

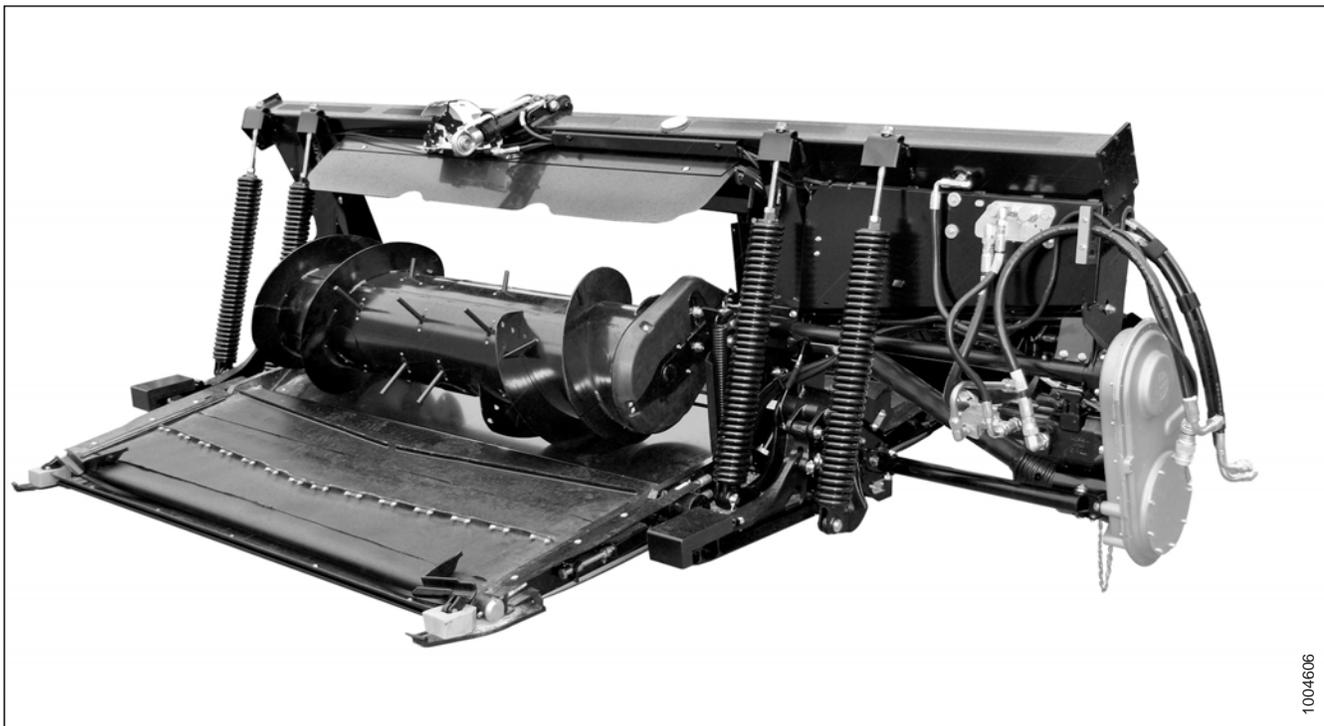
CA25 Combine Adapter

Auger Drive Kit (MD #279708) Installation Instructions

214079 Revision C

Original Instruction

CA25 Combine Adapter



1004606

Published in October 2018.

Introduction

The Auger Drive kit (MD #279708) can be installed on a MacDon CA25 Combine Adapter to improve alignment of the driving and driven sprockets.

Installation Time

Approximate installation time for this kit is 2 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 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.

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.

List of Revisions

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.

Summary of Change	Location
Updated parts list and illustration to include the new drive covers.	2 Parts List, page 5
<ul style="list-style-type: none">Removed drive cover part numbers; the drive covers aren't sold separately.Updated illustration of upper drive cover installation.Added instructions for adjusting chain tension on auger drives that have the new covers installed.	3.5 Reinstalling Feed Auger, page 17

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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 nonessential information or advice.

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 earmuffs or earplugs to help protect against loud noises.

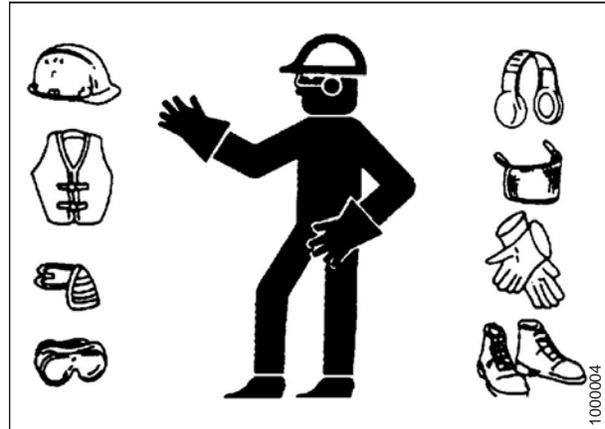


Figure 1.1: Safety Equipment



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.

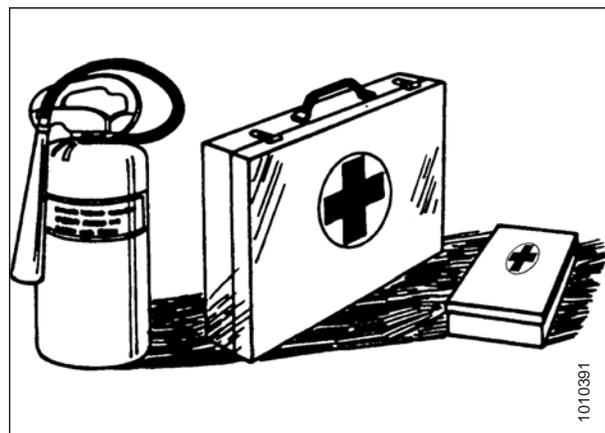


Figure 1.3: Safety Equipment

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.

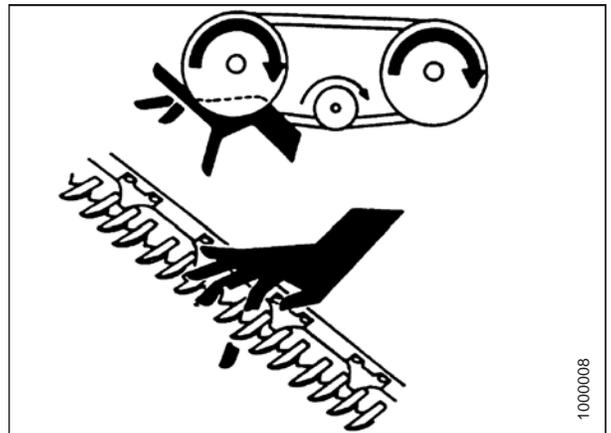


Figure 1.5: Safety around Equipment

- 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.

