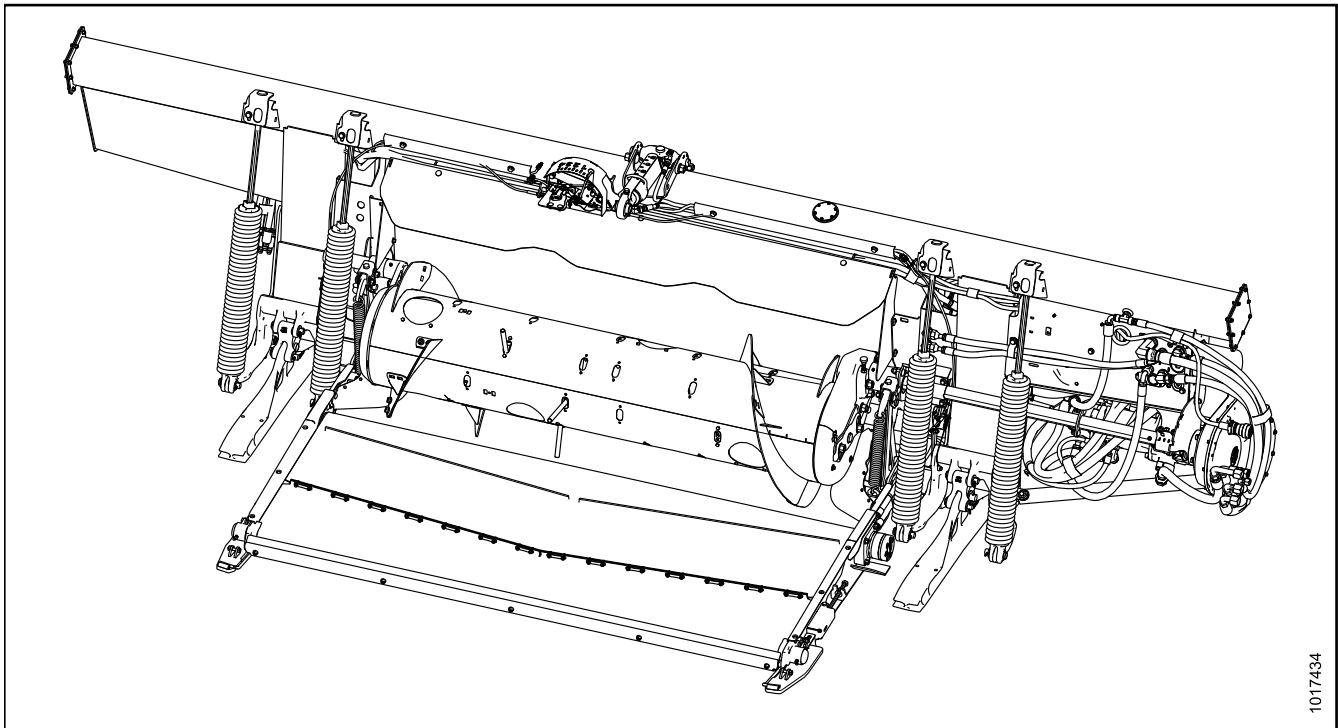


# **FM100 Float Module**

Left Auger Arm Service Kit (MD #308133)  
Installation Instructions

214576 Revision A  
Original Instruction

FM100 Float Module



1017434

Published in March 2018.

# Introduction

The left auger arm used on MacDon FM100 Float Modules changed between model year 2017 and model year 2018. The new arm has a slightly different shape and therefore requires different left auger covers. If you want to replace the arm on an older float module, you will also need to replace the left auger covers. The arm and the covers are provided in the Left Auger Arm Service kit (MD #308133).

## **NOTE:**

The updated auger arm allows for installation of the Bumper kit (MD #B6600), but in order to install the kit, both the right and left auger arms need to be updated on model year 2016 and 2017 float modules. To update the right auger arm, order the Right Auger Arm Service kit (MD #308134).

This document explains how to install the Left Auger Arm Service 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 3 hours.

## **Conventions**

The following conventions are used in this document:

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

## **NOTE:**

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

## **NOTE:**

This document is currently available in English only.



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# 1 Safety

## 1.1 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. 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.

## 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.

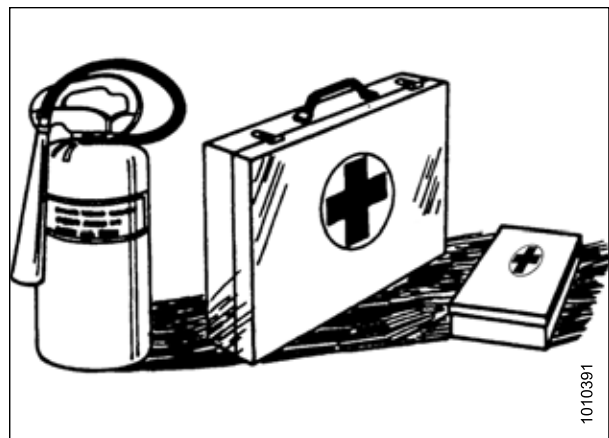


Figure 1.3: Safety Equipment



## 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.

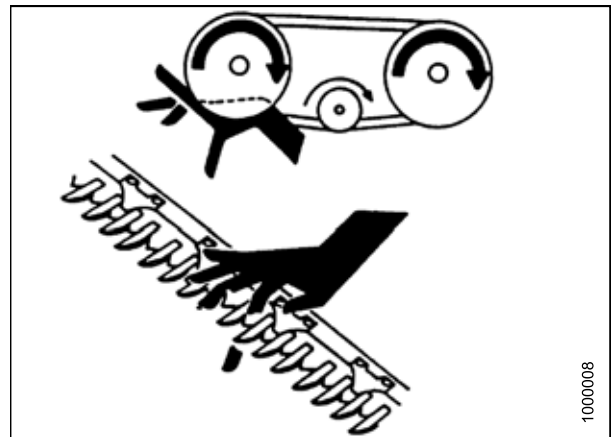


Figure 1.5: Safety around Equipment

- 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.



