Ferris Industries, Inc.

Service Bulletin

F032

April 2001

TOPIC: **PUMP DRIVE IDLER SPRING ANCHOR LOCATION**

MODELS AFFECTED: **IS4000Z/D31**
serial no. 226-275

Ferris Industries has determined that the spring anchor bolt location is incorrect. To rectify this, a spring relocation kit is being sent along with instructions for properly relocating and installing the new spring anchor bolt.

The modifications described in this service bulletin will be incorporated into production mowers beginning with the serial number after the ones listed above. It is important to note that this is a mandatory fix.

$40 labor will be paid.

Installation Instructions

Pump Drive Spring Anchor Replacement

For IS4000Z/D31, serial no. 226 - 275

⚠ WARNING

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

PREPARATION & REMOVAL

1. Raise the engine hood.
2. Remove the rear skid plate by removing the bolts that fasten the skid plate to the bumper. While supporting the skid plate, slide the plate forward until it drops from the mounts. If the plate does not slide forward, loosen the hardware on the front edge of the plate until you can slide the plate forward.
3. Remove the rear belt shield and rear guard support.
4. Remove the bumper.

*NOTE: Save all hardware removed in the steps above for use when reinstalling the guards and shields.*4. Remove the clutch belt idler spring (A, Figure 1) from the pump drive idler arm (B, Figure 1).

5. Using a 1/2” breaker bar, place the square end in the square hole located in the middle of the idler arm (A, Figures 2). Carefully rotate the breaker bar counterclockwise, which will relieve the tension on the belts.
6. Remove the belts from the right-hand and left-hand pump drive pulley grooves.
7. Carefully release the tension on the breaker bar until the idler arm stops against the left-hand pump drive pulley.
8. Remove the pump belt idler arm, pivot and hardware from the pump plate.
9. Remove the 1/2" X 5" spring anchor bolt.

DRILL TEMPLATE INSTALLATION

Before installing the drill template, remove all dirt and debris from the pump plate around the template area.

1. Remove the 3/8” x 1” bolts and 3/8” flange nuts from the spring anchor drill template and fasten to the pump plate using the bumper mount holes (see Figure 3).
2. Using the pilot hole on the template as a guide, take a prick punch and hammer, and make a mark on the pump plate.
3. Remove the template from the pump plate.

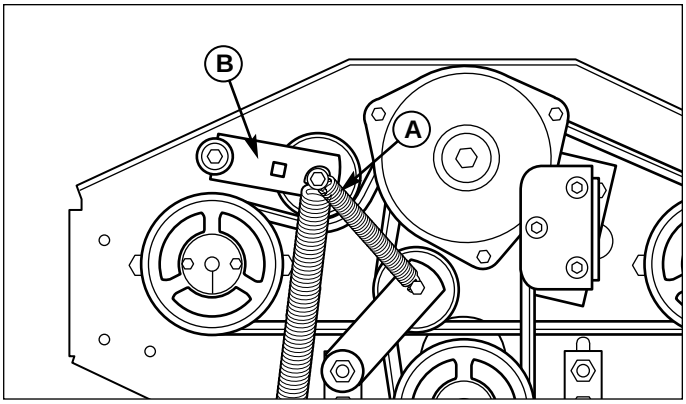

Figure 1. Clutch Idler Spring Removal
A. Clutch Belt Idler Spring
B. Pump Drive Idler Arm

