# Installation Instructions

# CCW1948 Belt Kit

Part No. 5600383

Fits Ferris CCW1948 Models

| Kit Contents | | | | | |
|---|---|---|---|---|---|
| **Part No.** | **Qty.** | **Description** | **Part No.** | **Qty.** | **Description** |
| 5102350 | 2 | Spacer, .515 X 1.875 | 5102349 | 3 | Pulley, 5.72, 48 CCW, Tall |
| 5101312 | 1 | Idler Pulley, 5.0” | 5101103 | 3 | Shield, Pulley Bearing |
| 5045178 | 1 | Spacer, .52 X 1.00 X .75 | 5044609 | 1 | Spacer, .52 X 1.00 X .38 |
| 5025150 | 1 | Washer, 1/2 USS | 5025396 | 4 | Nut, 1/2-13 Hex Nylock Flange |
| 5025017X24 | 1 | Bolt, 1/2-13 X 3, GD5 | 5046916 | 1 | Spacer, .51 X 1.75 X .75 |
| 5025017X44 | 1 | Bolt, 1/2-13 X 5-1/2 GD5 YZ | 5023497 | 1 | Eye Bolt, 3/8-16 X 5, 1 Eye |
| 5025034 | 1 | Nut, 3/8-16 Hex | 5025394 | 2 | Nut, 3/8-16 Hex Nylock Flange |
| 5406226B | 1 | Belt Tension Anchor Bracket | 5025011X8 | 3 | Bolt, 5/16-18 X 1 GD5 YZ |
| 5025155 | 2 | Washer, 5/16 SAE | 5025392 | 3 | Nut, 5/16-18 Hex Nylock Flange |
| 5406228B | 1 | Drill Template | 5102288 | 1 | LH Dump Valve Handle |
| 5406278B | 1 | Dump Valve Guide Plate | 5406266B | 1 | Deck Travel Stop |
| 5025292 | 1 | 5/16 Gr.9 Flat Washer | 5025017X28 | 2 | Bolt, 1/2-13 X 3-1/2” |

## Removing the Mower Deck Belt

1. Park the machine on a flat, level surface. Turn off the PTO, engage the parking brake, turn off the ignition, remove the ignition key, and disconnect the spark plug wire(s).
2. Lower the mower deck to its lowest cutting position.
3. Remove the mower deck guards.

**⚠ WARNING**

Use extreme caution when rotating the idler arm with the breaker bar, due to the increased tension in the spring as the idler arm is being rotated. Injury may result if the breaker bar is prematurely released while the spring is under tension.

4. Using a 1/2” breaker bar, place the square end in the square hole located on the end of the idler arm (A, Figure 1). Carefully rotate the breaker bar COUNTER-CLOCKWISE, which will relieve the tension on the mower deck drive belt exerted from the idler arm.
5. Slide the mower deck drive belt over the edge of the stationary idler pulley (B). Carefully release the tension on the breaker bar until the idler arm comes to a complete stop.
6. Remove the mower deck drive belt from the unit.

**⚠ WARNING**

**Remove the ignition key prior to performing maintenance on the unit.**

Before beginning any service work turn off the PTO, engage the parking brake, turn off the ignition, remove the ignition key, and disconnect the spark plug wire(s).

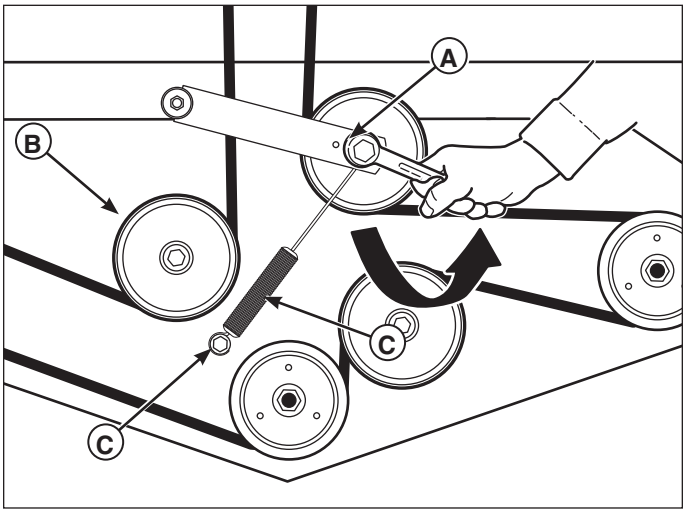


*Figure 1. Mower Deck Drive Belt*
*A. Idler Arm*
*B. Stationary Idler Pulley*
*C. Idler Tension Spring*
*D. Anchor Bolt*





Form No.: 5406229
Revision: -
Rev. Date: 12/2009

## Removing the Stationary Idler Pulleys

1. Loosen the hardware that secures the stationary idler pulleys to the mower deck.
2. Remove the 1/2 X 3" bolts (A, Figure 2), .52 X 1.25 X .70 spacers, stationary idler pulleys (C), pulley shields (D) and 1/2-13 nylock nuts from the mower deck. Discard the nylock flange nuts, bolts and the spacers.