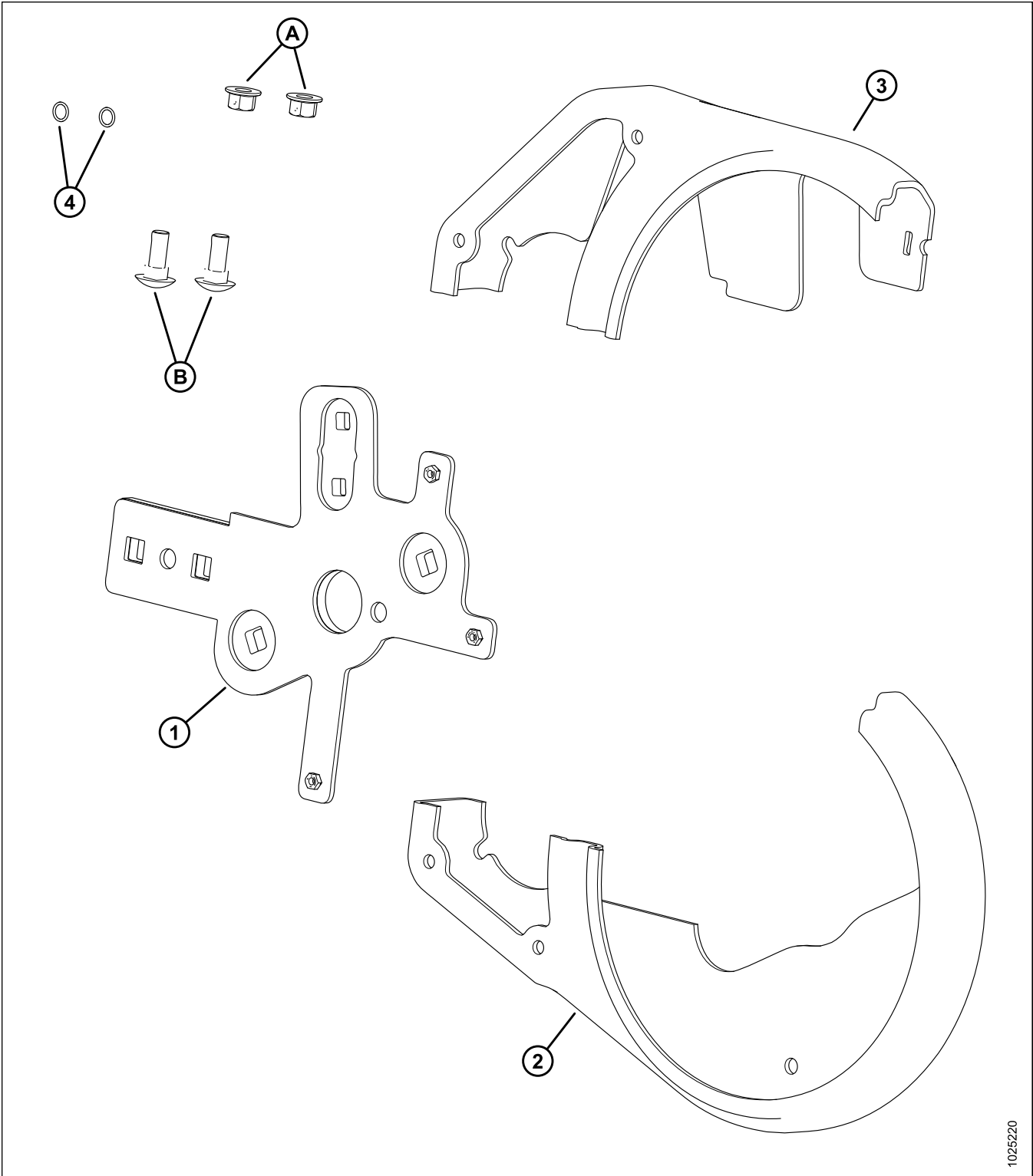
Figure 1.6: Safety around Equipment



## 2 Parts List

The following parts are included in this kit:

PARTS LIST



1025220

## PARTS LIST

<b>Ref</b>	<b>Part Number</b>	<b>Description</b>	<b>Quantity</b>
1	301963	ARM – LEFT AUGER SUPPORT	1
2	301992	COVER – LEFT AUGER, LARGE HALF	1
3	301993	COVER – LEFT AUGER, SMALL HALF	1
4	183204	O-RING HNBR, COLOR GREEN	2
A	136431	NUT – HEX FLG CTR LOC M12 X 1.75-10	2
B	136291	BOLT – RHSN TFL M12 X 1.75 X 35 8.8 A3L	2



## 3 Installation Instructions

To install the Left Auger Arm Service kit, follow these procedures in order.

### NOTE:

It is not necessary to remove the float module from the header, but it does make installation of the kit easier. Instructions for removing the float module from the header are available in the header operator's manual and technical manual.

### 3.1 Removing Feed Auger

To remove the feed auger from the float module, follow these steps:

#### **WARNING**

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 reassembly.

1. To provide more room for working, if the float module is installed in a header, position the reel up and forward, and engage the reel safety props.
2. Shut down the combine, and remove the key from the ignition.

### NOTE:

The side flap deflectors have been removed for clarity.

3. Place wooden blocks (A) under the auger to prevent the auger from dropping onto the feed draper and damaging it.

### NOTE:

The illustration at right shows the float module alone, not installed in a header. You can perform this procedure with the float module installed in a header, or detached from the header.

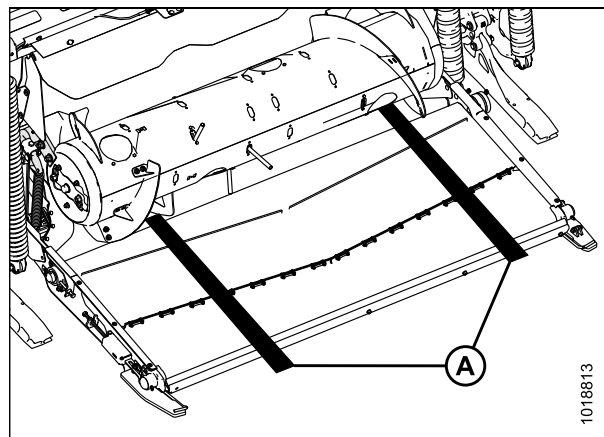


Figure 3.1: Blocks under the Auger

## INSTALLATION INSTRUCTIONS

4. On the left side of the auger, remove four bolts (A) and inspection panel (B).
5. Remove the bolt and clamp (C) that hold the two covers (G) and (H) together. Discard clamp (C).
6. Remove the two bolts and washers (D) that secure the bottom cover. Discard one washer.
7. Remove the two bolts (E) and remove cover retainer (F).
8. Rotate top (G) and bottom (H) covers forward to remove. Discard both covers.