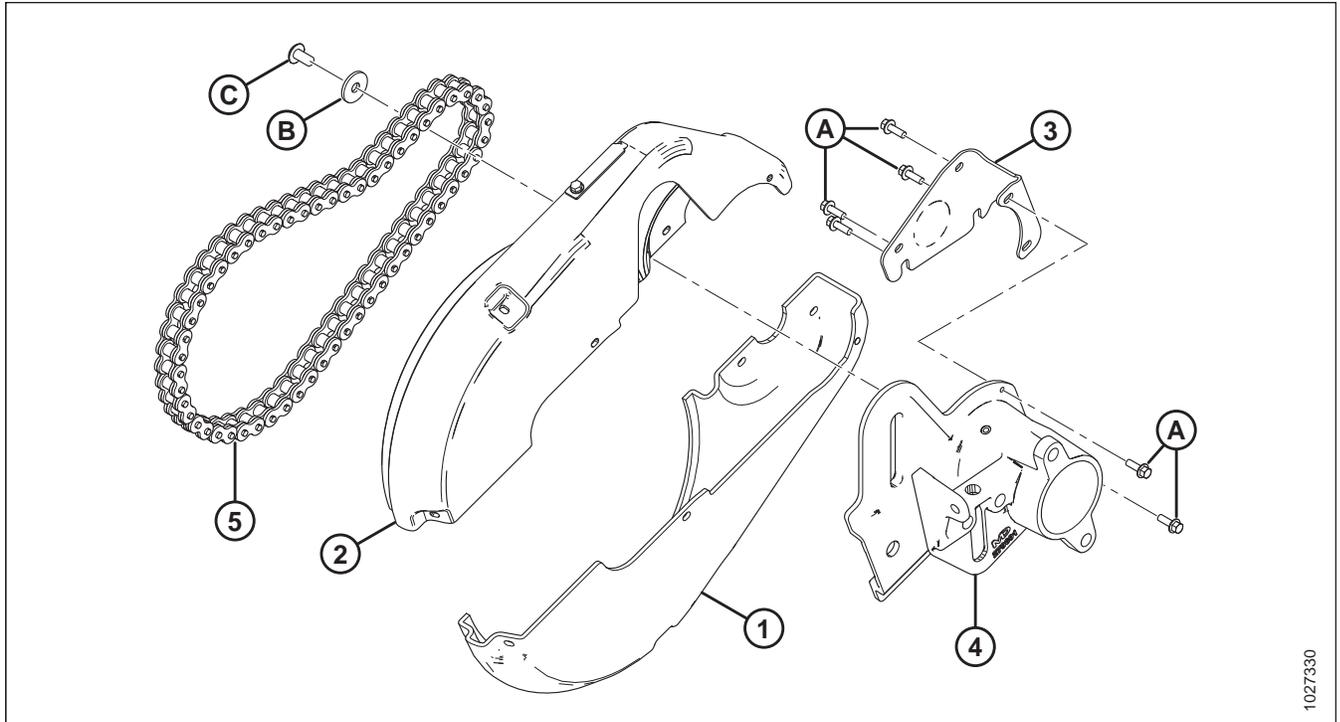


Figure 1.6: Safety around Equipment

Chapter 2: Parts List

The following parts are included in this kit (MD #279708).

Figure 2.1: Parts Included in Kit



1027330

Ref	Part Number	Description	Quantity
1	NSS ¹	COVER – AUGER DRIVE HALF (LH)	1
2	NSS ¹	COVER – TOP AUGER DRIVE ASSEMBLY	1
3	279652	PLATE – COVER RETAINER	1
4	279691	PIVOT – LH AUGER MACHINING	1
5	220317	CHAIN – RC-60H, 56 PITCHES RIVETED, ENDLESS	1
A	21456	BOLT – HH FLG (SERR FACE) 1/4 NC X 0.75 GR 5 ZP	6
B	180207	WASHER – FLAT	1
C	135157	SCREW – MACHINE	1

1. Not sold separately.

Chapter 3: Installation Instructions

To install the Auger Drive kit, follow these procedures in order.

3.1 Removing Feed Auger

To remove the feed auger from the adapter, follow these steps:

DANGER

To avoid bodily injury or death from unexpected start-up or fall of raised machine, always stop engine, remove key, and engage safety props before going under machine for any reason.

NOTE:

Unless otherwise stated, retain all parts for reinstallation.

1. Detach the header from the combine. For instructions, refer to the header operator's manual.
2. Shut down the combine, and remove the key from the ignition.
3. Locate auger chain case on left end of feed auger.
4. Remove the four bolts (A) securing the top cover to the left side of the auger chain case.
5. Remove and discard bolts (B) securing cover retainer plate (F).
6. Remove and discard cover retainer plate (F) and top cover (C).
7. Remove three bolts (D) securing the bottom cover.
8. Remove drive cover retainer (G).
9. Remove and discard bottom cover (E).

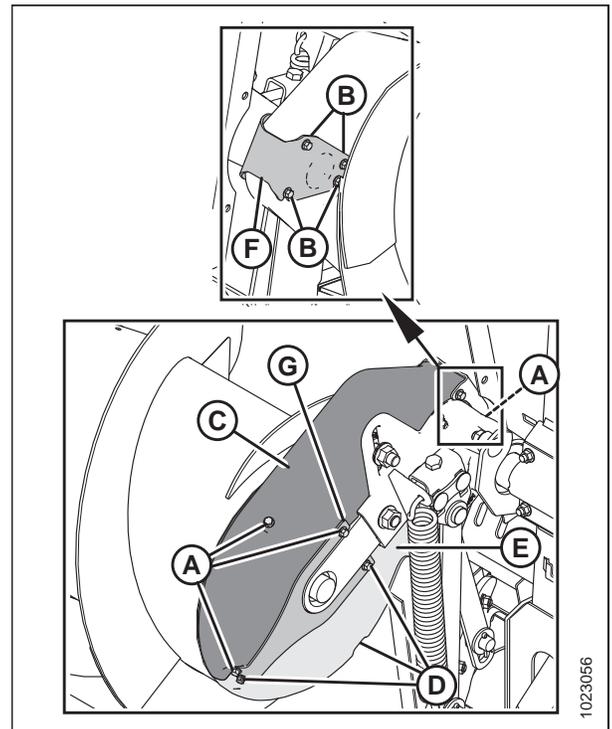


Figure 3.1: Auger Drive

INSTALLATION INSTRUCTIONS

10. Loosen idler sprocket bolt (A), and raise sprocket (B) to the highest position to release tension on the chain. Tighten bolt (A) to hold sprocket.
11. Some units have a washer and screw at (C), securing the drive sprocket to the shaft. If they are present, remove them.

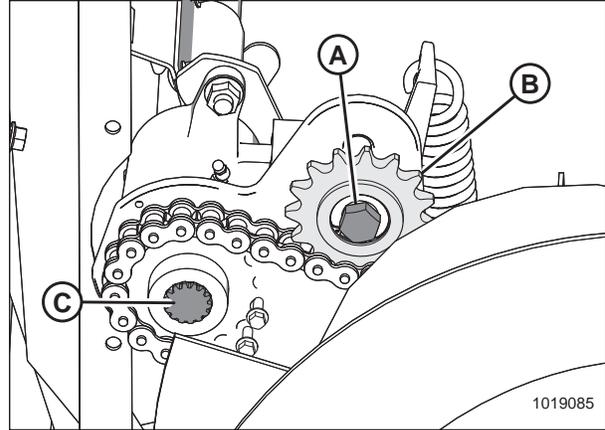


Figure 3.2: Auger Drive

12. Remove the lower bolt (A) and loosen the top bolt (B). Swing the C-clamp (C) up, and then slide the drive assembly to the right to allow the drive sprocket to fall off the shaft.