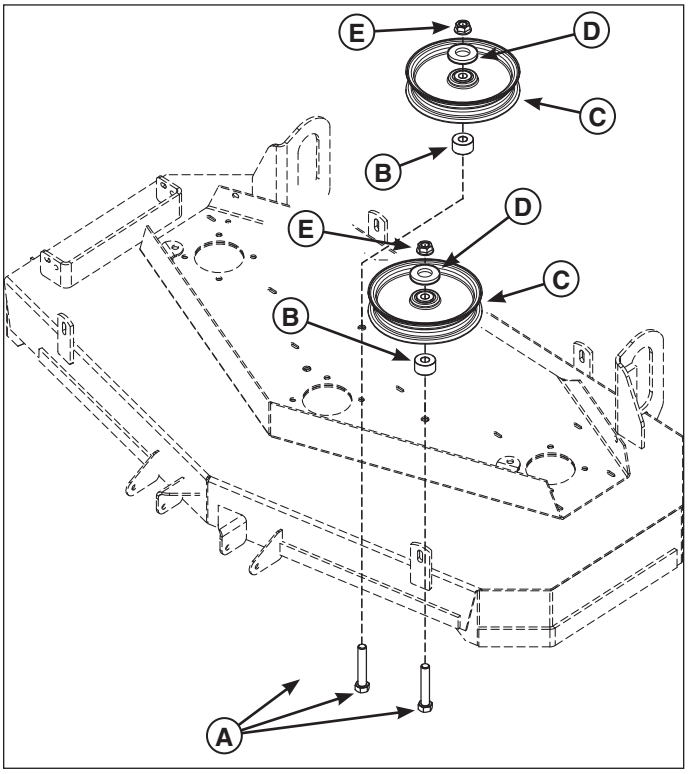


*Figure 2. Removing the Stationary Idler Pulleys*
*A. 1/2 X 3" Bolt*
*B. .52 X 1.25 X .70 Spacer*
*C. Stationary Idler Pulley*
*D. Pulley Shield*
*E. 1/2-13 Nylock Flange Nut*

## Removing the Idler Arm Assembly

1. Loosen the 1/2" nylock flange nut (A, Figure 3) that secures the stationary belt tensioner mount to the mower deck. Discard the nut.
2. Loosen the 1/2 hex nut (B) that secures the belt tensioner mount to the spring (C). Discard the nut.
3. Remove the 1/2 X 4" bolt (D), 1/2 washers (E) and 1/2 X 2-1/2" hose (F) from the spring. Discard the bolt, washers and hose.
4. Loosen and remove the 1/2" X 4-1/2" bolt (G) and 1/2-13 nylock flange nut (H) that secure the idler arm assembly (I) to the mower deck. Remove the idler arm assembly from the mower deck. Discard the bolt and nut.