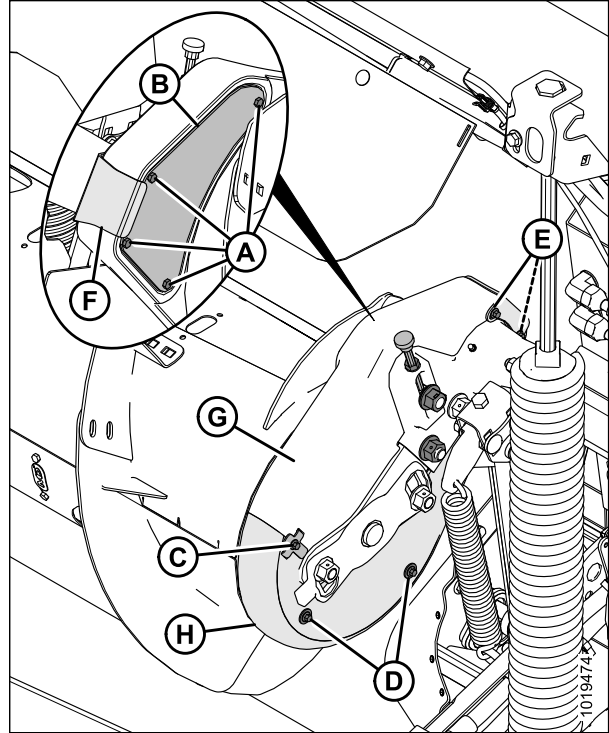


Figure 3.2: Left Side of Auger

9. Loosen jam nut (C) and turn thumbscrew (D) counterclockwise to release the bolt holding sprocket (B) and to allow the sprocket to be raised up to release chain tension.

### IMPORTANT:

Do **NOT** loosen the thin nut (E) on the inboard side of the idler sprocket spindle.

10. Loosen idler sprocket nut (A), and raise sprocket (B) to the uppermost position to release the tension on the chain. Tighten nut (A) to hold sprocket.
11. Remove screw (F) and washer (G).

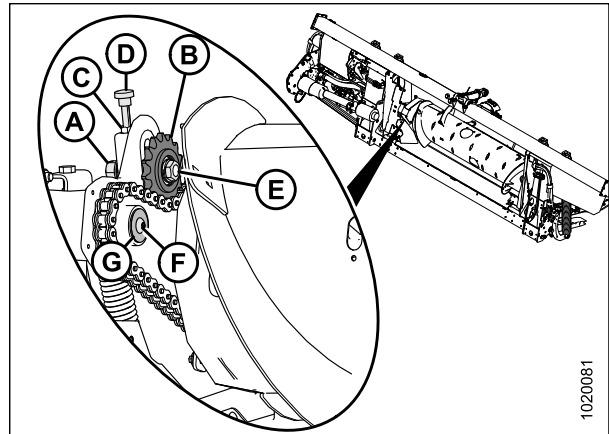
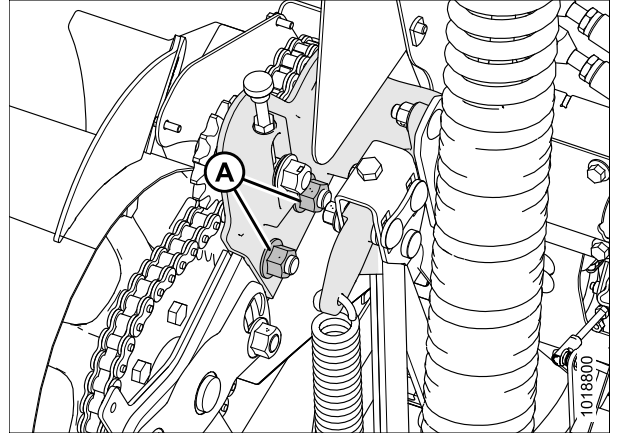


Figure 3.3: Auger Drive (Left Side)



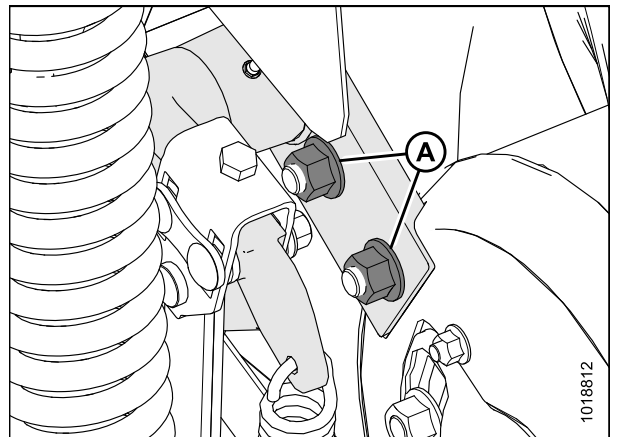
## INSTALLATION INSTRUCTIONS

12. Remove the two bolts and nuts (A).



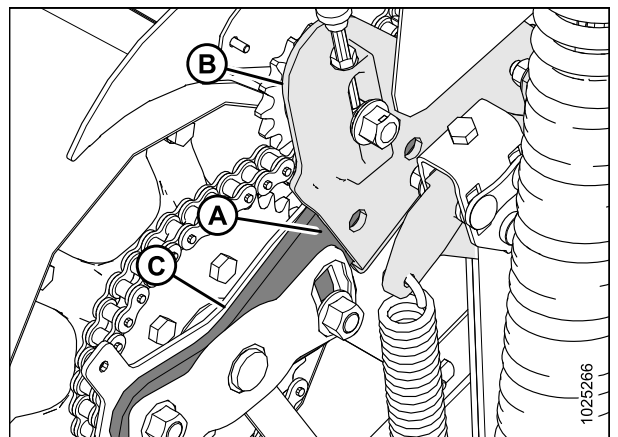
**Figure 3.4: Auger Support (Left Side)**

