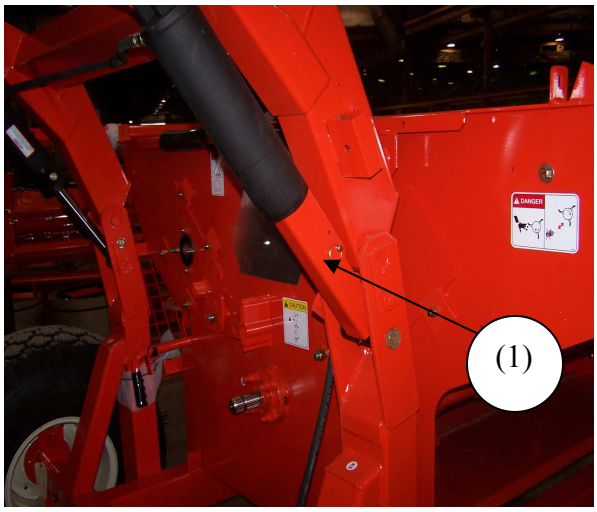
FEED CHOPPER
2008 Assembly Procedures

Highline Mfg. Ltd.

1. Machine Preparation

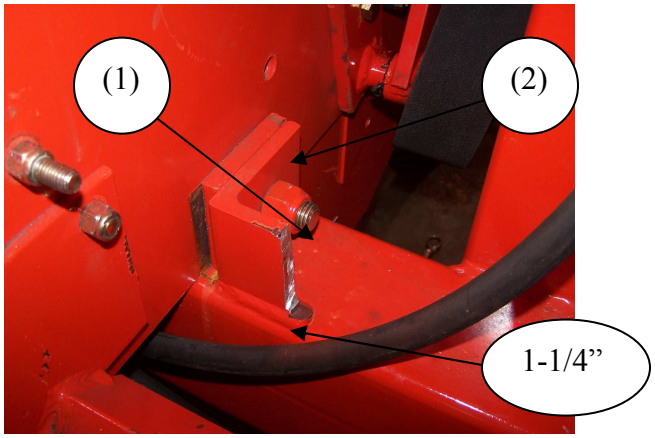
Note: All photos shown in the following procedure are for a right hand discharge machine unless otherwise noted. The right hand description refers to your right hand side while being oriented behind the machine facing forward.

1.1 Ensure the forks are in the fully raised position. Lock the forks in the raised position with the cylinder lock (1).

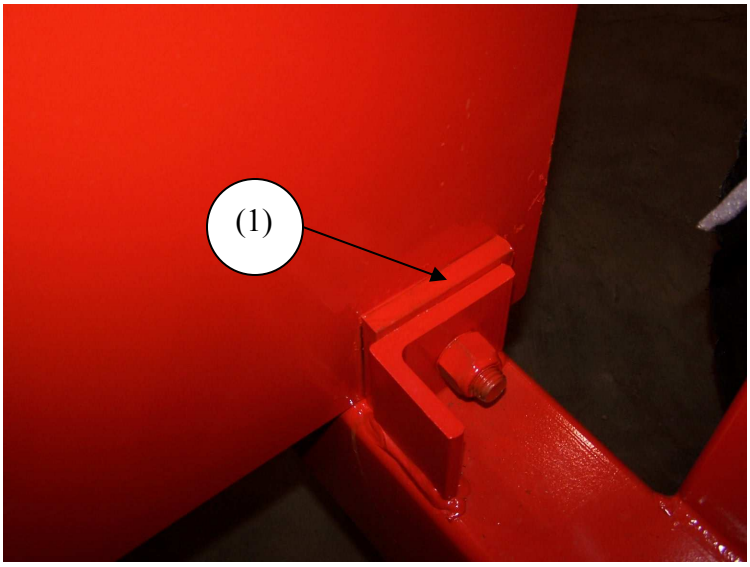


Note: For Bale Processors with a serial number ending in "6" complete steps 1.2 through 1.6. For Bale Processors with a serial number ending in "7" or above, proceed to step 1.7

1.2 Remove processing chamber anchor bolts (1) at the four corner locations of the chamber. The angle mount bracket (2) at the rear of the Bale Pro (on the side of discharge) will need to be cut back 1-1/4 inch (as shown) to accommodate the feed chopper belt tension assembly.

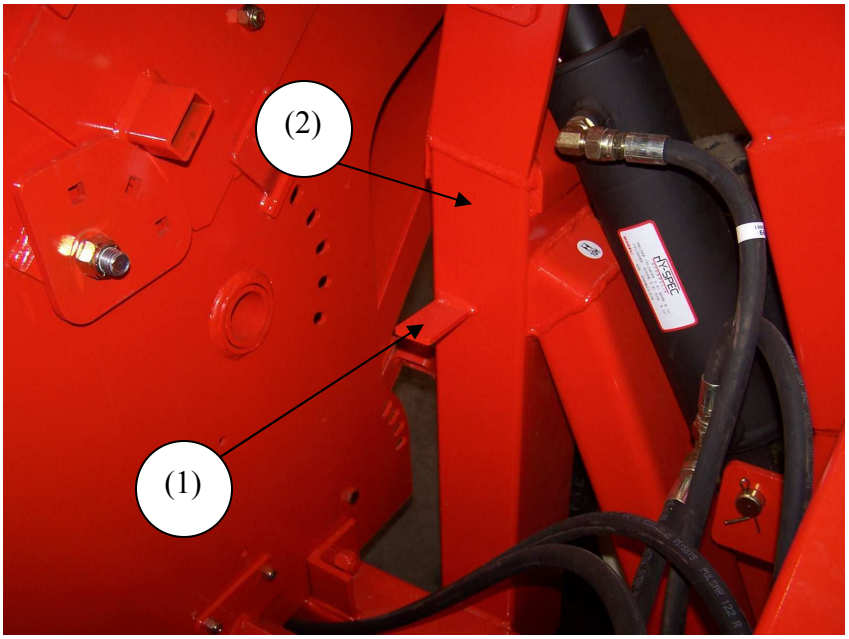


1.3 Slide entire processing chamber forward 1/2 inch. Place supplied shims (1) between the angle mount brackets and the chamber assembly. Anchor in place with four 3/4x2-1/2 inch supplied hex bolts.
Note: If the Bale Pro is equipped with an EZ-Feed grain tank the main mount bolts for it will need to be loosened to allow this repositioning to take place.



