



## **MAINTENANCE SIMPLE BIN SITE**

Proper maintenance of your Simple Bin Site system is critical for peak performance, reliability and accuracy of this system. The following is a guideline for the type of maintenance and servicing that should be performed on this unit. Your environment and uses may require additional maintenance and service beyond this list to assure a reliable and safe unit. The operator of this unit has ultimate responsibility to identify areas of concern and rectify them before they become a hazard or safety issue. There is no substitute for a trained, alert operator.



Do not put this unit into operation with any questionably maintained parts. Poor performance or a hazard may occur.

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### **BIN SLIDE GATES**

- Inspect all welds and structural components for bends, cracks and damage.
- Test slide gates for proper actuation with control panel.
- Remove air to gates and manually open and close gates. Check for any friction while gate is sliding.

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### **UNDERBIN CONVEYOR**

- Inspect all welds and structural components for bends, cracks and damage.
- Clean out any build up of debris from the clean out door.
- Check the conveyor belt tension and alignment. (page 5)
- Check the drive belt tension and alignment. (page 7)
- Grease all necessary bearings. (page 4)
- Remove yellow guard and check chain tension.
- Check for proper operation of conveyor while in reverse mode.  
Align if necessary.
- Check encoder for tightness to shaft and proper signal to control panel.

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### **SCALE FILL CONVEYOR**

- Inspect all welds and structural components for bends, cracks and damage.
- Clean out any build up of debris from the clean out door.
- Check the conveyor belt tension and alignment. (page 5)
- Check the drive belt tension and alignment. (page 7)
- Grease all necessary bearings. (page 4)
- Remove yellow guard and check chain tension.

### **WEIGH HOPPER, SLIDE GATE & SCALE HEAD**

- Inspect all welds and structural components for bends, cracks and damage.
  - Check for binding on scale components.
  - Check wiring from scale to scale head for any damage or kinks.
  - Test slide gate for proper actuation with control panel.
  - Check slide gate sensors for correct positioning and signal.
  - Have scale professionally re-calibrated as necessary.
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### **CONTROL PANEL & AIR SYSTEM**

- Drain water from compressor daily.
  - Drain air dryer every 40 hours of operation.
  - Test all air solenoids for correct actuation.
  - Inspect all exterior wiring for any kinks or damage.
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### **ELECTRICAL PANEL**

- Check and tighten wire connections.
- Check quick connects on bottom of control panel.
- Check to see if starters and/or overloads are tripped.
- Check to see if relays, timers and/or breakers are tripped.
- Check quick connects on end of Auxiliary cord.
- Check and tighten wire connections.
- Check relay and fuse holder.
- Check power cords for cuts or frays and ensure ground is present.

Proper maintenance of the USC Conveyors is critical for peak performance, reliability and accuracy of this system. The following is a guideline for the type of maintenance and servicing that should be performed on these units. Your environment and uses may require additional maintenance and service beyond this list to assure a reliable and safe unit. The operator of this unit has ultimate responsibility to identify areas of concern and rectify them before they become a hazard or safety issue. There is no substitute for a trained, alert operator.



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## **FLUIDS AND LUBRICANTS**

### **Grease**

Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium-based grease.

### **Storing Lubricants**

Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

### **GREASING**

Use a Maintenance Checklist to keep record of all scheduled maintenance.

1. Use a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.

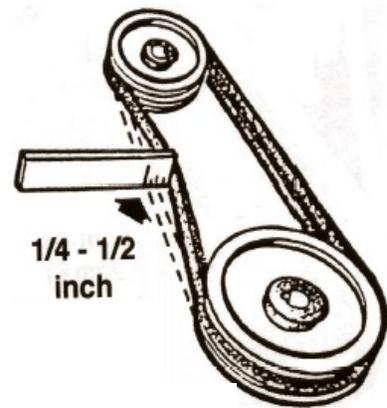


If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

## CONVEYOR SERVICING INTERVALS

### Every 40 hours or Weekly

1. Check the conveyor belt tension and alignment.
2. Grease conveyor bearings.
  - Two bolt flanged bearings, tail roller bearings right and left (2 locations).
  - Two bolt flanged bearings, drive roller bearings right and left (2 locations).
  - Two bolt flanged bearings, jackshaft bearings right and left (2 locations).



3. Remove guard and check the drive belt tension and alignment. The belts will deflect approximately 1/4 to 1/2 inch when properly tensioned. (right)



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### Every 200 hours or Annually

1. Repack wheel bearings.
2. Wash machine.
3. Check pulley bushing for wear. To inspect pulley:
  - Lower the conveyor to its lowest position.
  - When the conveyor has reached the lowest position, it will stop on the hinge support.
  - Loosen and remove the bolt.
  - Inspect the bushing on the pulley for wear.
  - Reverse steps 1-4 for re-assembly.

## CONVEYING BELT TENSION AND ALIGNMENT - TAIL END

A contoured belt with molded flights is used to convey material along the frame. The tension and alignment of the belt should be checked weekly, or more often if required, to be sure that it does not slip or run to one side. A properly tensioned belt will not slip when it is operating. Operating the belt with less slippage will increase the belt life and causes less stress on bearings, pulleys and shafts.