13. Remove the two nuts (A).



**Figure 3.5: Auger Support (Right Side)**

14. Use a pry bar at location (A) between the auger support arm (C) and the auger pivot (B). Pry the auger to the right.



**Figure 3.6: Auger Support (Left Side)**

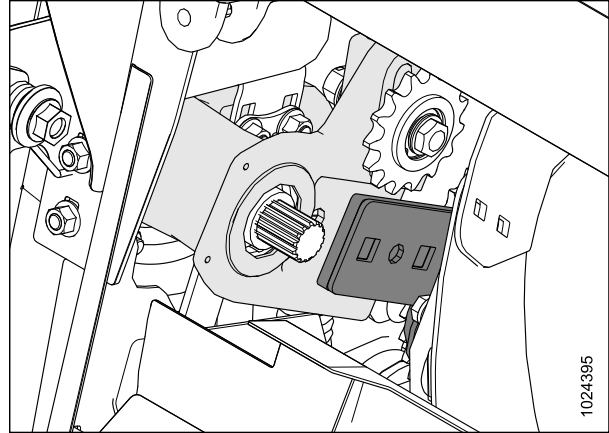
## INSTALLATION INSTRUCTIONS

**NOTE:**

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

**NOTE:**

Chain removed from illustration for clarity.

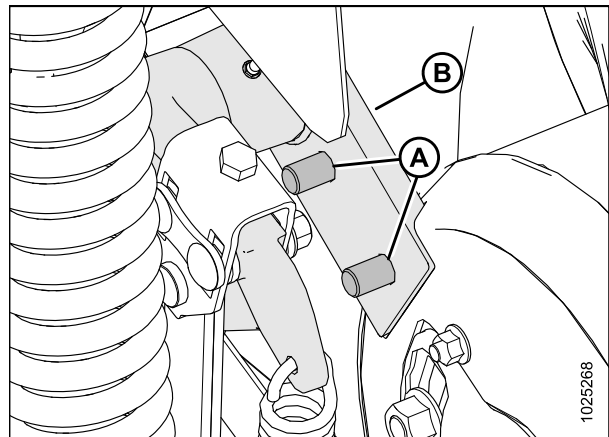


**Figure 3.7: Auger Drive (View from Behind)**

15. Use a pry bar between the right support bar and the right auger pivot (B) to slide auger drum to the left, and then slide bolts (A) out of the pivot.

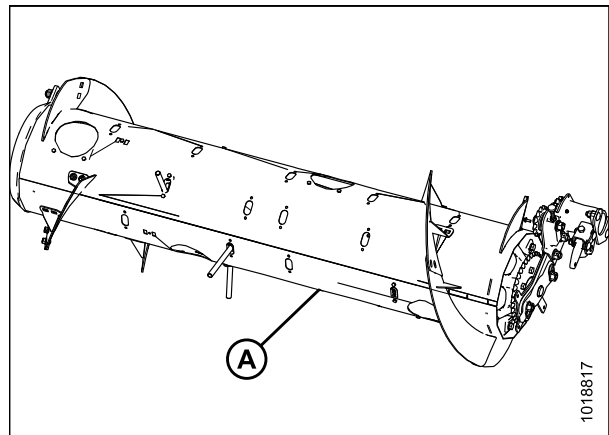
**NOTE:**

The right support bar is not visible in the illustration at right as it extends from the auger behind pivot (B). It is connected to the pivot with bolts (A).



**Figure 3.8: Auger Support (Right Side)**

16. Place feed auger and chain (A) on workbench.



**Figure 3.9: Auger**

## INSTALLATION INSTRUCTIONS

### 3.2 Replacing Left Auger Arm and Covers

To replace the left auger arm and the left auger covers with the new parts provided in the kit, follow these steps:

1. Remove the outermost left access cover (A), by removing the two bolts (B). Retain parts for reassembly.

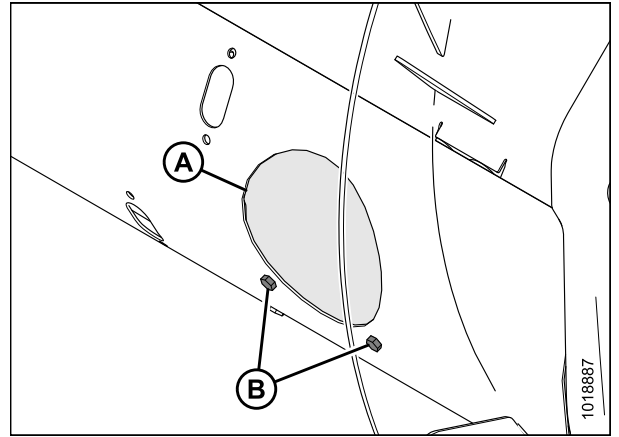


Figure 3.10: Drum Access Cover

2. Inside the drum, place a block (B) under the finger shaft (A).

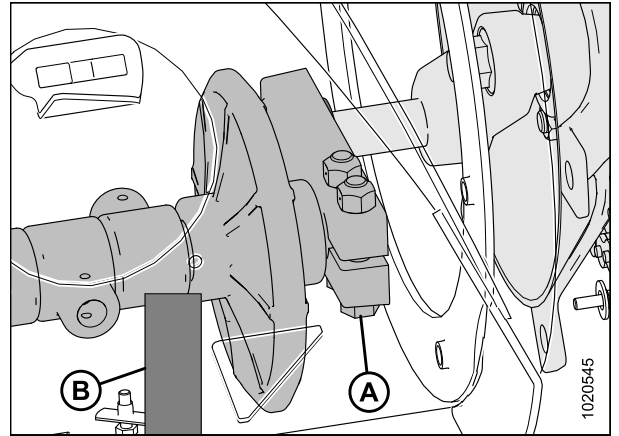


Figure 3.11: Left Pivot Block

3. Remove six bolts (A). Retain for reassembly.
4. Remove the left feed auger assembly.

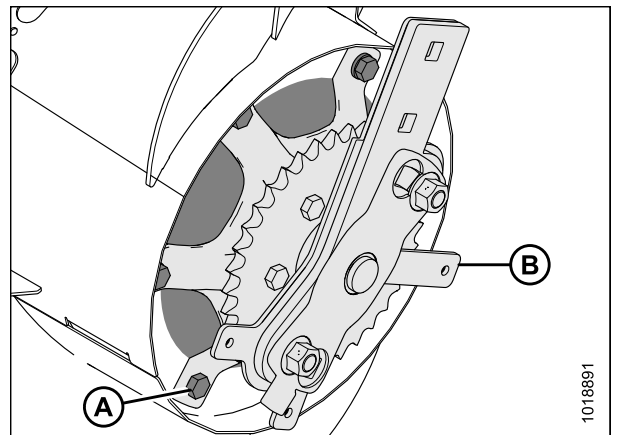


Figure 3.12: Left Assembly

## INSTALLATION INSTRUCTIONS

5. Remove nut (A). Retain for reassembly.
6. Remove finger shaft crank arm (B). Retain for reassembly.
7. Remove woodruff key (C) from shaft. Retain for reassembly.

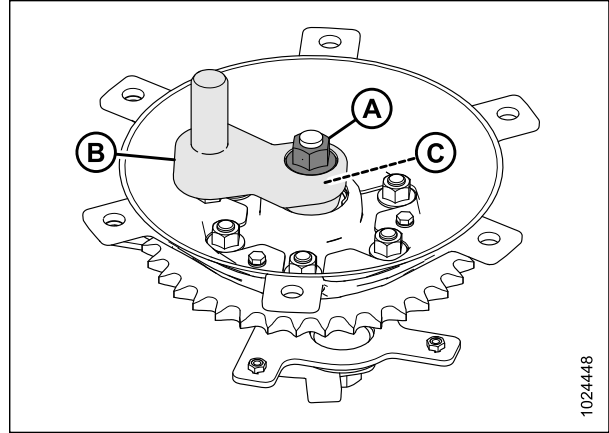


Figure 3.13: Left Assembly

8. Slide hub (A) off shaft (D). Retain for reassembly.
9. Remove woodruff key from the shaft (D). Retain for reassembly.
10. Remove auger support arm assembly (B). Retain for next steps.

**NOTE:**

The hub bearing (E) may separate. If so, reassemble the bearing by pressing the inner race back into the bearing.

11. Remove washer (C). Retain for reassembly.

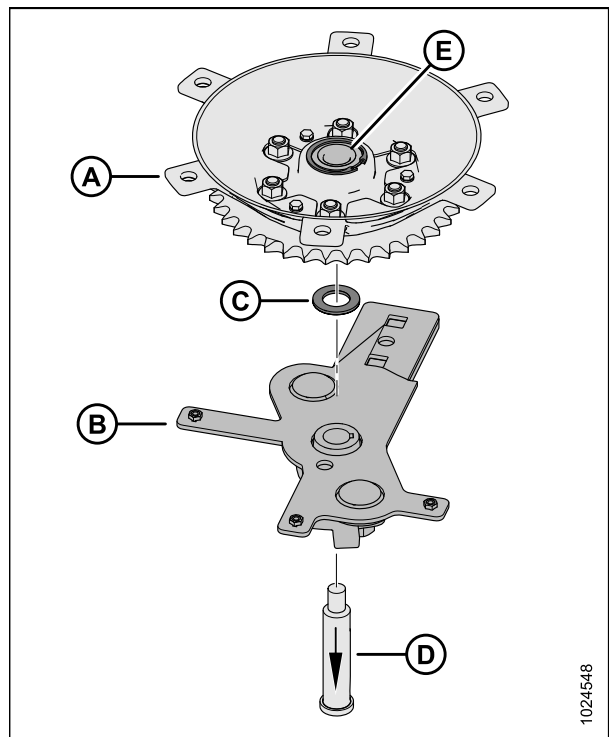
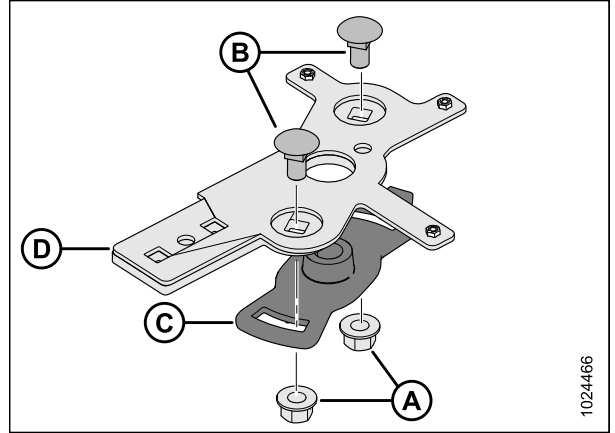


Figure 3.14: Left Assembly

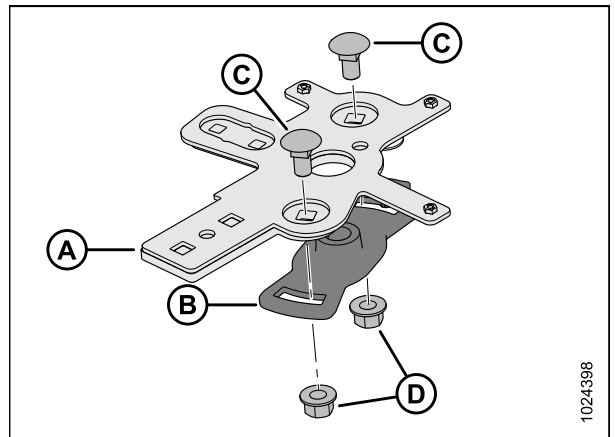
## INSTALLATION INSTRUCTIONS

12. Remove nuts (A) and bolts (B) securing timing plate (C) to auger support arm (D). Discard auger support arm (D). Retain all other parts for reassembly.