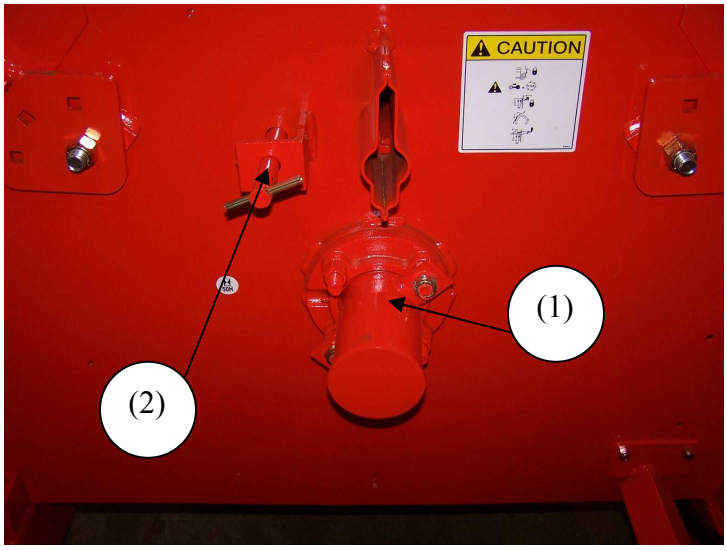
1.4 Loosen hose routing hardware, on right hand discharge machines, to allow for slight repositioning of hoses.

1.5 Remove the welded tab (1) from the bale fork assembly (2) that is on the discharge side of the Bale Pro. Note: the tab on the opposite side will remain and be used to hold the twine cutter.

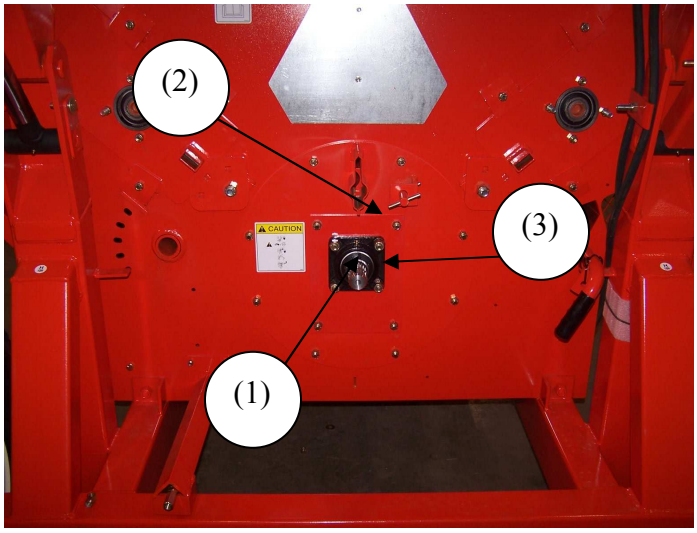


1.6 At the rear of the Bale Pro the twine guard length will need to be shortened to accommodate the feed chopper drive sheave. Cut the twine guard to a length of 2–3/8" from the tub wall as shown. Note: it is recommended to mark a line along one side of the guard and execute the cut with a zip cut wheel.

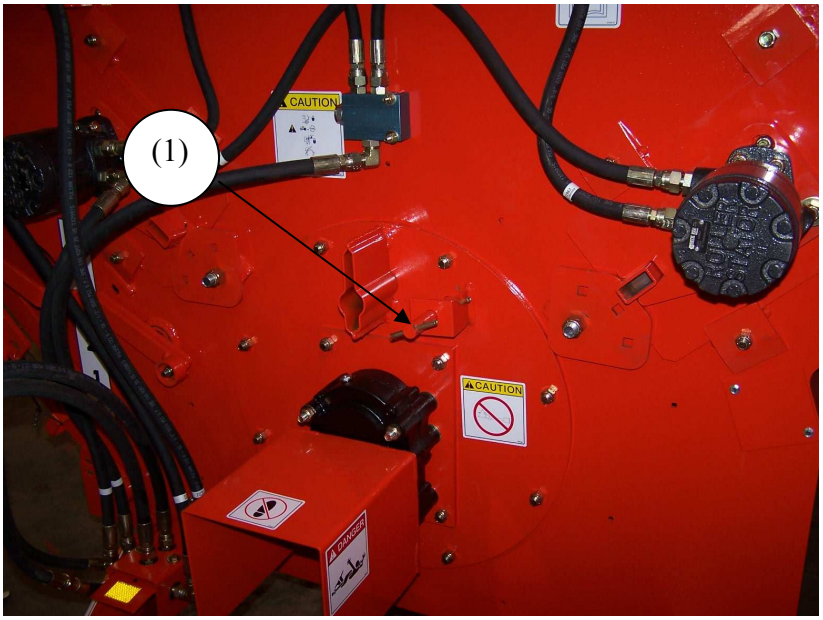
1.7 For right hand discharge machines, remove flail drum cap (1) and flail drum lock pin (2).



1.8 On left hand discharge machines remove the flail drum cover plate and replace with the coupler shaft assembly by sliding the coupler (1) over the exposed flail drum spline. Slide the cover plate/bearing assembly (2) onto the coupler and bolt in place. Lock the bearing set screws firmly in place (3). **NOTE**: Check that the grease zerk is tight in the bearing flange and oriented upward for both the left and right hand configurations. On right hand discharge machines the rear bearing may need to be removed and the grease zerk reoriented. This will allow the bearing to be greased from the twine cutter access hole after the feed chopper guarding is in place.