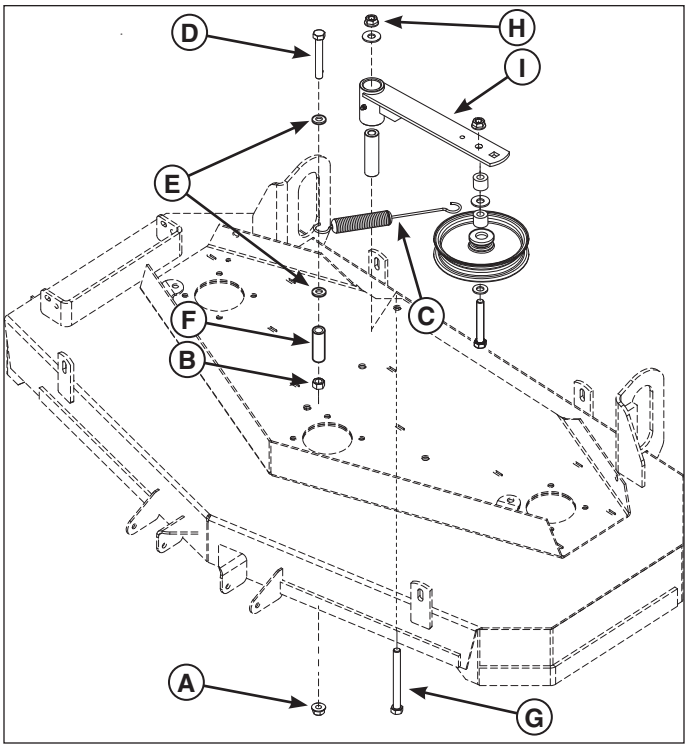


*Figure 3. Removing the Idler Arm Assembly*
*A. 1/2" Nylock Flange Nut*
*B. 1/2" Hex Nut*
*C. Spring*
*D. 1/2 X 4" Bolt*
*E. 1/2 Washer*
*F. 1/2 X 2-1/2" Hose*
*G. 1/2" X 4-1/2" Bolt*
*H. 1/2-13 Nylock Flange Nut*
*I. Idler Arm Assembly*

## Removing the Spindle Pulleys

1. Loosen the 3/4 hex nut (A. Figure 4) that secures the spindle pulley (B) to the spindle.
2. Remove the 3/4 hex nut, washer (C), spindle pulley and square key (D) from the spindle. Discard the spindle pulley.

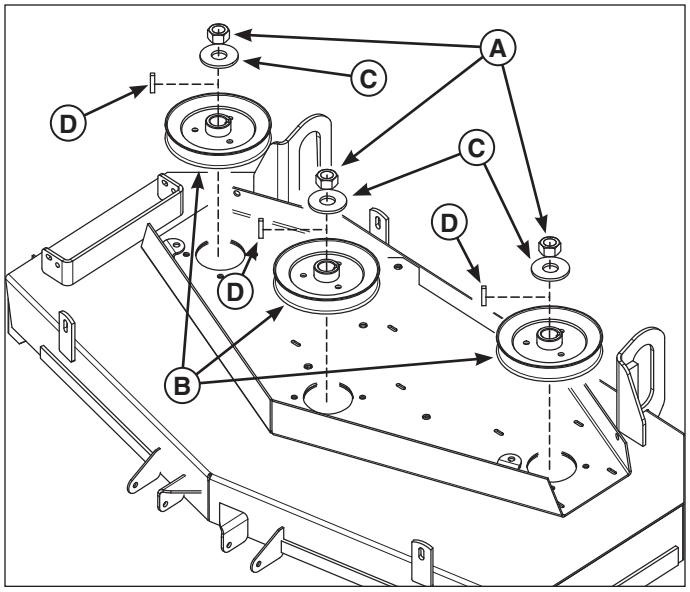


*Figure 4. Removing the Spindle Pulleys*
*A. 3/4 Hex Nut*
*B. Spindle Pulley*
*C. Washer*
*D. Square Key*

## Drilling the New Hole for the Stationary Idler Pulley

1. Position the drill guide (A, Figure 5) on the mower deck as shown in Figure 5.
2. Using a 1/4" (0,635 cm) drill bit, drill a hole through the top of the mower deck in the drill guide hole as shown in Figure 5.
3. Remove the drill guide from the mower deck.
4. Using a 17/32" (1,35 cm) drill bit, drill a hole through the 1/4" (0,635 cm) hole that was just drilled as a guide.

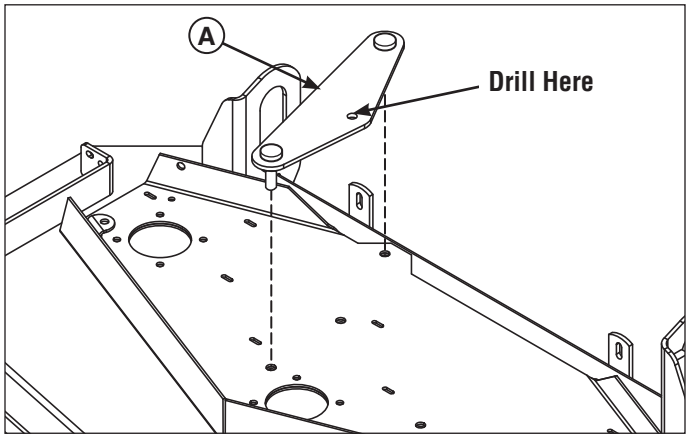


*Figure 5. Drilling the New Hole for the Stationary Idler Pulley*
*A. Drill Guide*

## Drilling the Hole for the Adjustable Belt Tension Anchor

1. Position the belt tension anchor (A, Figure 6) as shown in Figure 6.
2. Measure the distance from the edge of the bracket to the edge of the plate as shown in Figure 6. When the measurement equals 3-3/4" (9,5 cm), raise the belt tension anchor so that the top of the lip on the belt tension anchor is flush with the top edge of the plate and clamp the belt tension anchor in place.
3. Using the holes in the belt tension anchor as a drill guide, drill two 11/32 (.87 cm) holes