**Figure 3.15: Left Assembly**

13. Install new left auger support arm (A) (MD #301963) on top of timing plate (B), and secure in place with bolts (C) and nuts (D). Auger support arm is provided in kit. Timing plate, bolts, and nuts are retained from Step 12, [page 15](#).



**Figure 3.16: New Left Auger Support Arm Installed on Timing Plate**

## INSTALLATION INSTRUCTIONS

14. Install woodruff key (A) into lower machined slot in shaft (B).
15. Install shaft (B) through auger support arm assembly (C). Align woodruff key (A) with the slot in the timing plate.
16. Install washer (D).
17. Insert two 35 mm M12 carriage bolts (E) (MD #136291) through two of the empty holes in the auger support arm. Secure in place with two green O-rings (F) (MD #183204) and two M12 hex lock nuts (G) (MD #136431).

**NOTE:**

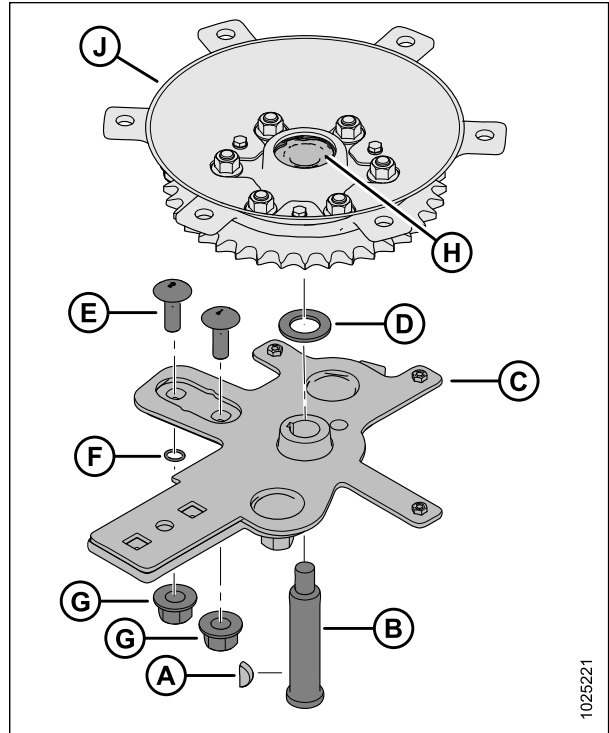
Only one O-ring is shown in the illustration. The second one is hidden behind the auger support arm assembly.

18. Position a tube (not provided in kit) over the inner race of bearing (H) and use it to press the hub assembly (J) onto shaft (B).

**NOTE:**

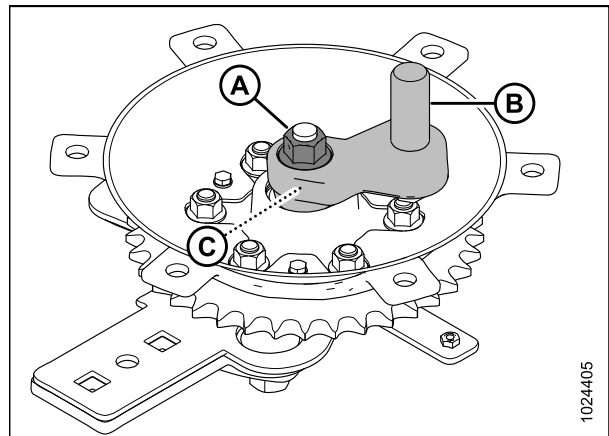
If you do not press against the inner race of the bearing while assembling these parts, the bearing may separate. If it does, press the inner race back into the bearing.

19. Install woodruff key (C) into shaft.
20. Install finger shaft crank arm (B).
21. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to threads, and then install nut (A). Torque nuts to 161–178 Nm (119–132 lbf-ft)



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**Figure 3.17: Left Assembly**

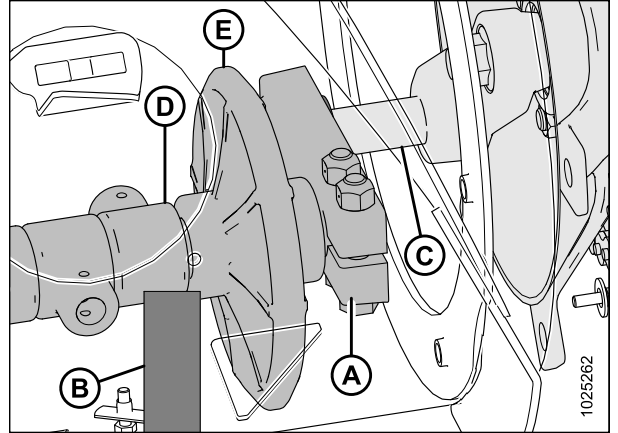


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**Figure 3.18: Left Assembly**

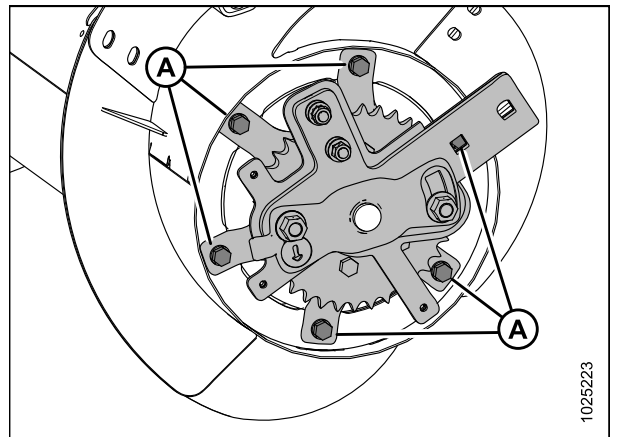
## INSTALLATION INSTRUCTIONS

22. Slide left feed auger assembly (E) into the drum. Align pivot pin (C) with the bushing in pivot block (A).
23. Remove wooden block (B) supporting finger shaft (D).