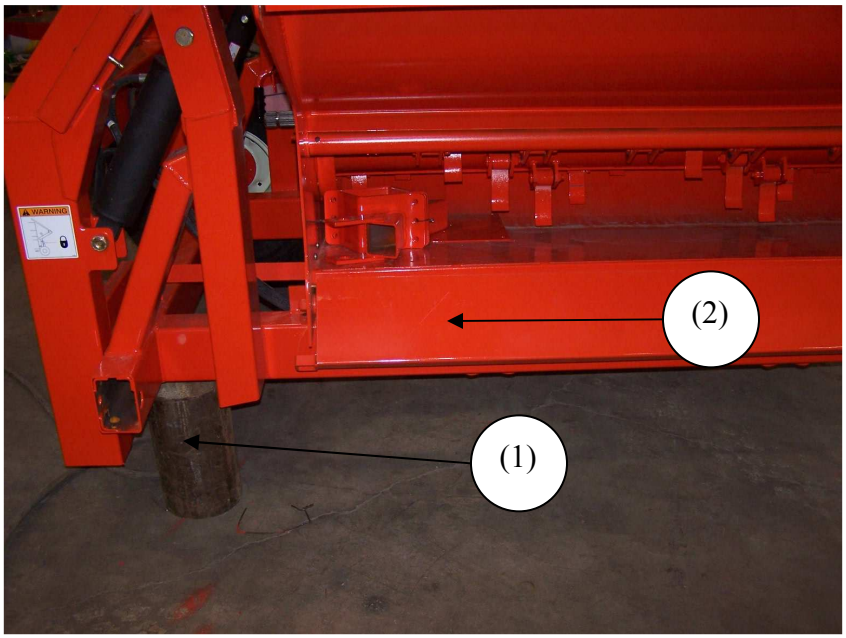


1.9 Reinstall flail drum locking pin on front of machine (1).



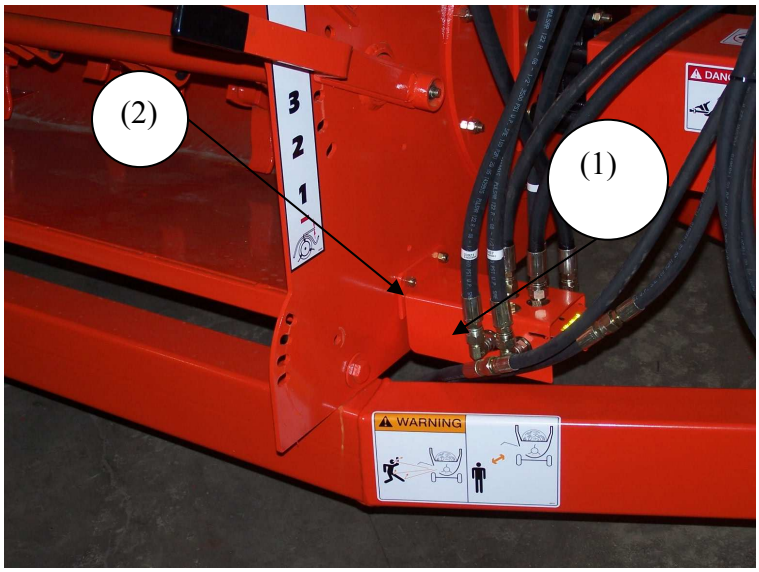
1.10 Rear axle and deflector door removal. **Warning:** Ensure that the Bale Processor is adequately blocked and secure prior to working on or near the unit.

- Place jack stand under rear axle and remove rear axle assembly (1).
- Remove lower deflector door (2).



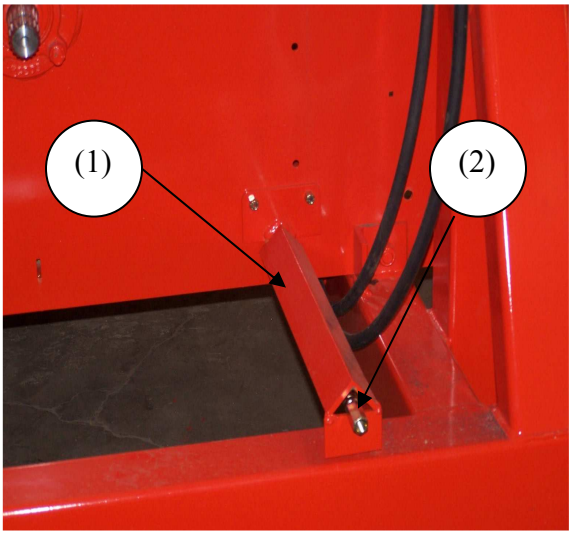
Note: For Bale Processors with a serial number ending in "6" complete steps 1.11 through 1.14. For Bale Processors with a serial number ending in "7" or above, proceed to step 2

1.11 For bale processors equipped with a mechanically activated valve (1), remove mount bolts (2) and slide assembly toward the front of the machine to allow the removal of the selector rod from the rear processing chamber panel.

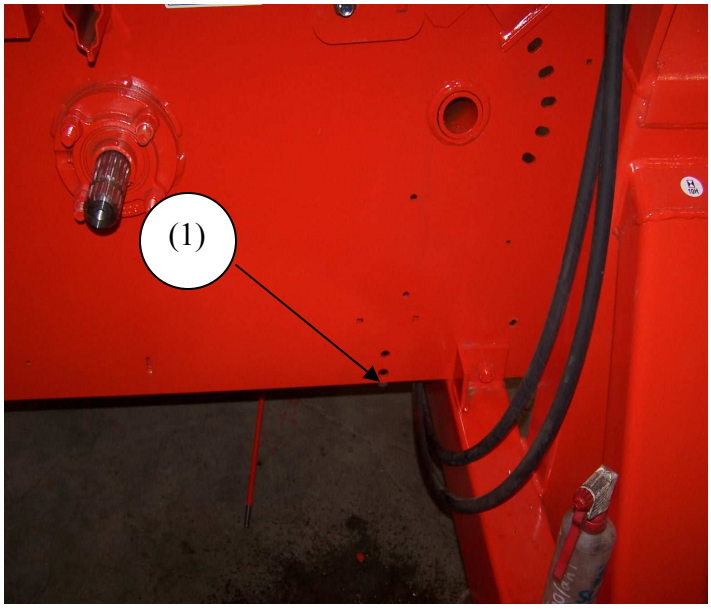


1.12 Selector Rod Repositioning – Step 1

- Remove selector rod guard (1), hex nuts (2) and bumper bolt (if equipped) to allow removal of the rod from the tub. **Note:** Measure and record the amount of exposed thread prior to the hex nuts. This measurement will be referenced later to allow proper repositioning of the selector valve rod.
- Slide selector rod towards the front of the machine.