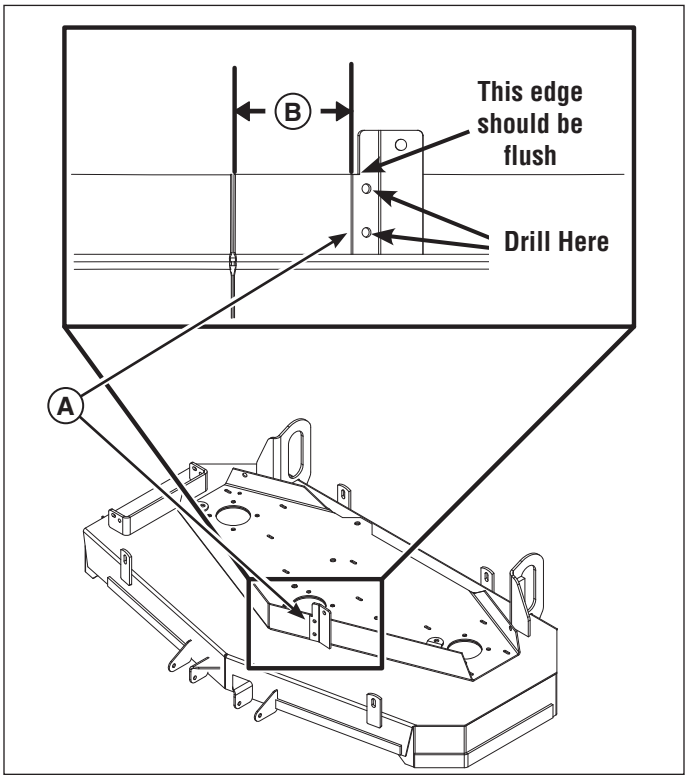


*Figure 6. Drilling the New Holes for the Adjustable Belt Tension Anchor*
*A. Belt Tension Anchor*
*B. Measurement: 3-3/4" (9,5 cm)*

## Installing the New Adjustable Belt Tension Anchor

1. Using two (2) 5/16 X 1" bolts, 5/16 SAE washers, and 5/16 nylock flange nuts install the adjustable belt tension anchor to the mower deck through the newly drill holes.
2. Route the 5/16 X 1" bolt through the 5/16 SAE washer, then the mower deck, then the adjustable belt tension anchor and secure with the 5/16 nylock flange nuts.

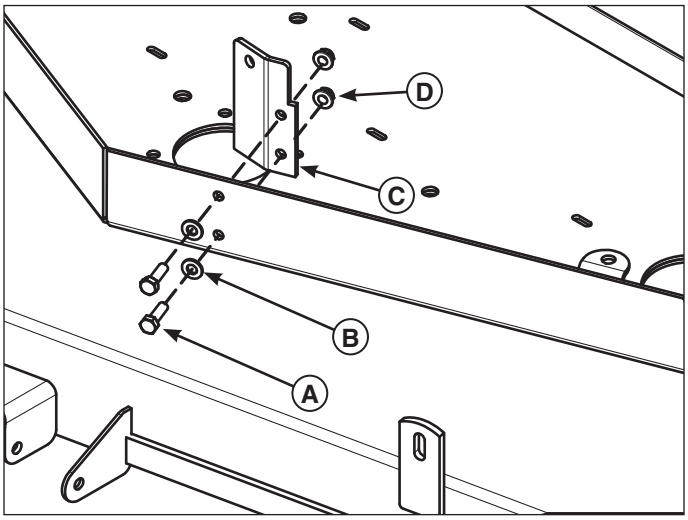


*Figure 7 Installing the Adjustable Belt Tension Anchor*
*A. 5/16 X 1" Bolt*
*B. 5/16 Washer*
*C. Adjustable Belt Tension Anchor*
*D. 5/16 Nylock Flange Nut*

## Updating the Idler Arm Assembly

1. Loosen and remove the 1/2 nylock flange nut (A, Figure 8) that secures the idler pulley (B) to the idler arm (C). Discard all of the components except for the 1/2" SAE washer (D), belt tensioner spring (E) and the idler arm.
2. Route the new 1/2 X 3" bolt (F) through the existing 1/2" SAE washer (D), the 5" idler pulley (G), the pulley shield (H), the .52 X 1.00 X .75 spacer (I), the idler arm (C), the .52 X 1.00 X .38 spacer (J), belt tensioner spring (E), 1/2 USS washer (K) and secure using a 1/2 nylock flange nut (A).