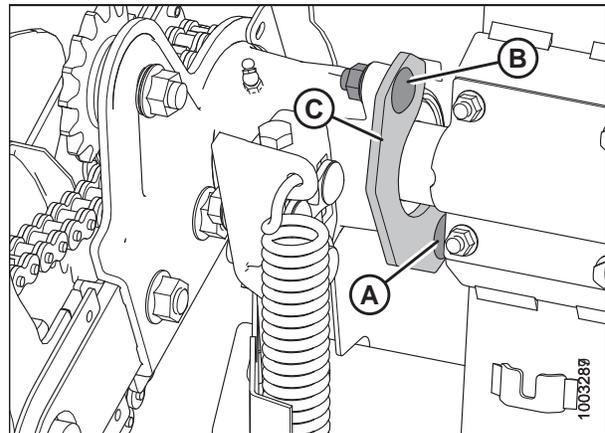


Figure 3.3: Auger Support

13. Loosen nut (A) to remove any spring (B) tension. Repeat at opposite side.
14. Remove spring (B).

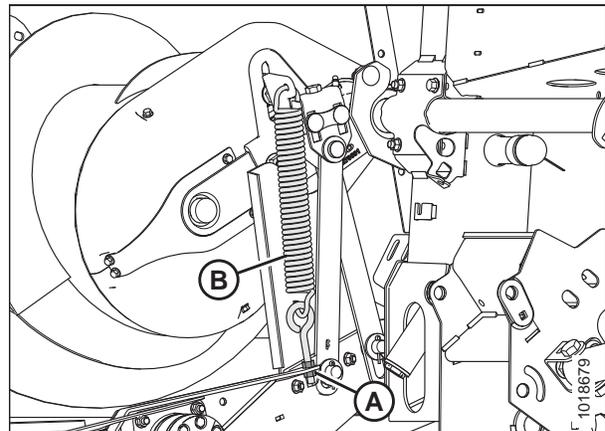


Figure 3.4: Auger Support

INSTALLATION INSTRUCTIONS

15. Remove cotter pins and washers (B). Repeat at opposite side.
16. Slide auger support bars (A) off the feed deck carrier posts. Repeat at opposite side.

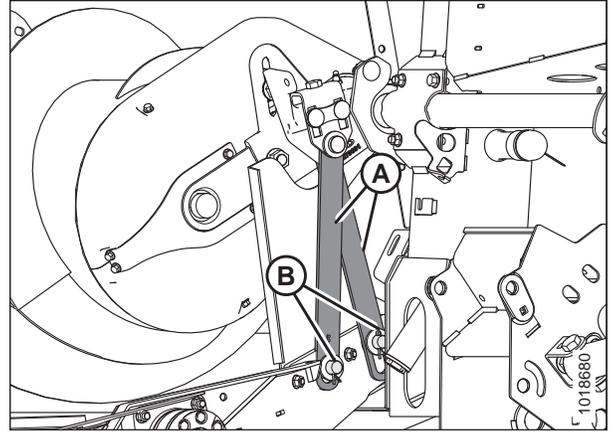


Figure 3.5: Auger Support

17. Use a pry bar (A) to slide the drum assembly to the right side of the CA25.

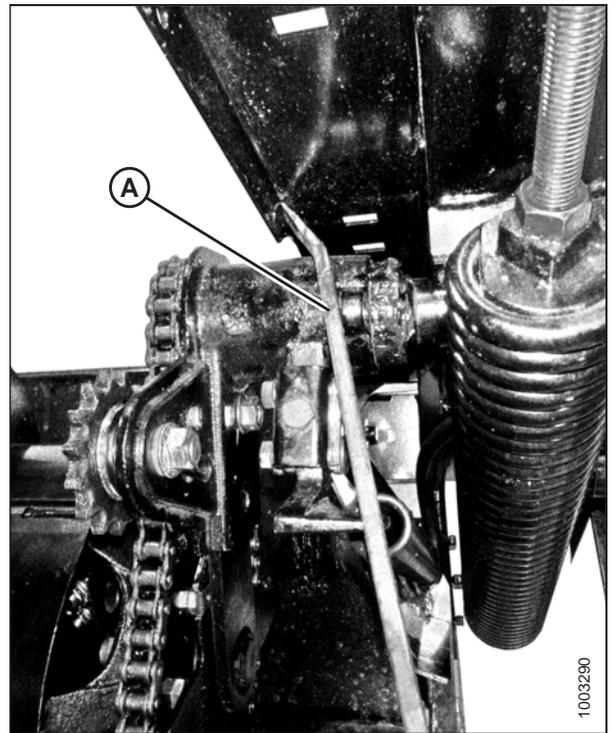


Figure 3.6: Auger Drive

INSTALLATION INSTRUCTIONS

NOTE:

Once the drum starts sliding to the right, the drive sprocket will fall off.

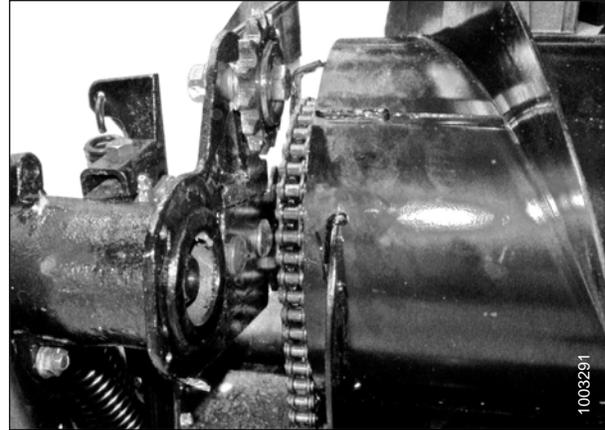


Figure 3.7: Auger Drive

18. Place a wooden block (A) under the drive end of the auger to prevent the auger from dropping onto the feed draper and damaging it.
19. Place a sheet of cardboard on the center feed draper to protect the draper when removing the auger drum.

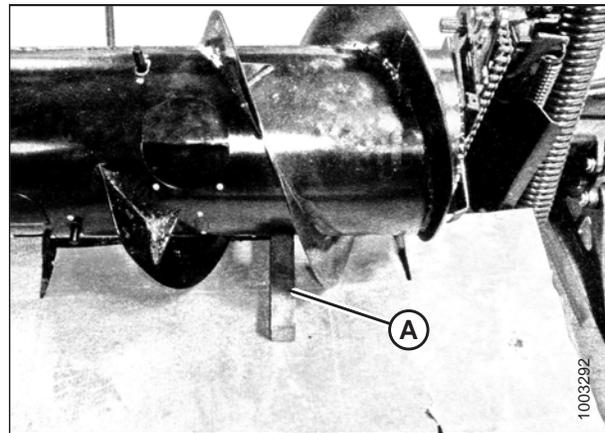


Figure 3.8: Auger

20. At the left end of the auger, remove the two bolts and nuts (A), and separate the drive housing from the auger mount bracket.

NOTE:

You may need to lift or support the drum to remove the bolts.

NOTE:

The bolts on the left side housing are longer than the bolts on the right side housing.

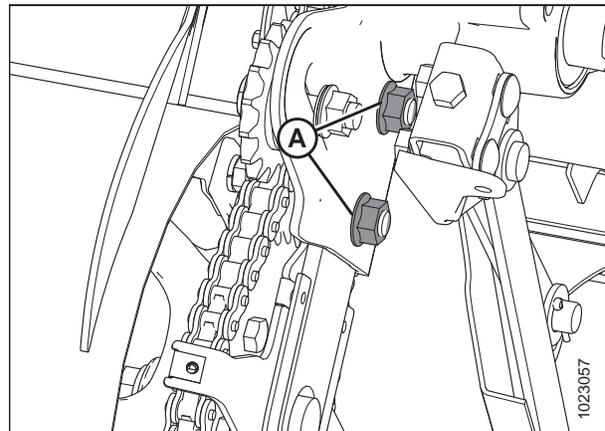


Figure 3.9: Auger Support

INSTALLATION INSTRUCTIONS

- Slide the left housing (A) back into position so the endless chain (B) can be removed.