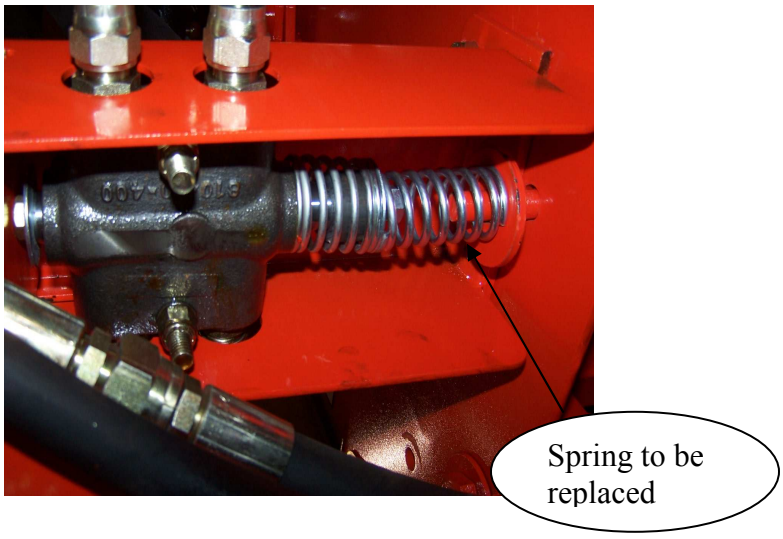


1.13 Drill a 5/8 inch diameter relocation hole (1) for the selector rod 1- 7/16 inches (center to center) lower than original hole. Hole location is shown in the following picture.



1.14 Selector Rod Repositioning – Step 2

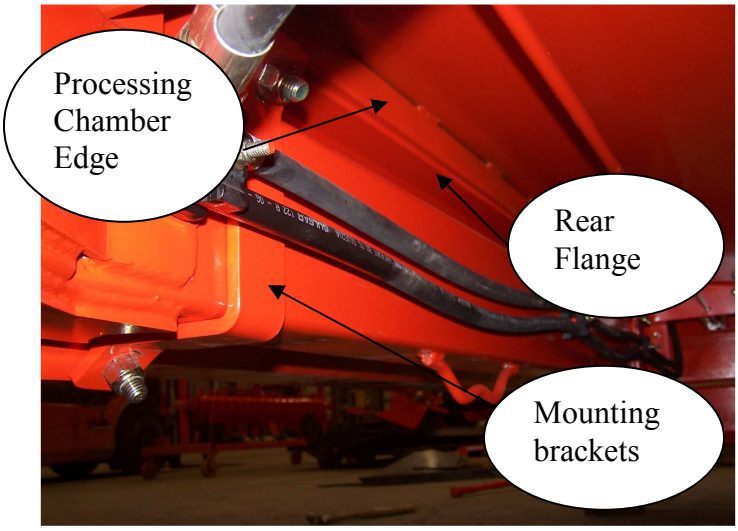
- Reinstall the mechanical valve on the front tub wall (replace the spring that links the selector valve to the selector rod – see photo below) and the new selector rod guard on the rear tub wall. Reset the hex nuts and bumper bolt (if equipped) onto the selector rod 1/2" rearward from their original position (add 1/2 in. to the thread length measured in step 1.12). This will compensate for the movement forward of the main tub assembly.



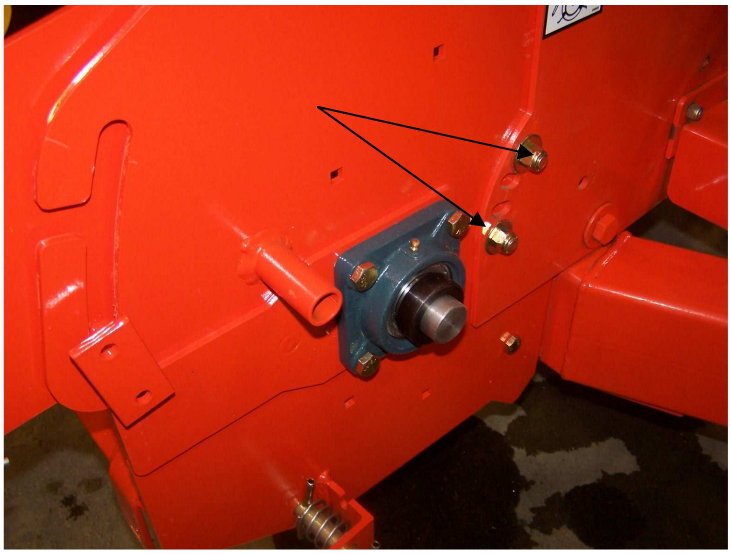
2 Loosen front and rear support bolts (on the side of discharge) that attach the bale processing chamber to the frame of the bale processor (front right hand side shown below).

3 Position the feed chopper assembly on the side of discharge. **Note**: the splined shaft end of the chopper is to face the rear of the machine.

4 Secure the feed chopper assembly to the frame with 2 mounting brackets and 4 - 5/8x2" carriage bolts and nylock hex nuts. Leave these bolts loose until the end of step 5. The rear flange of the feed chopper housing must be placed below the edge processing chamber. If necessary, raise the processing chamber slightly to allow the insertion of the rear flange of the feed chopper assembly.