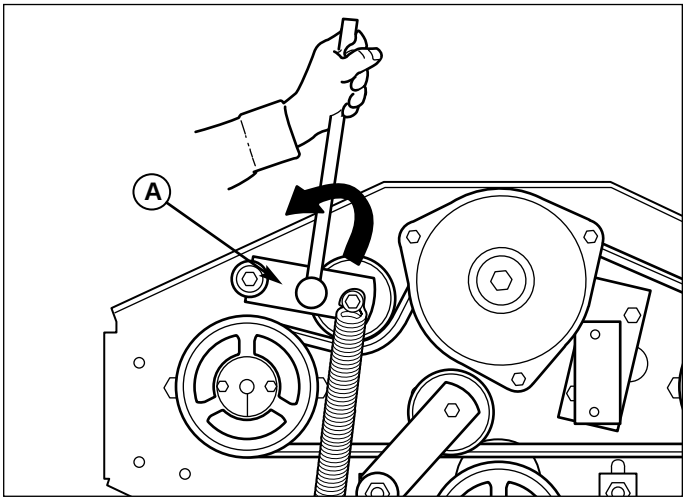

Figure 2. Pump Drive Belt Removal
A. Pump Drive Idler Arm

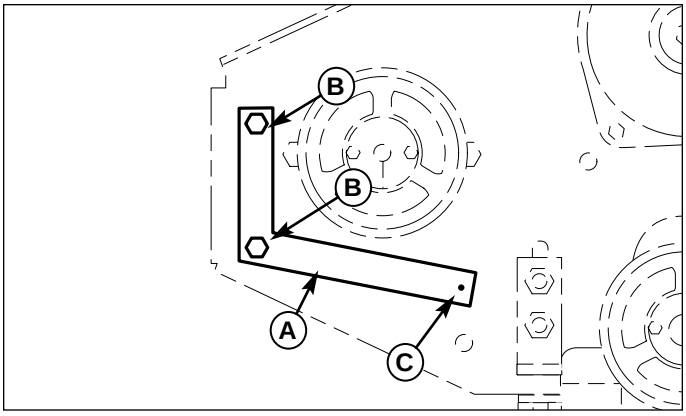

Figure 3. Drill Template Installation
A. Drill Template
B. 3/8” Bolts
C. Pilot Holes

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4. Locate the mark made by the prick punch on the pump plate and take the prick punch and hammer and strike the mark again.
5. Using the mark made by the prick punch as a guide, take a 1/4" drill bit and drill a pilot hole through the pump plate.
6. Using a 17/32” drill bit, re-drill the 1/4” hole.
7. Remove all burrs from the hole on the inside of the pump plate before proceeding.

PUMP DRIVE IDLER ARM INSTALLATION

1. Remove the nut and washer (F, Figure 4) that fasten the spring to the idler arm and replace the old spring with the new. Reinstall the nut and washer (see Figure 4).
2. Reinstall the pump drive idler arm, pivot and hardware to the pump plate in the order shown (see Figure 4).
3. Take the 1/2" X 5" bolt (A, Figure 5) and slide it through the open end on the pump belt idler pulley spring (see Figure 5).
4. Install the 1/2” washer, rubber hose and 1/2” jam nut (B, C & D, Figure 5) onto the 1/2” x 5” bolt. Tighten the jam nut against the shank of the bolt.
5. Place a 3/4" deep well socket over the head of the spring anchor bolt. The deep well socket will provide the leverage needed to place the spring anchor bolt through the hole in the pump plate.
6. Using two hands, carefully pull down on the spring anchor bolt and guide the bolt through the new drilled hole in the pump plate. While forcing the bolt through the pump plate with one hand, secure the bolt with a 1/2" nylon lock nut. When tightening the bolt make sure that the nylon lock nut is being tightened while the bolt remains stationary. (See Figure 5)

NOTE: Throughout this procedure the spring is exerting a force on the spring anchor bolt. To avoid injury, use extreme caution when handling the spring anchor bolt.

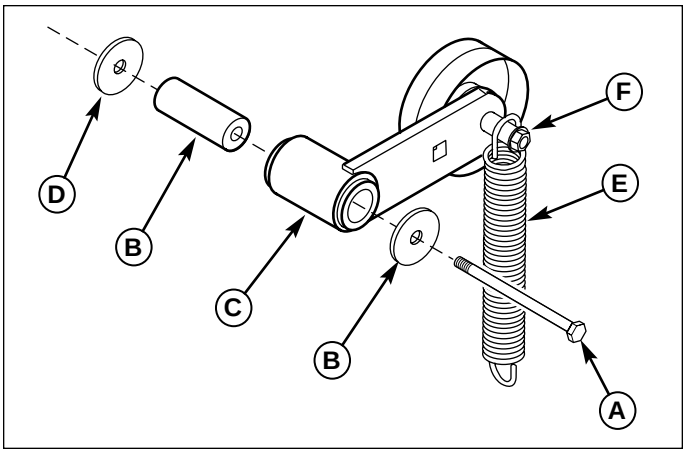

Figure 4. Pump Idler Arm Installation
A. 3/8” x 4” Bolt
B. 3/8” Fender Washer
C. Idler Arm Assembly
D. Pivot Sleeve
E. Spring
F. Spring Retaining Hardware