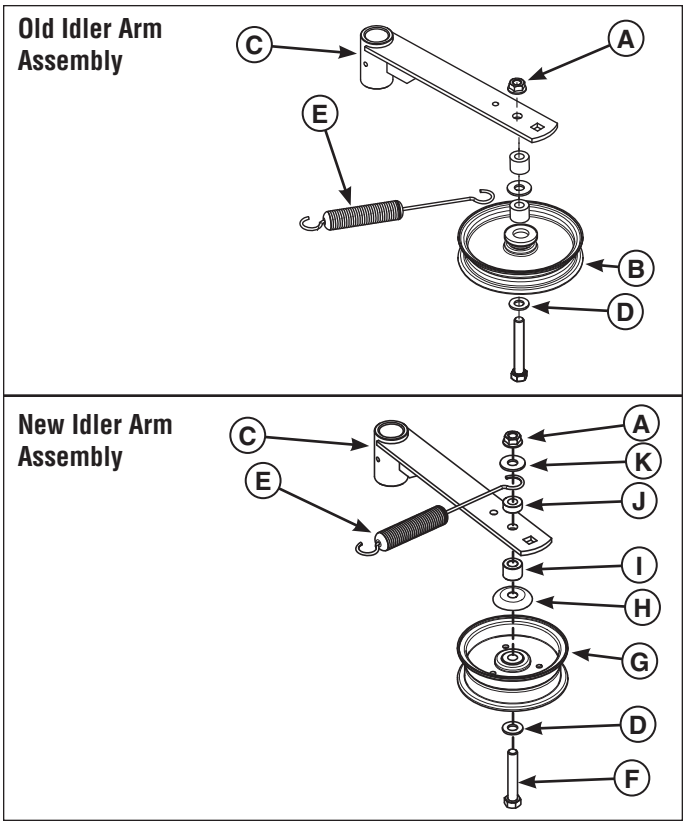


*Figure 8. Updating the Idler Arm Assembly*
*A. 1/2 Nylock Flange Nut*
*B. Idler Pulley*
*C. Idler Arm*
*D. 1/2 SAE Washer*
*E. Belt Tensioner Spring*
*F. 1/2 x 3" Bolt*
*G. 5" Idler Pulley*
*H. Pulley Shield*
*I. .52 X 1.00 X .75 Spacer*
*J. Belt Tensioner Spring*
*K. 1/2 USS Washer*

## Installing the New Spindle Pulleys

1. Insert the existing square key (D, Figure 9) into the shaft for the spindle.
2. Install the spindle pulley (B) with the tall neck facing down, onto the spindle shaft and the square key and secure in place with the washer (C) and the 3/4 hex nut (A). The dome of the washer should be facing up.
3. Repeat the process for all three spindle pulleys.

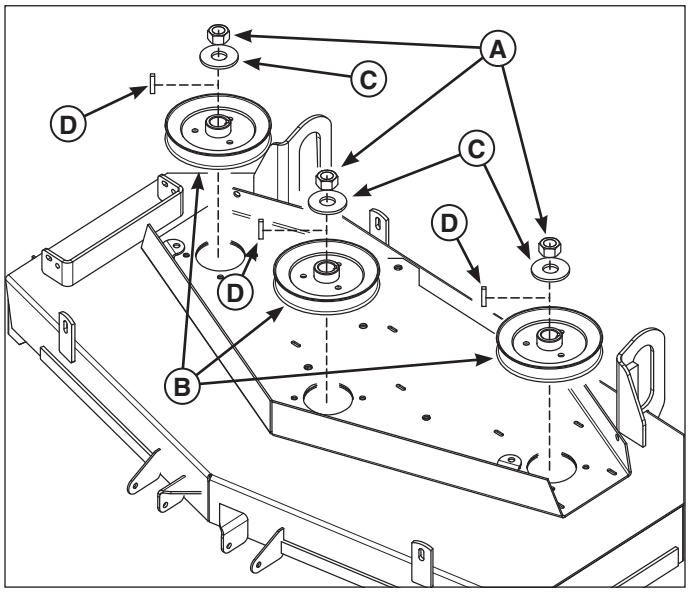


*Figure 9. Removing the Spindle Pulleys*
*A. 3/4 Hex Nut*
*B. Spindle Pulley*
*C. Washer*
*D. Square Key*

## Installing the New Stationary Idler Pulleys

1. Install the new 1/2 X 3-1/2" bolt (A, Figure 10) through the mower deck, the .515 X 1.875 spacer (B) with the smaller hub facing up, the stationary idler pulley (C), the pulley shield (D) and secure using a 1/2" nylock hex nut (E).