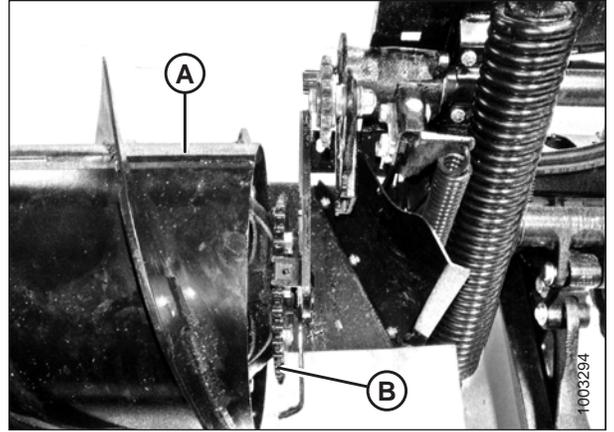


Figure 3.10: Auger Drive

- Remove the three nuts (B) from cover (A) on the right side of the auger.

NOTE:

O-rings are securing the bolts so they will not fall out.

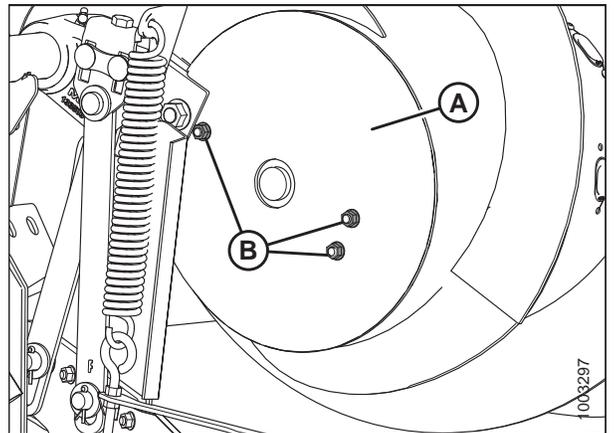


Figure 3.11: Right End of Feed Auger

- Remove two nuts (B) with a 15/16 in. wrench. Slide right housing (A) to the right to clear hardware.

NOTE:

You may need to lift or support drum to remove bolts.

- Remove block at left end of auger and roll drum down the cardboard.

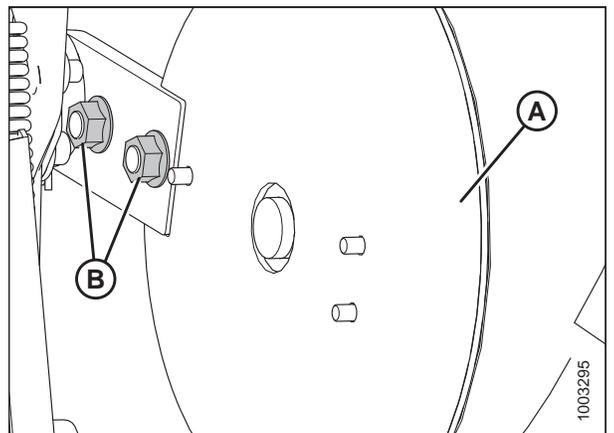


Figure 3.12: Right End of Feed Auger

3.2 Removing Auger Drive Parts

To remove the auger drive parts, follow these steps.

NOTE:

Unless otherwise stated, retain all parts for reinstallation.

1. Remove and discard the two bolts (A).
2. Detach auger pivot (B).
3. Remove and discard chain (C).

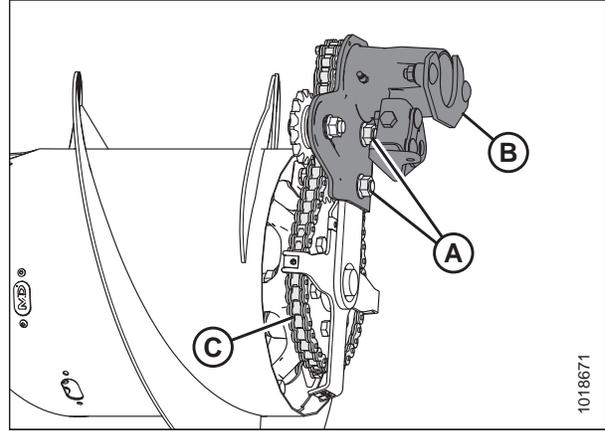


Figure 3.13: Auger Pivot Installed

4. Remove two nuts (A).
5. Remove bolts (B) and spacers (C).

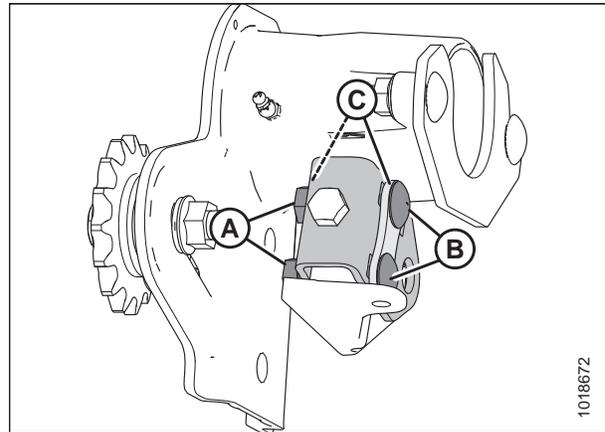


Figure 3.14: Auger Pivot

6. Remove bolt (A) and nut (B).
7. Remove adjuster bracket (C).

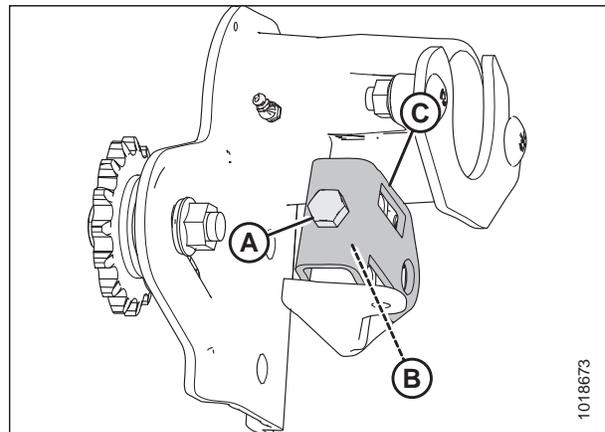


Figure 3.15: Auger Pivot

INSTALLATION INSTRUCTIONS

8. Remove nut (E), Nord-Lock washer (D), Nord-Lock washer (J), washer(s) (C), sprocket (B), and bolt (A).

NOTE:

There may be more than one washer at (C).