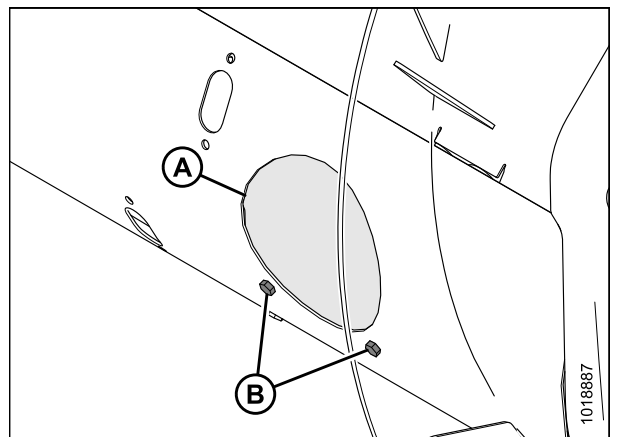
**Figure 3.19: Left Pivot Block**

24. Install six bolts and washers (A).
25. Torque to 91 Nm (67 lbf-ft).



**Figure 3.20: Left Assembly**

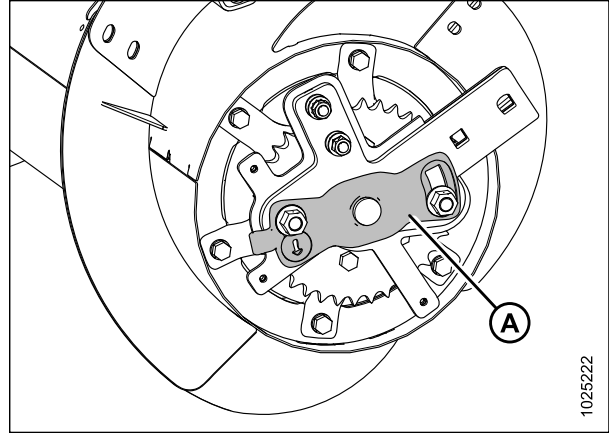
26. Install the outermost left access cover (A), and secure with two bolts (B).
27. Torque to 8.5 Nm (75 lbf-in).



**Figure 3.21: Drum Access Cover**

## INSTALLATION INSTRUCTIONS

28. Ensure finger timing indicator (A) is positioned the same as the right side finger timing indicator.



**Figure 3.22: Drum Access Cover**



### 3.3 Installing Feed Auger

To reinstall the feed auger in the float module, follow these steps:

 **WARNING**

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.

1. Place the auger on the wooden blocks (A) on the feed draper.

**NOTE:**

The side flap deflectors have been removed from the illustration for clarity.

**NOTE:**

The illustration at right shows the float module not installed in a header. You may be installing the feed auger in a stand-alone float module or in a float module installed in a header.

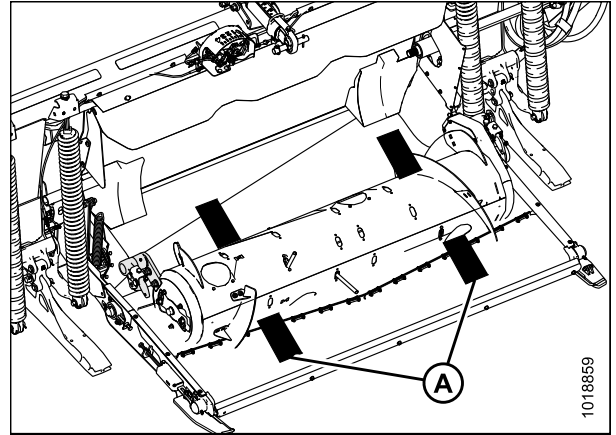


Figure 3.23: Blocks under the Auger

2. Align the right pivot (B) and the auger mount support. Secure in place with two nuts (A).

**NOTE:**

The auger mount support is not visible in the illustration at right as it extends from the auger behind pivot (B).

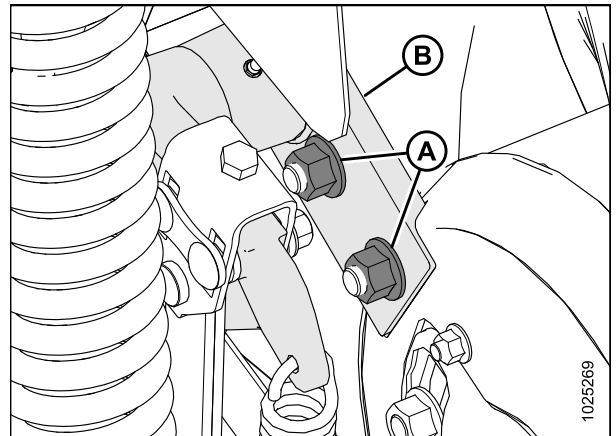


Figure 3.24: Auger Support (Right Side)

## INSTALLATION INSTRUCTIONS

3. Install the endless chain (B) onto the sprocket on the feed auger (A).

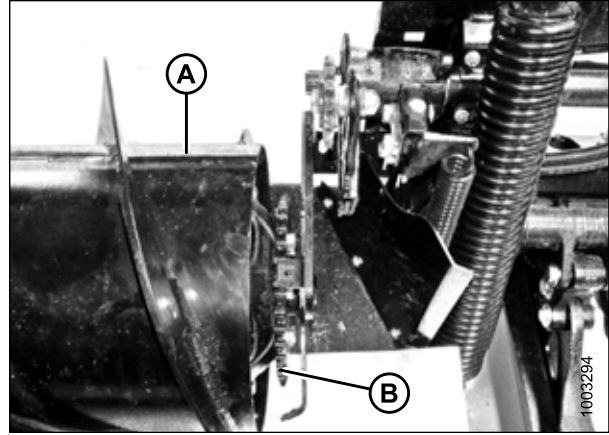


Figure 3.25: Auger Drive (Left Side)

4. Place drive sprocket (A) into chain (B) and align the sprocket onto the shaft.

**NOTE:**

The shoulder of drive sprocket (A) should face the auger.