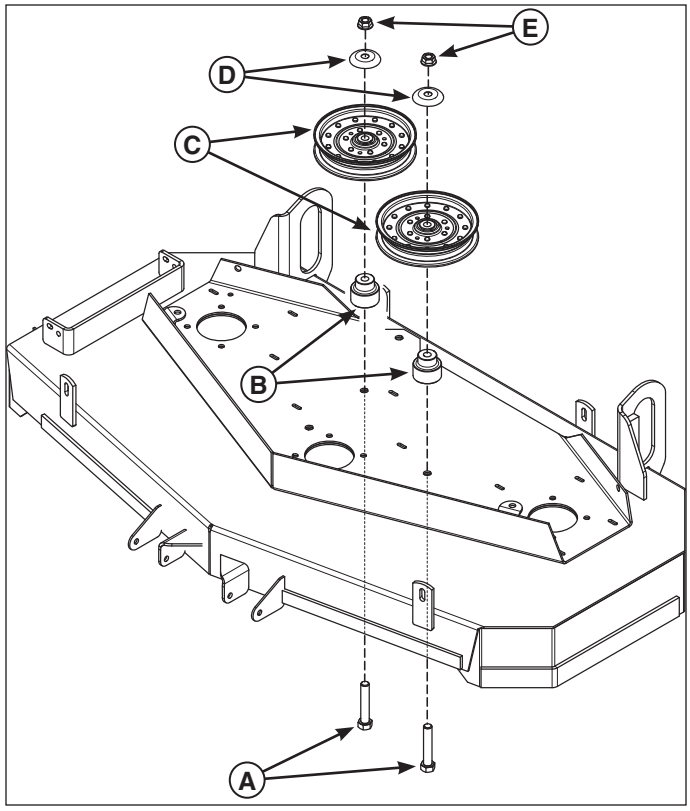


*Figure 10. Installing the New Stationary Idler Pulleys*
*A. 1/2 X 3-1/2" Bolt*
*B. .515 X 1.875 Spacer*
*C. Idler Pulley*
*D. Pulley Shield*
*E. 1/2" Nylock Hex Nut*

## Installing the Idler Arm

1. Install the 1/2 X 5-1/2" (A, Figure 11) up through the mower deck, the .51 X 1.75 X .75 spacer (B), the pivot bushing (J), the idler arm (C), the 1/2" USS washer (D) and secure with the 1/2 nylock flange nut (E).
2. Install the 3/8 hex jam (F) nut onto the eyebolt (G).
3. Attach the eyebolt to the belt tensioner spring (I).
4. Route the eyebolt through the hole in the belt tension anchor bracket and secure in place with the 3/8 nylock flange nut (H).

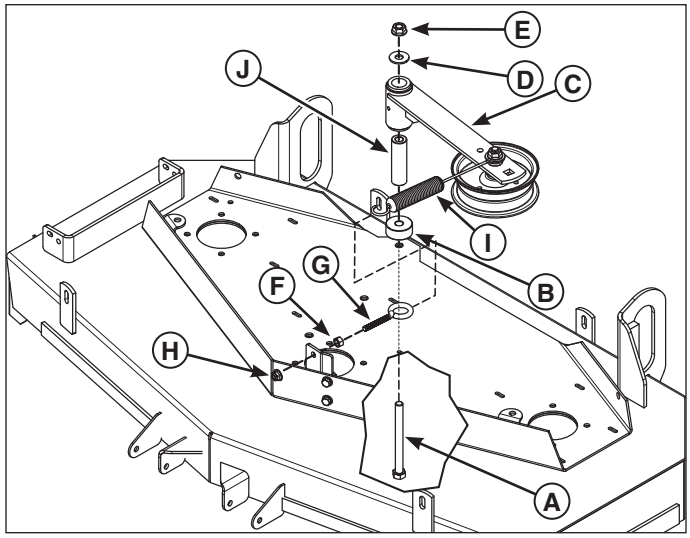


*Figure 11. Installing the Idler Arm*
*A. 1/2 X 5-1/2" Bolt*
*B. .51 X 1.75 X .75 Spacer*
*C. Idler Arm*
*D. 1/2 USS Washer*
*E. 1/2 Nylock Flange Nut*
*F. 3/8 Hex Jam Nut*
*G. Eyebolt*
*H. 3/8 Nylock Flange Nut*
*I. Belt Tensioner Spring*
*J. Pivot Bushing*