9. Remove nuts (G), bolts (F), and clamp plate (H).
10. Discard the auger pivot.

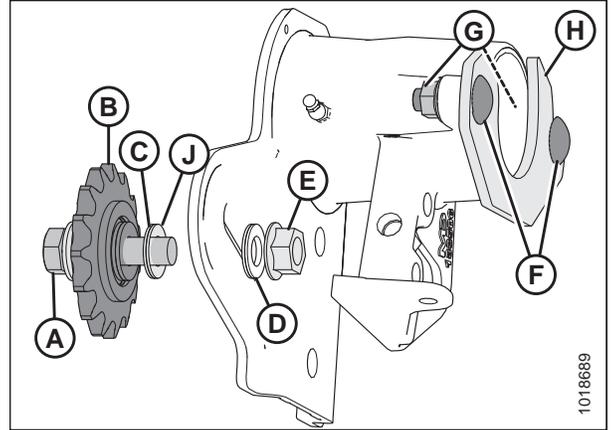


Figure 3.16: Auger Pivot

3.3 Installing New Auger Drive Parts

To install the new left auger pivot (MD #279691) and endless chain (MD #220317) provided in the kit, follow these steps:

1. On new left auger pivot (MD #279691) install bolt (A), sprocket (B), washer(s) (C), Nord-Lock washer (J), Nord-Lock washer (D), and nut (E) retained from previous procedure. Do not fully tighten hardware.

NOTE:

There may be more than one washer at (C).

2. Install clamp plate (H), bolts (F) and nuts (G), all retained from previous procedure. Do not fully tighten hardware.

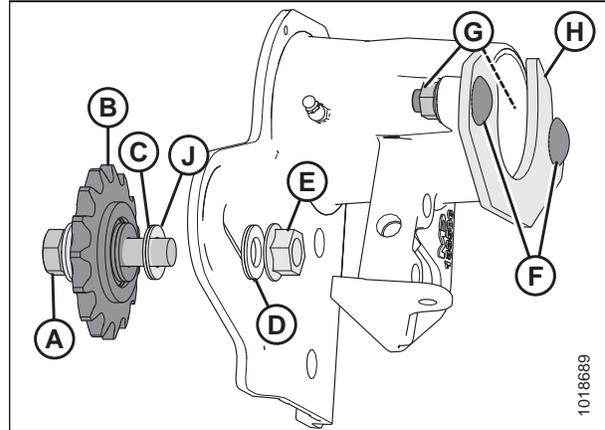


Figure 3.17: New Auger Pivot

3. Position adjuster bracket (C) on new auger pivot, and secure in place with bolt (A) and nut (B). All parts are retained from previous procedure.

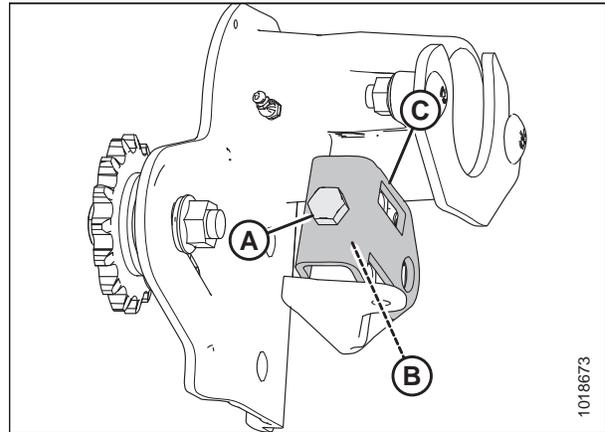


Figure 3.18: New Auger Pivot

4. Reinstall bolts (B) and spacers (C).
5. Reinstall two nuts (A). Position the bolts in the middle of the slot on the adjuster bracket. Hardware should be snug only.

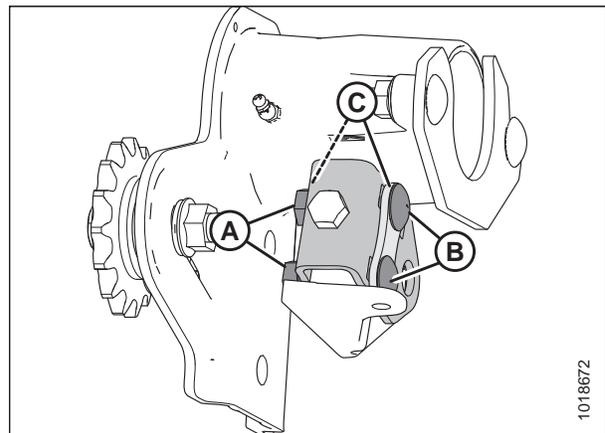


Figure 3.19: New Auger Pivot

INSTALLATION INSTRUCTIONS

6. Install new endless chain (C) (MD #220317).
7. Position the new auger pivot (B) on the auger support arm, and secure in place with two bolts (A).

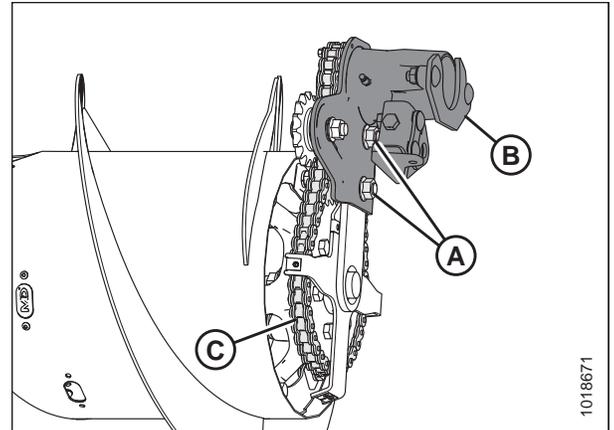


Figure 3.20: New Auger Pivot Installed

8. Check idler sprocket (A) alignment to the auger driven sprocket (B). If necessary, adjust the number of flat washers (C) to improve alignment.

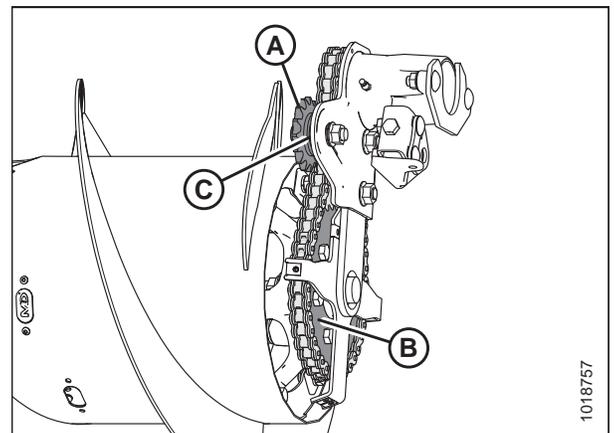


Figure 3.21: New Auger Pivot Installed

3.4 Modifying Gearbox Output Shaft

1. Clean the end of the output shaft (A).

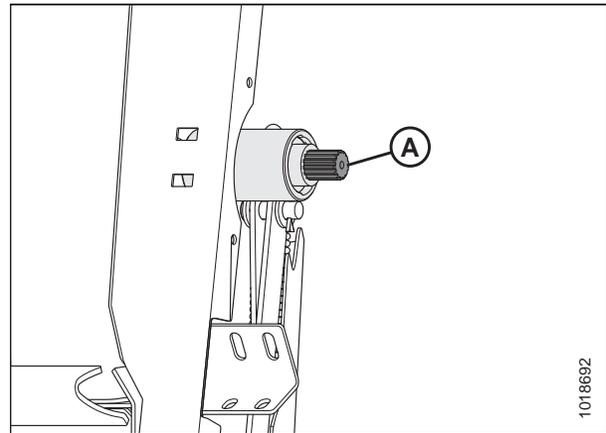


Figure 3.22: Gearbox Output Shaft

2. Drill a 5/16 in. hole (A) into the end of the shaft 25 mm (1 in.) deep (B).
3. Thread hole (A) with a 3/8-16 UNC-2B tap.