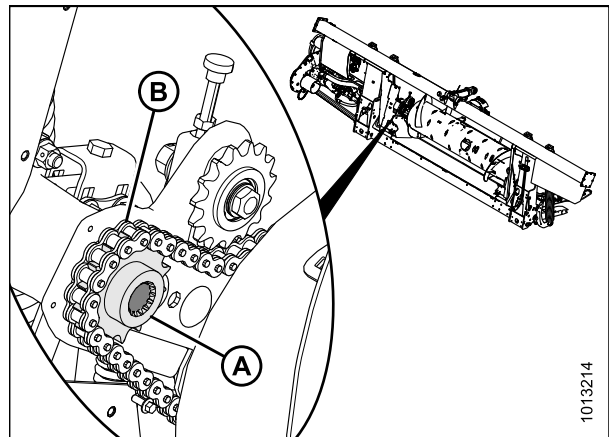


Figure 3.26: Auger Drive (Left Side)

5. Align the holes in the auger pivot (B) with the holes in the left auger support (C). Secure together with two bolts and nuts (A).
6. Remove the blocks from under the auger.

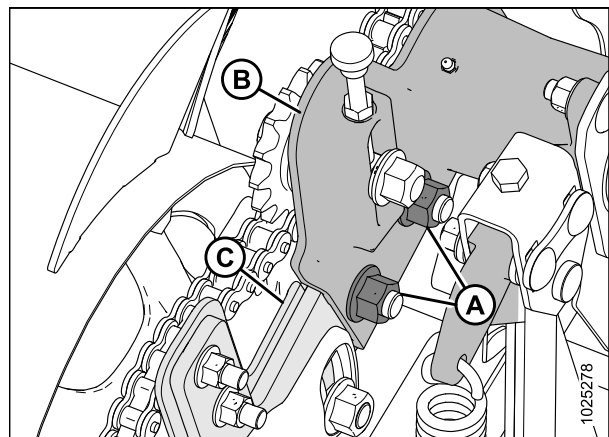


Figure 3.27: Auger Support (Left Side)

## INSTALLATION INSTRUCTIONS

7. Rotate the auger in reverse to take up the slack in the lower strand of the chain.

**IMPORTANT:**

Do **NOT** loosen the thin nut (C) on the inboard side of the idler sprocket spindle.

8. Turn the adjuster thumbscrew (D) clockwise to move the idler sprocket (B) until it is FINGER TIGHT ONLY.

**NOTE:**

Do **NOT** overtighten.

9. Tighten the idler nut (A) and torque to 258–271 Nm (190–200 lbf-ft).
10. Tighten the jam nut (A).
11. Apply medium-strength threadlocker (Loctite® 243 or equivalent) to threads of screw (B).
12. Install washer (C) and secure it with screw (B).

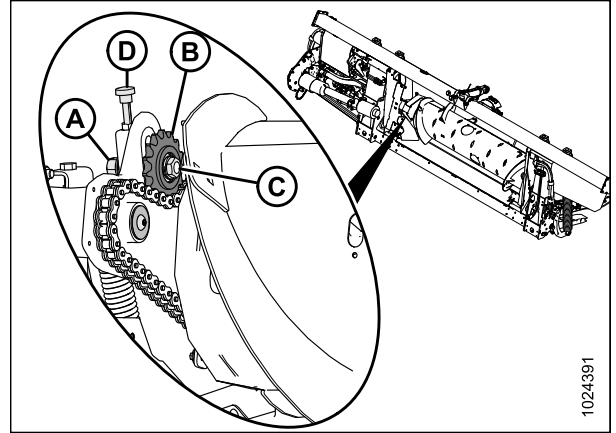


Figure 3.28: Auger Drive (Left Side)

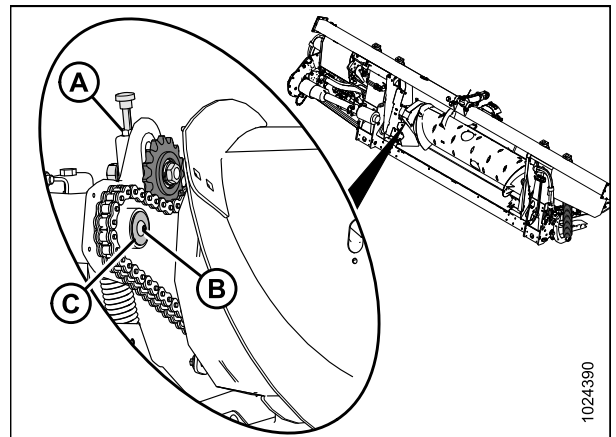


Figure 3.29: Auger Drive (Left Side)

## INSTALLATION INSTRUCTIONS

13. Position new bottom cover (H) (MD #301992), and secure with two bolts (D).
14. Position new top cover (G) (MD #301993). Secure top and bottom cover with clamp and bolt (C).
15. Install inspection panel (B) and secure with four bolts (A). Tighten bolts (A) and torque to 2.7–4.1 Nm (24–36 lbf·in).
16. Install cover retainer (F) and secure with two bolts (E).

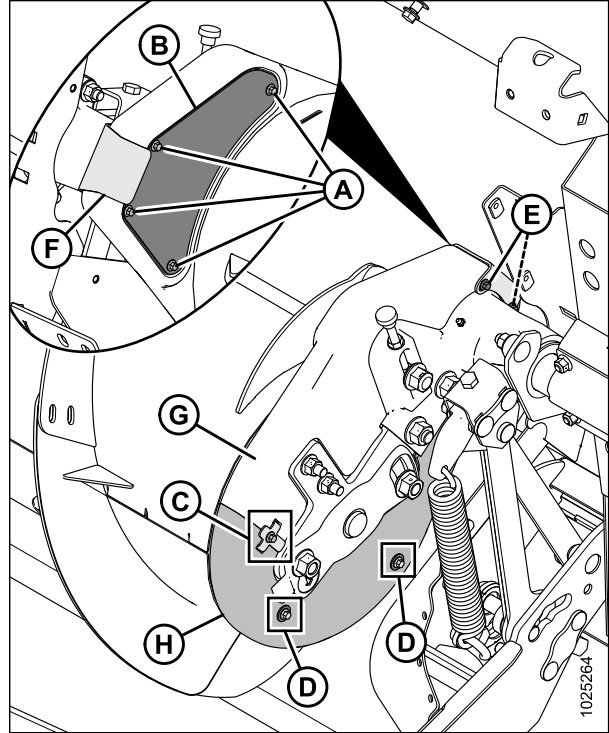


Figure 3.30: Auger Drive





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