## Replacing the LH Dump Valve Handle

1. Loosen and remove the set collar (A, Figure 12) that secures the existing dump valve handle (B) to the eyebolt (C).
2. Remove the existing dump valve handle from the machine. Discard this dump valve handle.
3. See insert 1, Figure 13. Position the dump valve guide plate (C, Figure 13) so that the tab is above the deck lift rod (F) and then rotate the dump valve guide plate 90° so that the tab is on the back side of the deck lift rod and the top of the dump valve guide plate contacts the bottom of the fuel tank mount.
4. Position the dump valve guide plate so that the front edge of the dump valve guide plate is flush with the front edge of the fuel tank mount and the left edge of the dump valve guide plate is flush with the left side of the fuel tank mount. See Figure 13.
5. Secure the dump valve guide plate in place using a 5/16-18 x 1" bolt (A), a 5/16 Gr.9 washer (B) and a 5/16-18 nylock flange nut.
6. Install the new dump valve handle (D, Figure 12) to the machine in the slot of the dump valve guide plate and through the eyebolt. Secure in place with the set collar. Tighten the set collar.

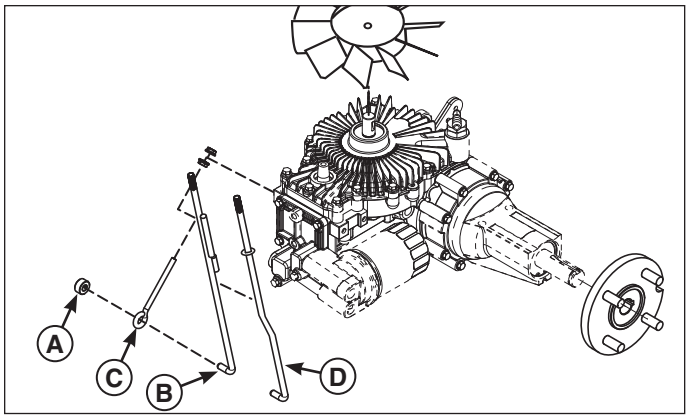


*Figure 12. Replacing the LH Dump Valve Handle*
*A. Set Collar*
*B. Existing Dump Valve Handle*
*C. Eyebolt*
*D. New Dump Valve Handle*

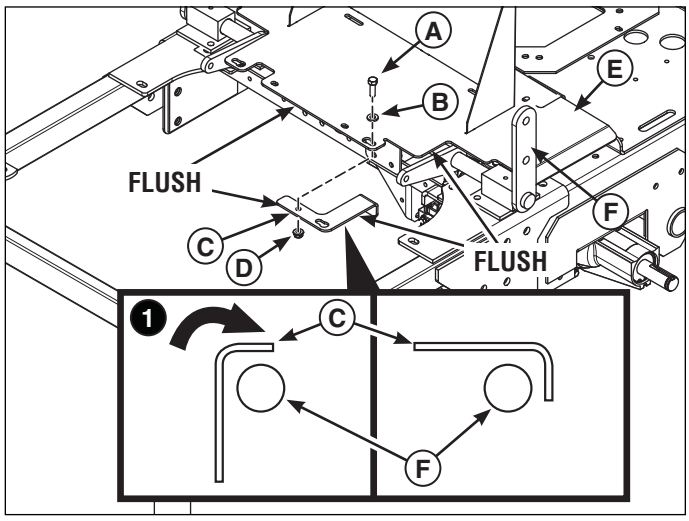


*Figure 13. Installing the Dump Valve Guide Plate*
*A. 5/16-18 X 1" Bolt*
*B. 5/16 Gr. 9 Washer*
*C. Dump Valve Guide Plate*
*D. 5/16-18 Nylock Flange Nut*
*E. Fuel Tank Mount*
*F. Deck Lift Rod*

## Install the New Deck Stop Plate

1. Loosen and remove the 3/8-16 X 1-1/4 bolt (A, Figure 14), 3/8 SAE washer (B) and 3/8-16 nylock flange nut (E) that secures the existing deck stop plate (C) to the unit.
2. Install the new deck stop plate (D) and loosely install using the 3/8-16 X 1-1/4 bolt and 3/8 SAE washer that were previously removed and a new 3/8-16 nylock flange nut.
3. Position the deck stop plate so that the tab contacts the tranmission brace (F) and then tighten the hardware to secure the deck stop in place.