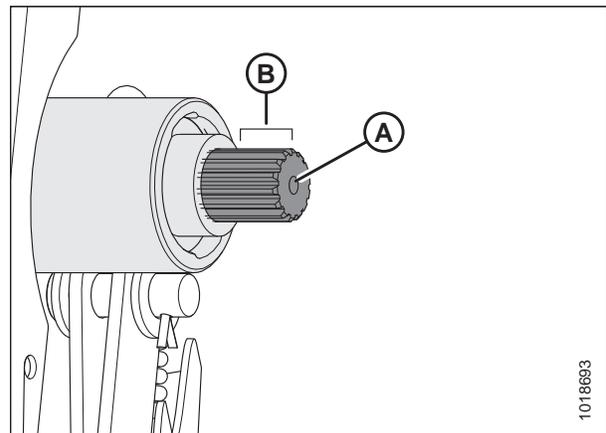


Figure 3.23: Gearbox Output Shaft

3.5 Reinstalling Feed Auger

1. Mount and secure the right side of the drum (A) to the mount bracket. Tighten the two 5/8 in. bolts (B) first.

NOTE:

These two bolts are shorter than the two for the left side.

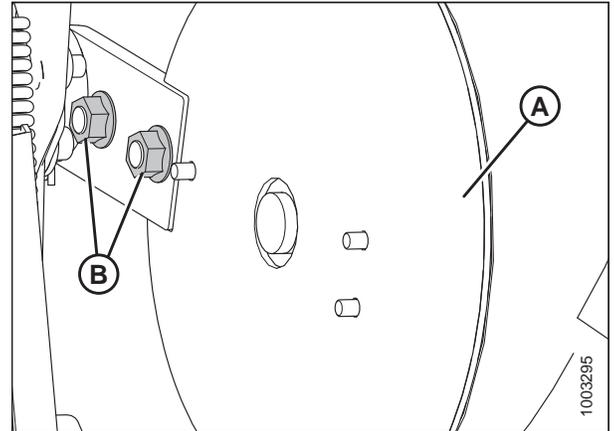


Figure 3.24: Right End of Auger

2. Place the drive chain over the sprocket on the left side of the adapter. Slide the left housing towards the drum and mount, leaving the driveshaft exposed 13 mm (1/2 in.). Bolt the assemblies together.

NOTE:

Use blocking on the left side of the drum if necessary.

3. Remove the block if used.
4. Rotate the drum in forward and reverse a couple of times to ensure the drum has been correctly rebuilt before connecting the chain to the drive assembly.

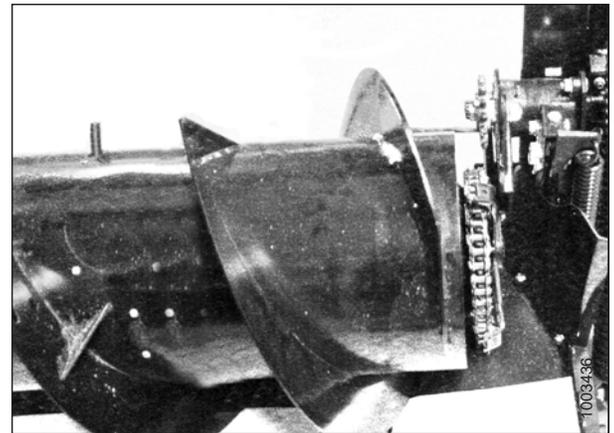


Figure 3.25: Auger Drive

5. Align the sprocket on the shaft, and put drive sprocket (A) into chain (B).

NOTE:

The shoulder of drive sprocket (A) faces the auger.

6. Slide the entire drum assembly back into place, and bolt C-clamp (C) over the housing.
7. Apply Loctite® 242 (or equivalent) to threads of the machine screw (MD #135157) provided in the kit. Install machine screw (E) and washer (D) (MD #180207).

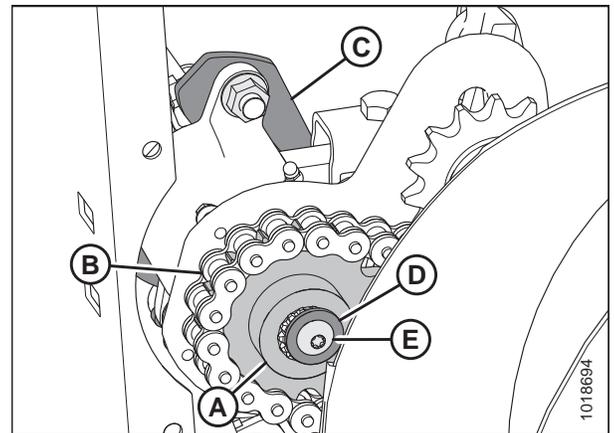


Figure 3.26: Auger Drive

INSTALLATION INSTRUCTIONS

- Loosen nut (A) securing idler sprocket (B).
- Rotate the auger in reverse to take up the slack in the lower strand of chain (C).
- Push down idler sprocket (B) to eliminate the remaining slack in lower strands (C).

NOTE:

Do **NOT** use excessive force on idler to tighten chain.

- Rotate the auger back and forth to check the slack, and repeat Step 10, page 18 if necessary. A slight amount of slack is acceptable.
- Tighten idler nut (A) and torque to 181 Nm (134 lbf-ft).

NOTE:

If joint movement occurs, the torque can be increased to 277 Nm (204 lbf-ft).

- Rotate auger (A) by hand, in reverse, until it cannot turn anymore.
- Mark a line (B) on the drum that lines up with one of the cover supports.

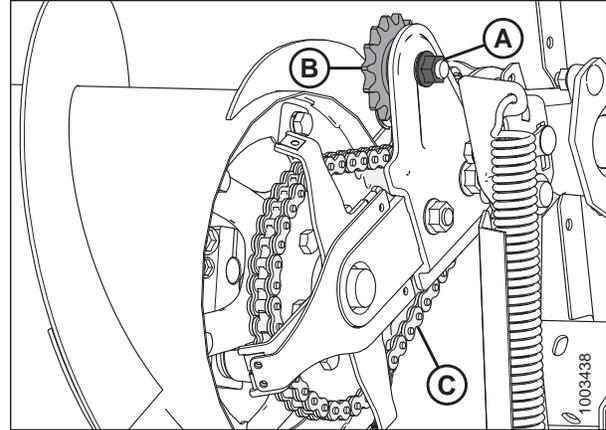


Figure 3.27: Auger Drive

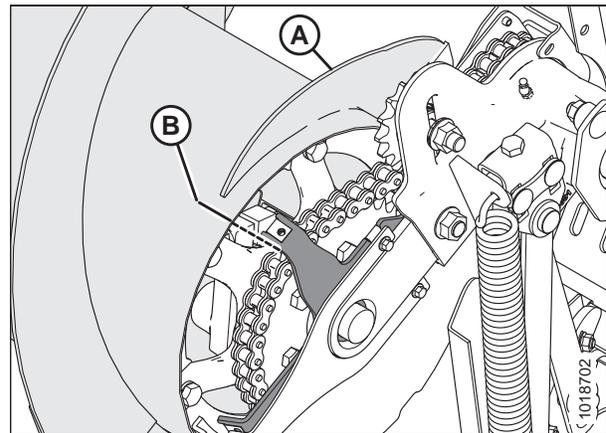


Figure 3.28: Auger Drive

- Rotate the auger (A) by hand in forward direction, until it cannot turn anymore.
- Measure the distance between the two lines (B).