5 Secure the ends of the feed chopper assembly to the processing chamber using 4 - 1/2 x 1- 3/4" carriage bolts, nylock hex nuts and flat washers. Tighten all mount bolts.



6 Lock the flail drum in position. On a right hand discharge machine place the 15/16" sheave spacer onto the flail drum shaft. On a left hand discharge machine place the 3/8" sheave spacer onto the coupler shaft. Mount the 3 groove drive sheave to the flail drum shaft (on a right discharge machine) or to the coupler shaft (on a left discharge machine) using the taper lock hub. Place the sheave into position with the taper lock facing the rear of the machine. Ensure that a sheave "spoke" is not covering the twine cutter opening prior to locking the taper lock hub in position (Figure A). On a right hand discharge machine, place a 3/8" sheave spacer between the lock hub and the sheave lock washer. For proper drive belt alignment, the outer face of the large sheave should be approximately 5-3/8 inches from the rear tub wall (Figure B). Install sheave lock washer and 1/2 x 1-1/4" bolt on end of flail drum shaft.

Figure A

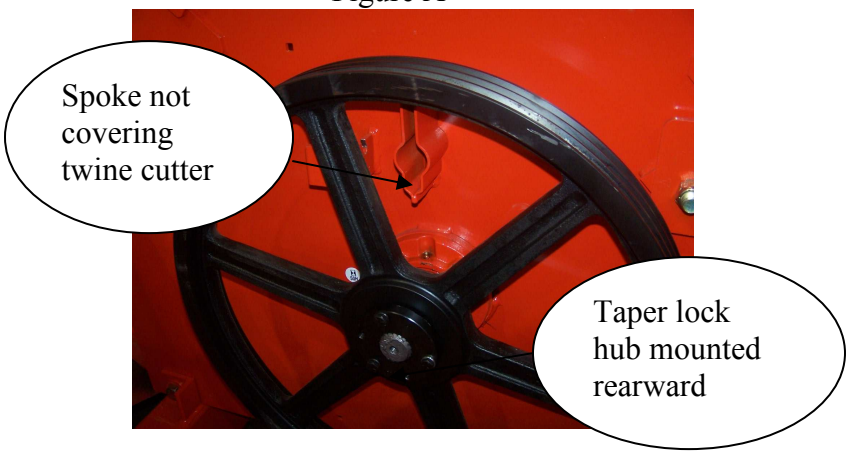
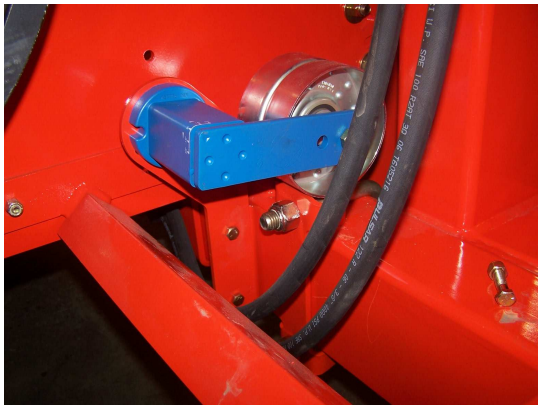
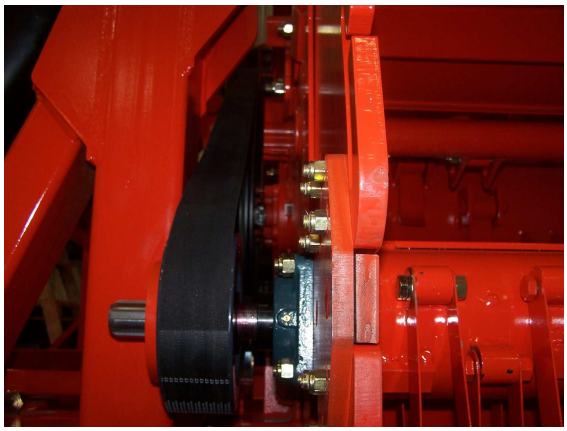


Figure B

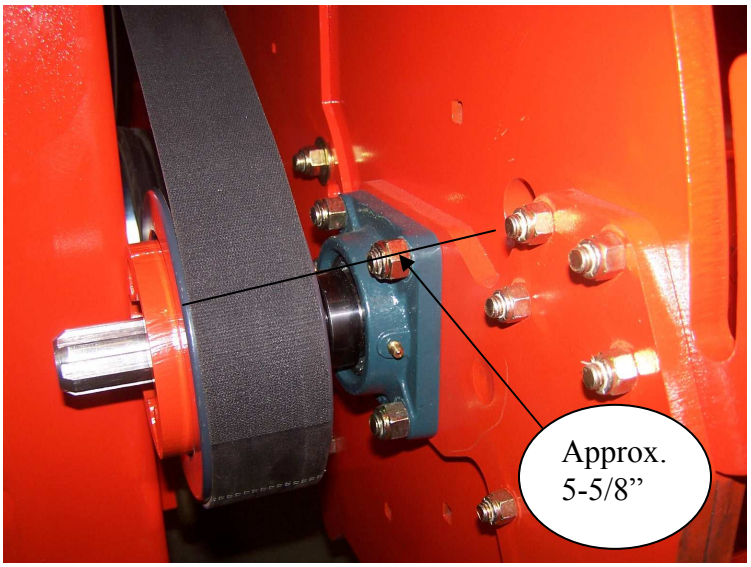
7 Install the belt tensioner as shown. The lateral position of the tensioner can be adjusted after the drive belt is installed and the small sheave location is set.



8 Position the belt onto the small 3 groove sheave on the end of the feed chopper drive shaft. Place the bottom of the belt over the idler sheave and around the bottom of the large 3 groove sheave. Turn the large 3 groove sheave clockwise to turn the belt onto the sheave and into position.