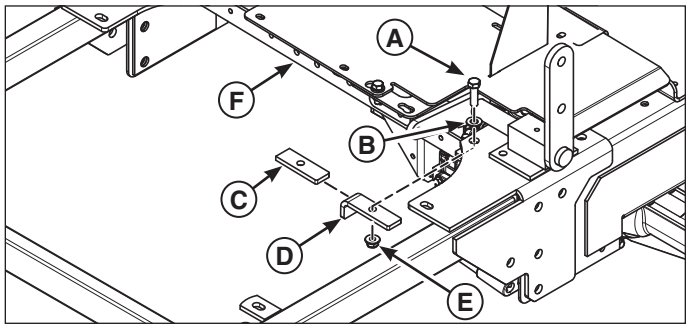


*Figure 14. Install the New Deck Stop Plate*
*A. 3/8-16 X 1-1/4 Bolt*
*B. 3/8 SAE Washer*
*C. Existing Deck Stop Plate*
*D. New Deck Stop Plate*
*E. 3/8-16 Nylock Flange Nut*
*F. Transmission Brace*

## Reinstall the Mower Deck PTO Belt

1. Reinstall the mower deck drive belt. Make sure that the V-side of the belt runs in the pulley grooves.
2. Install the mower deck drive belt on the PTO pulley, the spindle pulleys, and all idler pulleys except the right side stationary idler pulley (E). Carefully rotate the breaker bar COUNTER-CLOCKWISE and install the belt on the right side stationary idler pulley. Carefully release the tension on the breaker bar. The belt should be routed exactly as shown in Figure 15.

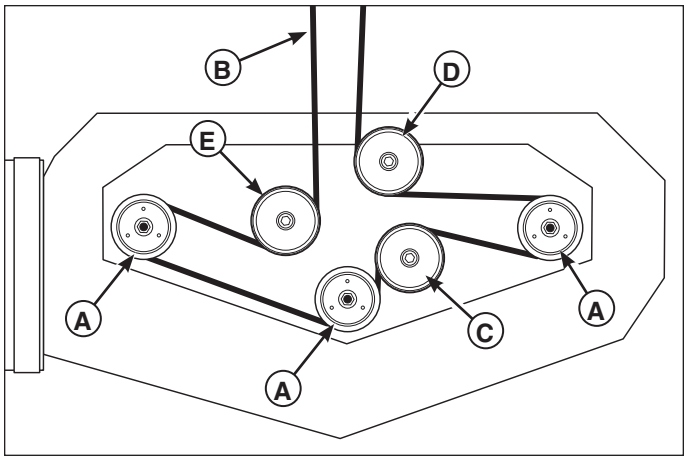


*Figure 15. Mower PTO Belt Routing*
*A. Spindle Pulley*
*B. PTO Drive Belt*
*C. Stationary Idler Pulley*
*D. Spring-loaded Idler Pulley*
*E. Right Side Stationary Idler Pulley*

## Adjusting the Length of the Belt Tensioner Spring

1. Loosen the jam nut (A, Figure 16) on the spring anchor eyebolt (B).
2. Tighten the nylock flange nut (C) until the coil to coil measurement on the belt tensioner spring equals 7-1/8" (18,10 cm) (E). Tighten the jam nut.
3. Reinstall the mower deck guards.

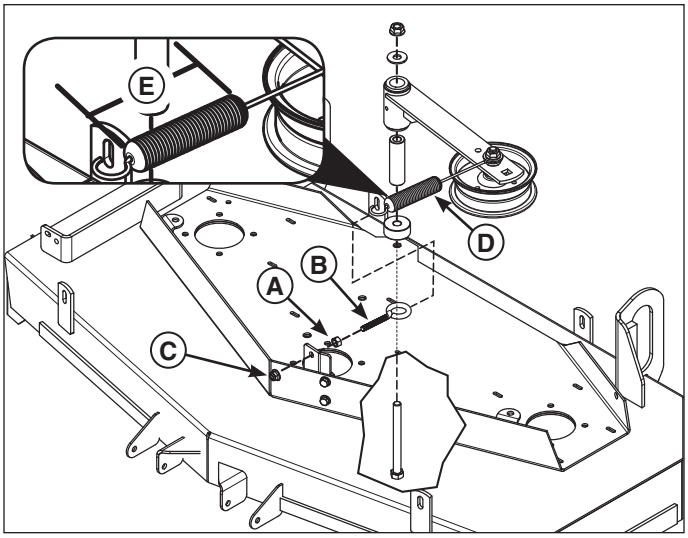


*Figure 16. Installing the Idler Arm*
*A. 3/8 Hex Jam Nut*
*B. Eyebolt*
*C. 3/8 Nylock Flange Nut*
*D. Belt Tensioner Spring*
*E. Spring Measurement: 7-1/8" (18,10 cm)*