For a new chain:

- If the difference (B) is 1–4 mm (0.04–0.16 in.), no more adjustment is required.
- If the difference (B) is greater than 4 mm (0.16 in.), repeat Steps 8, page 18 to 12, page 18.

For a used chain:

- If the difference (B) is 3–8 mm (0.12–0.31 in.), no more adjustment is required.
- If the difference (B) is greater than 8 mm (0.31 in.), repeat Steps 8, page 18 to 12, page 18.

- Check the distance between the two lines (B) again.
- Coat chain with grease.

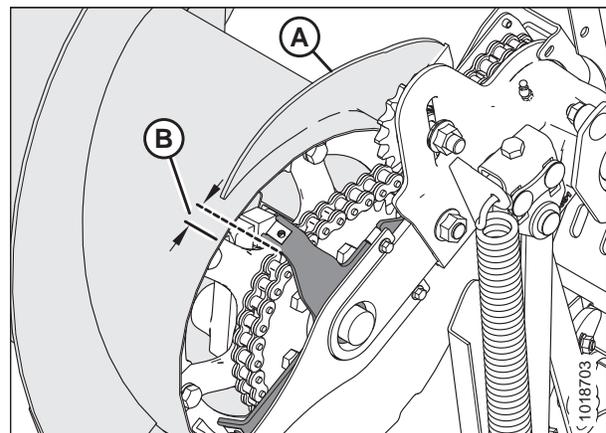


Figure 3.29: Auger Drive

INSTALLATION INSTRUCTIONS

19. Install new lower cover (E) and drive cover retainer (G), retained from a previous procedure. Engage the inboard lip of the cover into the auger tube and rotate the cover back to engage the rear support.
20. Secure with bolts (D).
21. Install new upper cover (C) and new cover retainer plate (F) (MD #279652).
22. Secure cover retainer plate in place with six bolts (B) (MD #21456).
23. Replace and tighten bolts (A).

NOTE:

The covers should be as close together as possible to prevent crop from entering the auger drive.

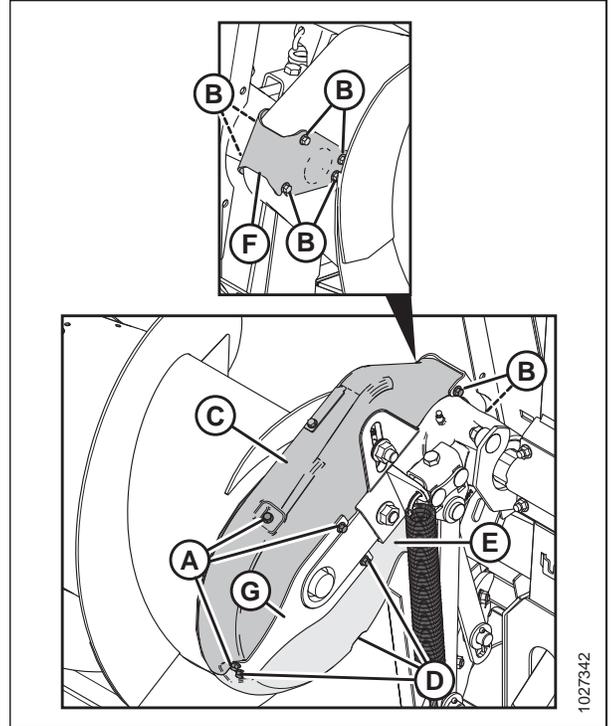


Figure 3.30: Auger Drive

24. Slide auger support bars (A) onto the feed deck carrier mounting posts. Repeat at opposite side.
- NOTE:**
- The auger support bar with the “F” cut into it should be installed towards the front of the adapter.
25. Install washers and cotter pins (B). Repeat at opposite side.

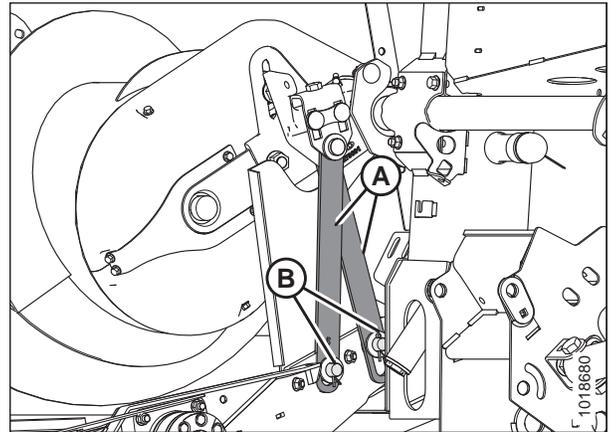


Figure 3.31: Auger Support

INSTALLATION INSTRUCTIONS

26. Install spring (A). Repeat at opposite side.
27. Install nut (B), and tighten until distance (C) is 15 mm (9/16 in.). Repeat at opposite side.
28. Attach adapter to combine. Refer to the header operator's manual.
29. Check auger to pan clearance. Refer to [3.6 Adjusting Auger to Pan Clearance](#), page 22.

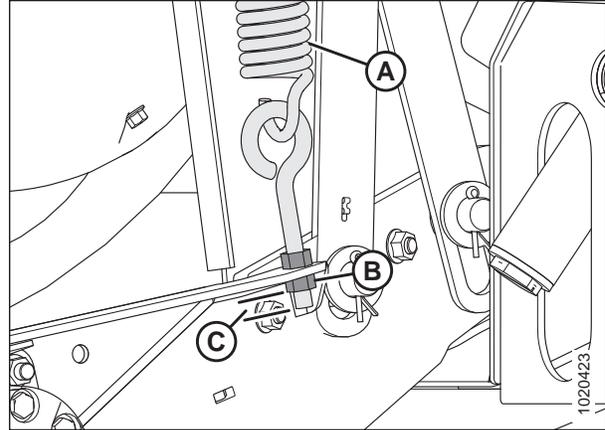


Figure 3.32: Auger Support

NOTE:

Check chain tension after the first 10 hours of operation. Check chain tension and grease chain every subsequent 250 hours of operation.

To adjust chain tension with the new covers installed, follow these steps:

1. Remove screw (A) and cover (B).

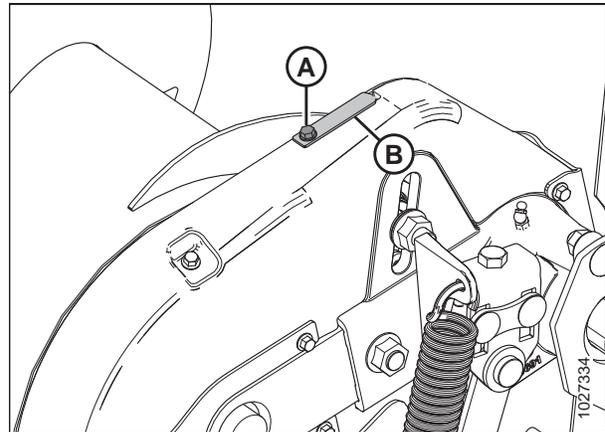


Figure 3.33: Auger Drive Cover

2. Using a 15/16 in. wrench in access hole (A), loosen idler sprocket bolt (B).

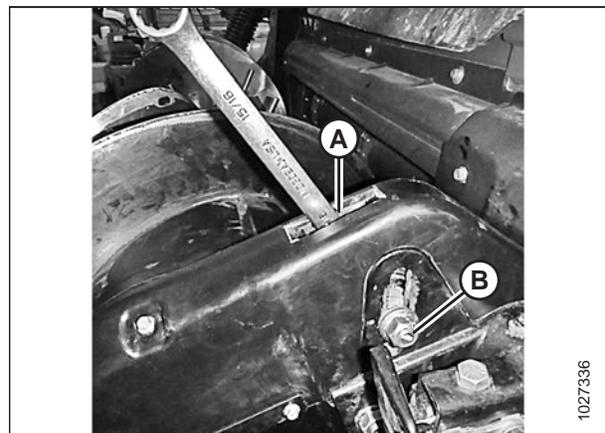


Figure 3.34: Auger Drive Cover

INSTALLATION INSTRUCTIONS

3. Rotate the auger in reverse to take up the slack in lower strand of chain (A).
4. Push down idler sprocket (B) to eliminate the remaining slack in lower strands (A).
5. Rotate the auger back and forth to check the slack, and repeat Step 4, page 21 if necessary. A slight amount of slack is acceptable.

NOTE:

Do **NOT** use excessive force on idler to tighten chain.

6. Tighten idler bolt (C) and torque to 290 Nm (215 lbf·ft).
7. Complete Step 13, page 18 to Step 18, page 18.
8. Replace cover (B) and secure with bolt (A).

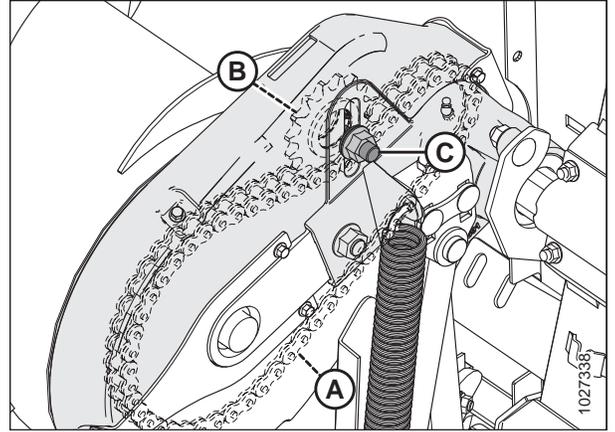


Figure 3.35: Auger Drive Cover

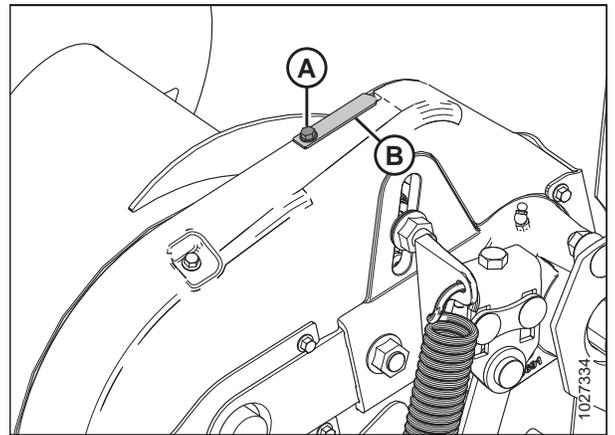


Figure 3.36: Auger Drive Cover

3.6 Adjusting Auger to Pan Clearance

⚠ DANGER

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

IMPORTANT:

Maintain an appropriate distance between auger and auger pan. Too little clearance may cause tines or flighting to contact and damage feed draper or pan when operating header at certain angles. Look for evidence of contact when greasing adapter.

1. Extend center-link to steepest header angle (setting D), and position header 150–254 mm (6–10 in.) off the ground.
2. Lock header wings.
3. Shut down combine and remove key from ignition.
4. Ensure float lock linkage is on down stops (washer [A] and nut [B] cannot be moved) at both locations.

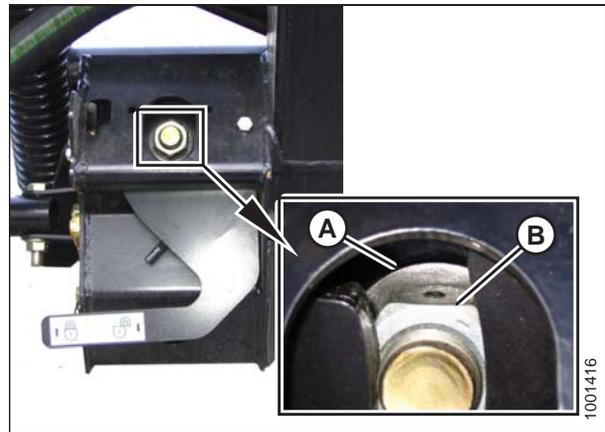


Figure 3.37: Float Lock

5. Ensure lower end of linkage bars (A) are against studs (B) at both ends of auger.

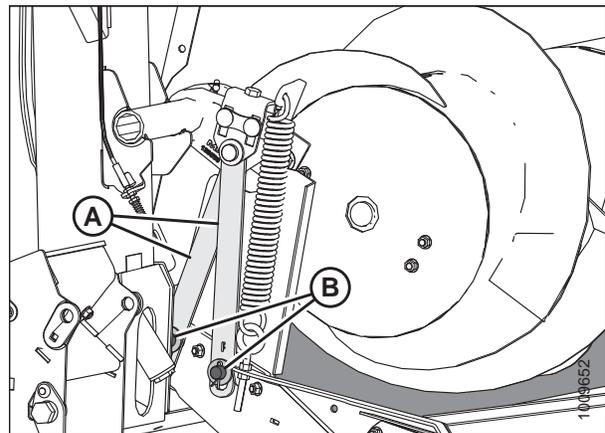


Figure 3.38: Linkage Bars

INSTALLATION INSTRUCTIONS

6. Loosen two nuts (B).
7. Use adjuster bolt (A) to set clearance (C) to 5–10 mm (3/16–3/8 in.). Turn adjuster bolt (A) clockwise to increase clearance and counterclockwise to decrease clearance.

NOTE:

The clearance increases 25–40 mm (1 – 1 1/2 in.) when center-link is fully retracted.

8. Repeat Steps 6, page 23 and 7, page 23 on opposite end of the auger.
9. Tighten nuts (B) on both ends of feed auger. Torque nuts to 106–118 Nm (79–87 lbf·ft).

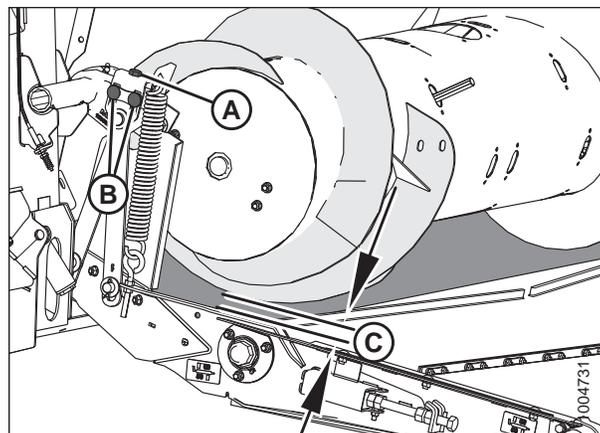


Figure 3.39: Auger Clearance

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