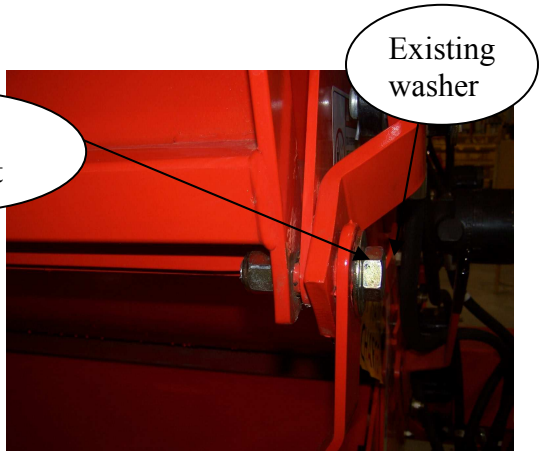
9 Check to ensure that the belt is in alignment between the large and small sheave. If the sheaves are out of alignment, unlock the collar on the small sheave, move the sheave into alignment, and re-lock collar. Lock the eccentric locking collar in the direction of rotor rotation (when standing at the rear of a RH driven machine, the collar should be rotated counter-clockwise and a LH driven machine, collar should be rotated clockwise) and tighten the set screw. Rotate the bottom of the large sheave toward the discharge side of the processor and ensure that the belt is running centered on the idler sheave. If necessary, readjust the placement of the idler sheave.



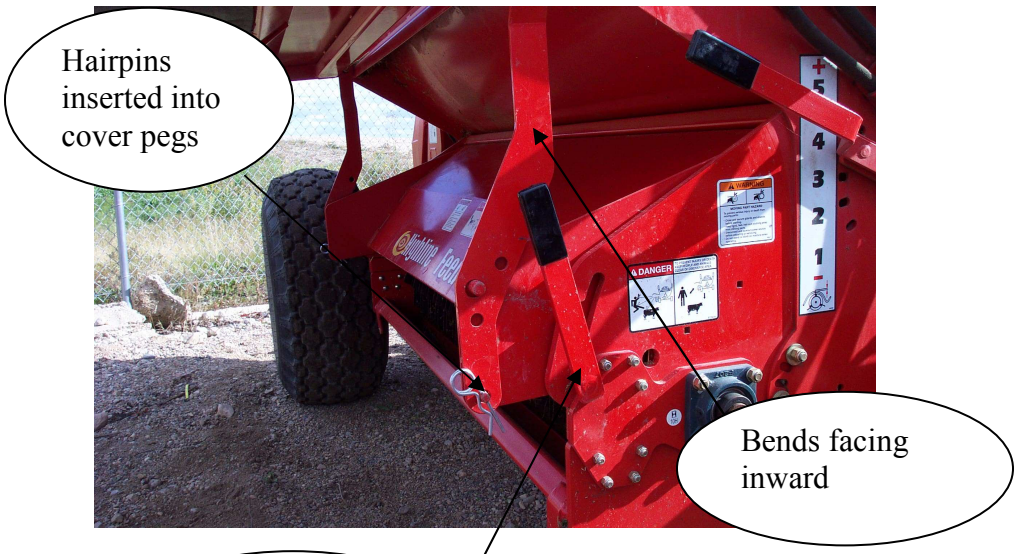
10 Remove the bolts that secure the top discharge door to the processing chamber of the bale processor. Take note of the existing orientation of washers and spacer bushings at each end. At the front location add the hanger bracket and spacer bushing. At the rear location add the hanger bracket, spacer bushing and flat washer. Note: ensure that the bends on hanger brackets face inward and toward the center of the machine refer to the photos in step 11.

Rear of Processor

Front of Processor

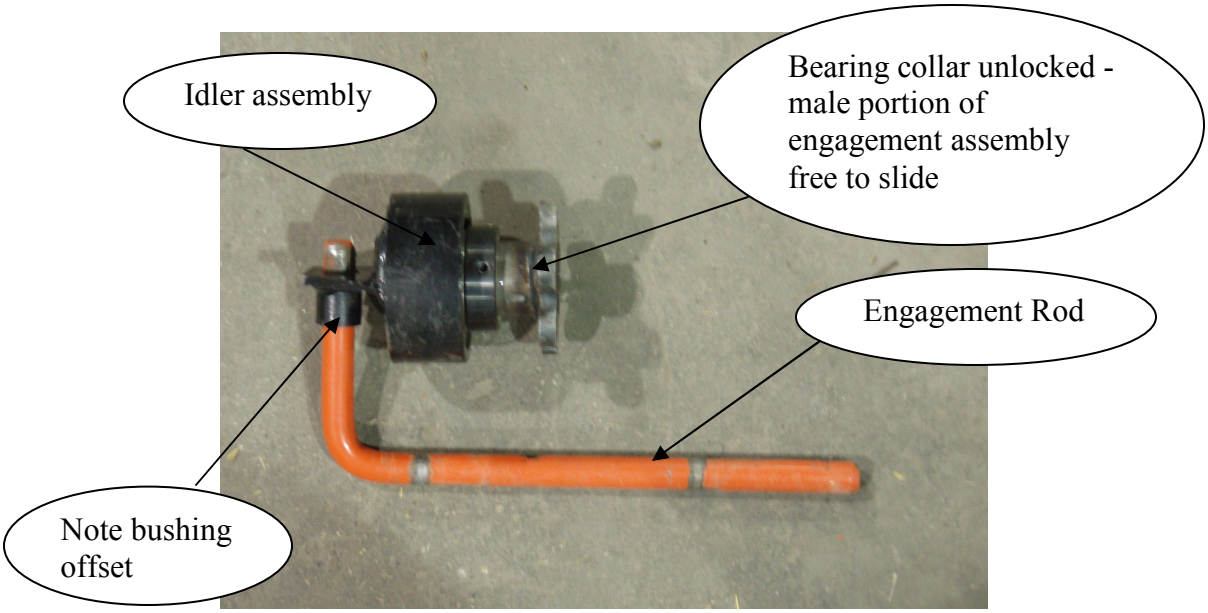


11 Place the rotor cover into the chopper assembly by inserting the front and rear door pins into the slots of the feed chopper end plates. Rotate the rotor cover into the chopping position using the drive end handle and lock in position by installing the end hanger brackets onto the door pins. Install the hitch keys into the lower pins of the door to secure.

