly. For more information, refer to Removing/ Installing Taper Lock Hub in the rotary disc pull-type technical manual.

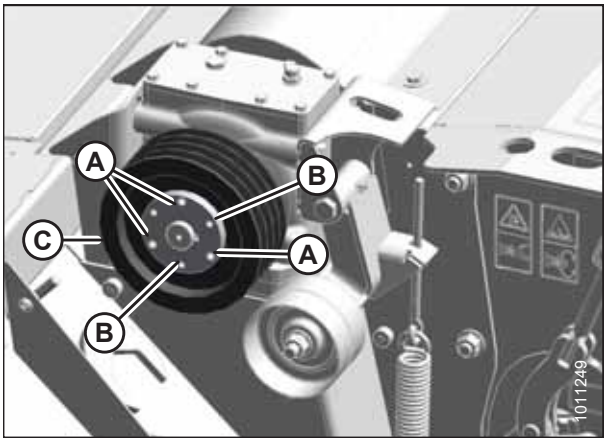


Figure 3.64: Taperlock Bushing

3.6 Installing Conditioner Drive Belt

To reinstall the conditioner drive belt, follow these steps:

1. Install drive belt (A) onto driven pulley (C), and then onto drive pulley (B). Ensure the belt is in the pulley grooves.

   NOTE:

   If necessary, loosen the jam nut and adjuster nut (D) to relieve spring tension.

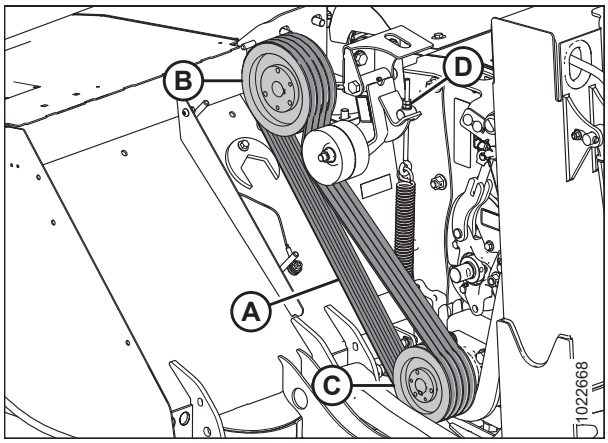


Figure 3.65: Conditioner Drive

2. Measure the length of tensioner spring (A), and adjust spring length to 366 mm (14 3/8 in.) to match spring tension decal (B).

   NOTE:

   Tensioner springs hook into different locations on different types of conditioners.

3. Increase the spring length (tension) by turning adjuster nut (D) clockwise.

4. Once the correct spring measurement has been achieved, hold adjuster nut (D) and tighten jam nut (C) against it.

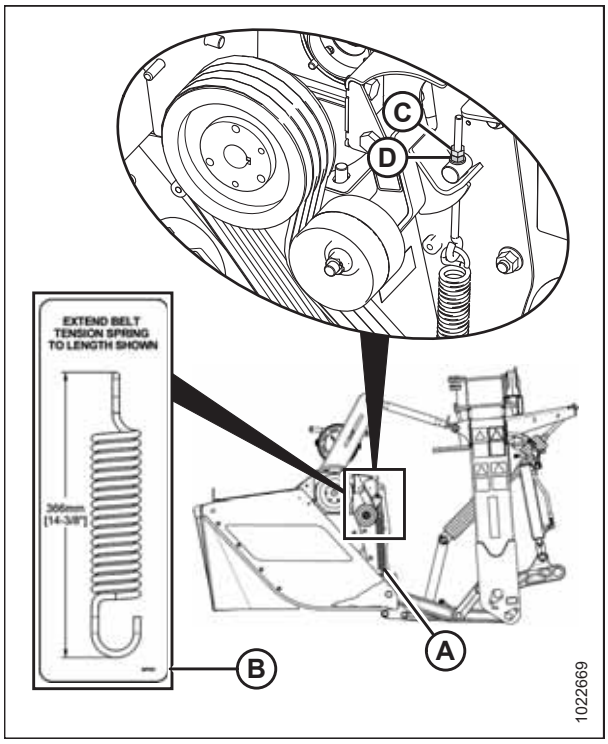


Figure 3.66: Spring Tension Decal

3.7 Reinstalling Left Driveshield

To reinstall the left driveshield, follow these steps:

CAUTION

Do NOT operate the machine without the driveshields in place and secured.

1. Position driveshield (A) onto pins at the base of driveshield.
2. Push driveshield (A) to engage to latch (B).
3. Check that driveshield is properly secured.

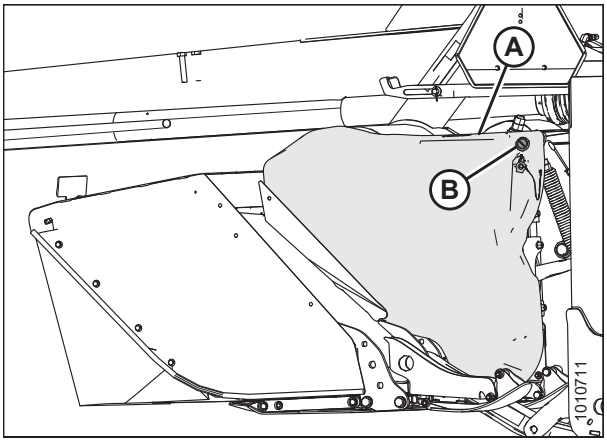


Figure 3.67: Left Driveshield

4. Replace tool (B) and lynch pin (A) on pin (C).

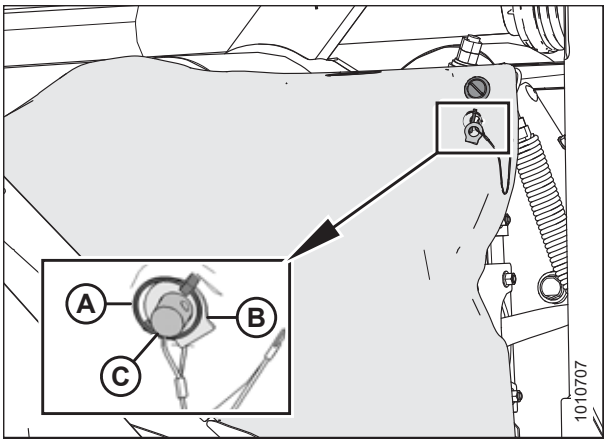


Figure 3.68: Tool to Unlock Driveshield

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