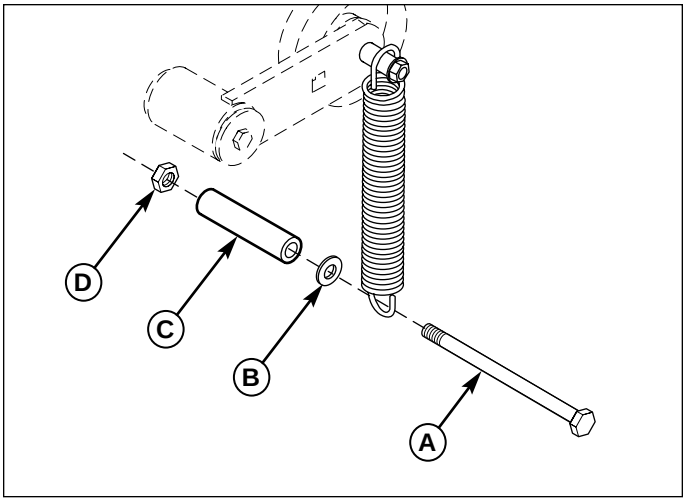

Figure 5. Spring Anchor Bolt Installation
A. 1/2” x 5” Bolt
B. 1/2” Washer
C. Rubber Hose
D. 1/2” Jam Nut

PUMP DRIVE BELT REPLACEMENT

NOTE: Before installing the pump drive belts, make sure the pulley grooves are free from metal filings, oil or grease.

1. Place the belts over the clutch into the crankshaft pulley grooves.
2. Carefully rotate the idler arm with the breaker bar counter-clockwise (see Figure 6) and wrap the belts around the bottom side of the idler arm pulley and place the belts in the left-hand pump pulley grooves.
3. While holding the breaker bar firmly, place the belts in the right-hand pump pulley grooves.
4. Carefully release the tension on the breaker bar.
5. Inspect the belt path making sure that all belts are properly seated in the pulley grooves.
6. Reinstall the clutch belt idler spring (A, Figure 7) on the pump drive idler arm (B, Figure 7). Make sure the belts are properly seated in all the pulley grooves.
7. Reinstall the bumper, rear hood support, rear belt shield and skid plate.

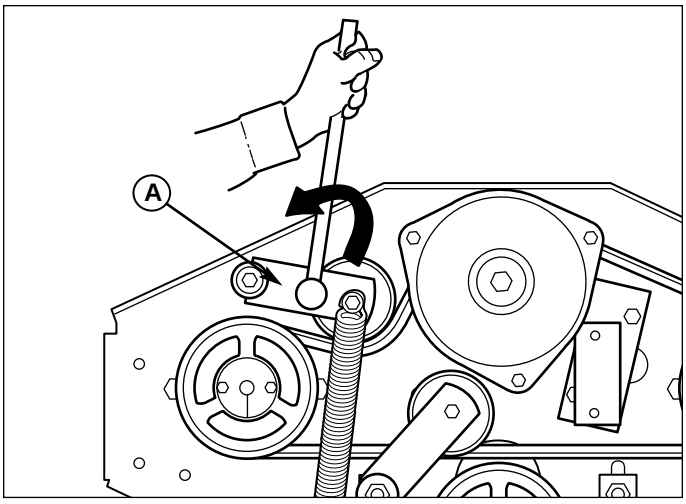

Figure 6. Pump Drive Belt Replacement
A. Pump Drive Idler Arm

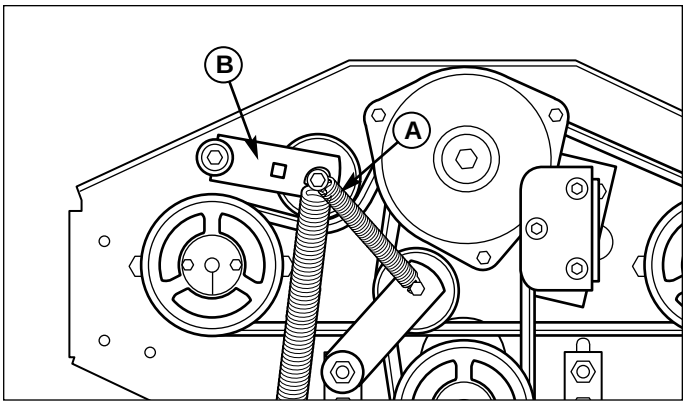

Figure 7. Clutch Idler Spring Replacement
A. Clutch Belt Idler Spring
B. Pump Drive Idler Arm

REASSEMBLY OF MACHINE

1.Reinstall the bumper with the hardware previously removed.
2. Reinstall the skid plate with the hardware previously removed.
3. Reinstall the rear hood support with the hardware previously removed. Align the hood support with the hood prior to tightening hardware.
4. Reinstall the rear belt shield with the hardware previously removed.