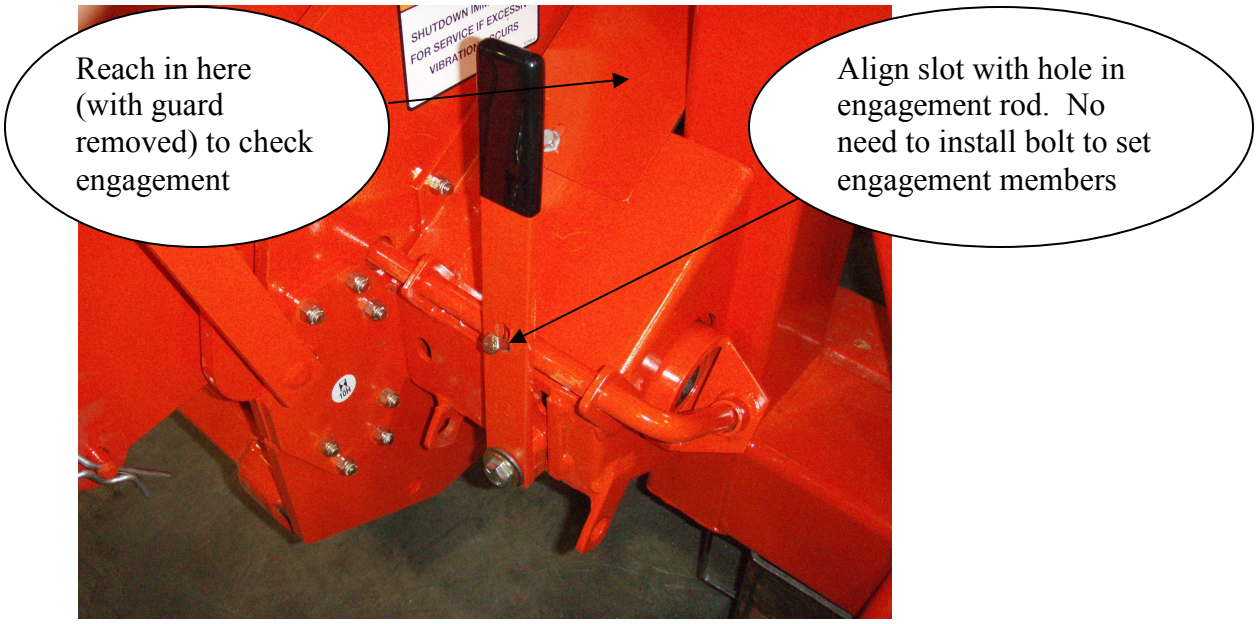


12 Secure the small sheave guard to the feed chopper using 4 – 3/8”x1-1/2” carriage bolts and nylock hex nuts.

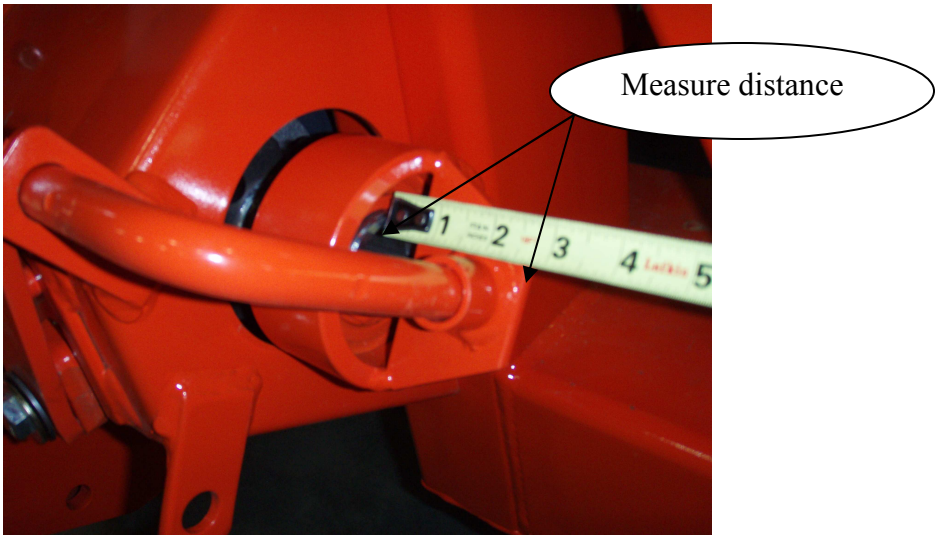
13 Slide engagement rod into the drive engagement idler assembly. Position the bushing on the idler assembly onto the engagement rod as shown.



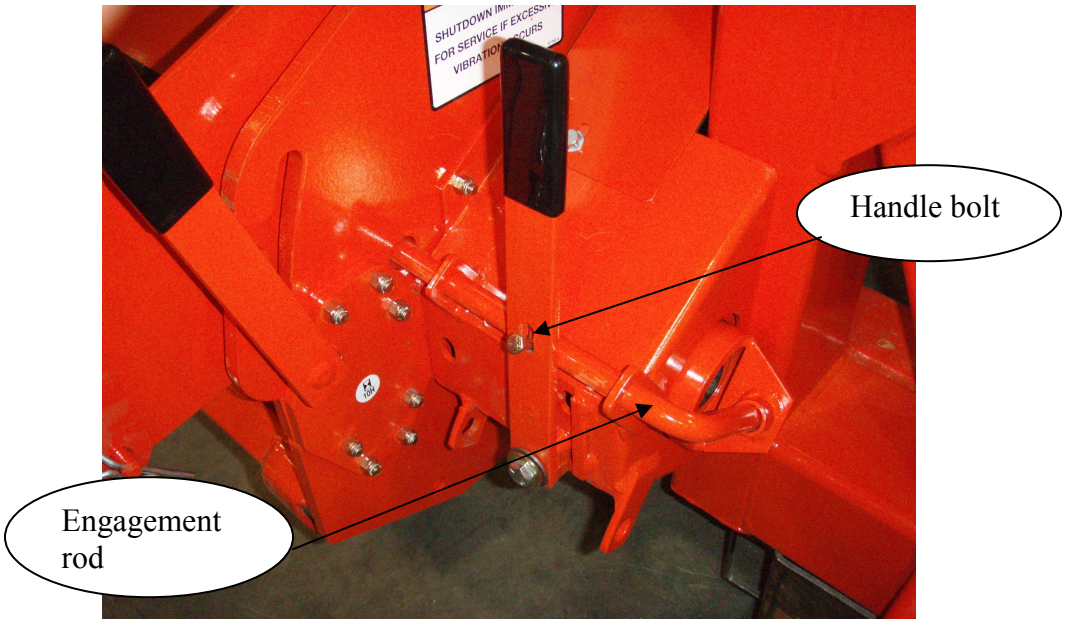
14 Assemble the engagement rod to the small sheave guard and the idler assembly onto the splined shaft. Move the engagement handle into the forward, or engaged position. Align the hole in the engagement rod with the slot in the engagement handle. Fully engage the male and female portions of the engagement assembly by sliding the male portion inward toward the front of the bale processor. Ensure the faces are fully mated by reaching in between the bale lift post and the processing chamber.



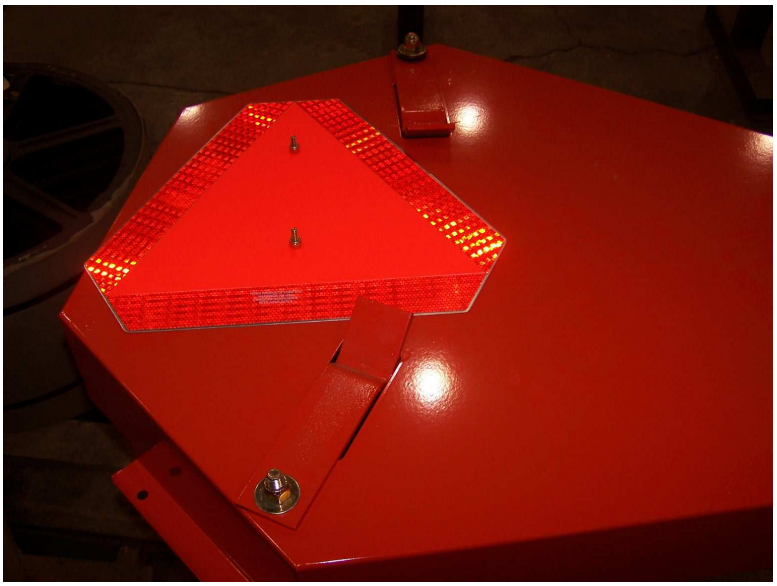
15 Measure the distance from the rear of the female spline to rear of the idler assembly. Remove the entire idler assembly and engagement rod. Lock the bearing in place with eccentric locking collar, again locking collar in direction of rotor rotation. Verify bearing location with the measurement obtained before you removed the idler assembly.



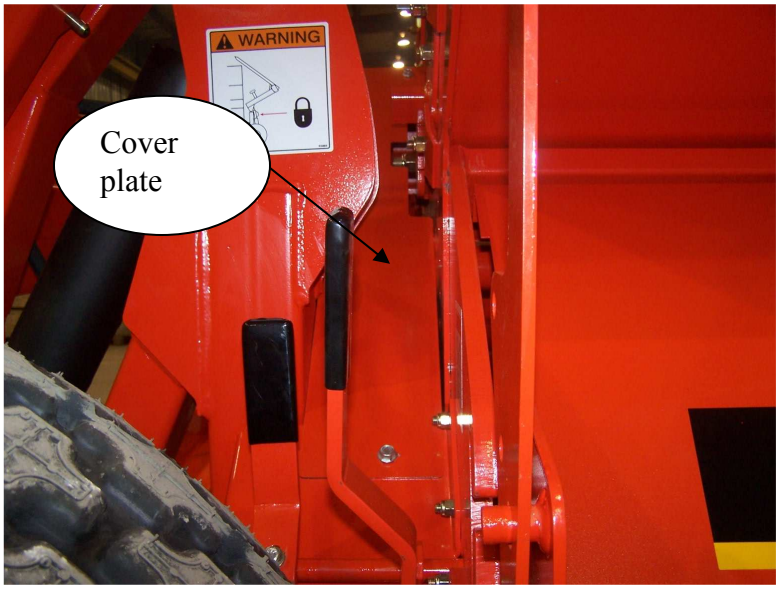
16 Re-install engagement rod and idler assembly. Install 5/16" x 2" bolt through slot in handle and engagement rod.



17 Remove "Slow Moving Vehicle" sign from the main tub assembly and place on the feed chopper large sheave safety shield. Install the large sheave cover on machine using supplied hardware. **For Bale Processors with a serial number ending in "6" - use 3 - 3/8x1" self tapping screws. For Bale Processors with a serial number ending in "7" or above - use 3 – 3/8x1" carriage bolts, nylock hex nuts and flat washers.**



18 Place the belt tension cover plate into position between the large sheave safety shield and the small sheave safety shield. Mark the hole locations that are required to hold the cover plate in place. Drill 3 – 5/16 inch holes at the required locations and attach the cover plate with the provided hardware (3/8x1 inch self tapping screws).



19 Assemble the offset axle plate to the tube insert using 4 – 3/4x2-1/2" bolts, hex nuts and lock washers. The axle should be offset to the lower position for the small tire option offset higher for the large tire option. Slide the tube into the processor axle and secure in the inner most hole location. Tighten axle bolt (1) to 120 ft. Note: Photo shows large tire option with axle offset in the raised position. Torque wheel bolts to 85 ft-lb when assembling wheel to hub.