### **⚠ WARNING**

Although it is acceptable to align the belt from either the Head or the Tail (Intake) end. Tightening the belt may only be done from the Tail end of the conveyor

To maintain the belt, follow this procedure:

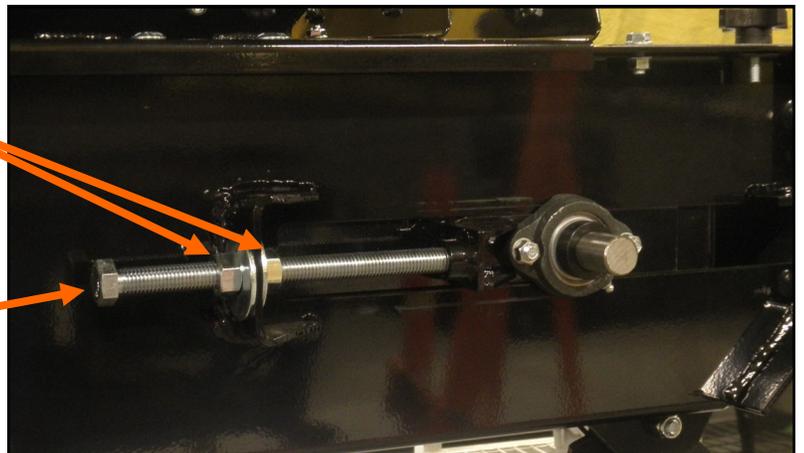
### **NOTICE**

Place all controls in neutral or off, stop motor and disable power source before working on belt.

1. Use the take-up bolt located at the tail to set the tension of the belting.
2. If the belt needs to be tightened to prevent slippage, use the take-up adjustments on the tail end.
3. The belt is tightened by turning both take-up adjustments an **equal** number of turns.
4. Use the drive roller to check the alignment. The belt should be centered.
5. Turn the belt 1/2 revolution when the belt is new and check the drive and tail roller. If out of alignment, the belt will move to the loose side. Loosen the jam nut and use the bearing position bolts to set the position. Tighten jam nut.
6. Run and check again. Check frequently during the first few minutes of operation and then several times during the first 10 hours. The belt normally seats itself during the first 10 hours of operation and can be checked weekly after that.
7. The belt is properly aligned when the belt runs in the center of the head and tail rollers.

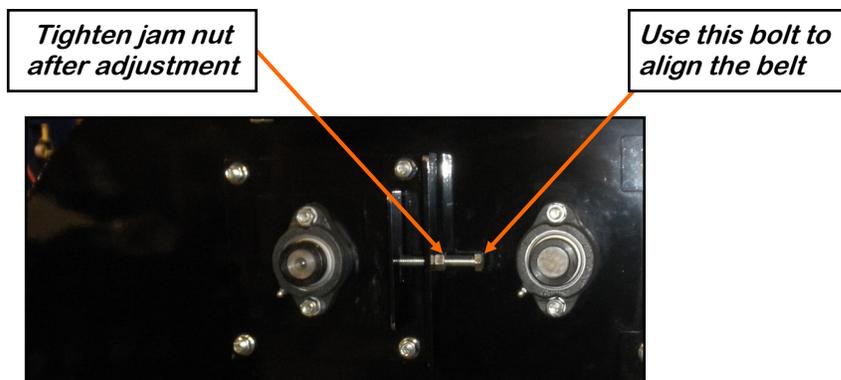
*Loosen these jam nuts before adjusting the bearing position bolt*

*Use this bolt to tighten and align the belt*



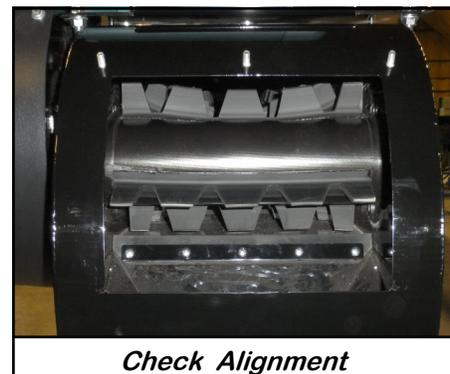
## CONVEYING BELT ALIGNMENT - HEAD END

1. A misaligned belt will track toward the loose side. Set the tracking by loosening the bearing mounts on the tight side and using the bearing position bolt to move the end of the head roller toward the tail. Tighten the bearing mount when the belt is centered on the head roller.
2. Run the belt and check the tracking again. Loosen the tight side slightly again if required. Repeat the adjusting and checking procedure until the belt centers on the input end roller and remains centered when running.
3. Always repeat this aligning procedure when installing a new belt. Check frequently during the first 10 hours of operation. After 10 hours, the belt is normally seated and checking the alignment can be done less frequently.



## BELT REPLACEMENT

1. Rotate the belt until the seam is visible.
2. Move the tail roller to its loosest position.
3. Pull all the slack to the seam area.
4. Remove the wire connector and open the belt.
5. Attach one end of the replacement belt to the belt end being removed.
6. Pull the old belt out and the new belt will be threaded into place.
7. Disconnect the old belt.
8. Connect the ends of the new belt together and secure.
9. Set the belt tension.
10. Check and set the belt alignment



## **DRIVE BELT TENSION & ALIGNMENT**

Power to the conveying belt is transmitted through a V-belt. The V-belt drive system must be maintained at the proper belt tension and pulley alignment to obtain the desired performance and life. When maintaining the belt drive system for the electric drive model, follow this procedure:

Turn motor off and unplug power cord or turn off power and lock out the master panel before starting maintenance on drive belt system.

Arrêter le moteur et débranchez le cordon d'alimentation ou coupez l'alimentation et verrouiller le panneau de maître avant de commencer la maintenance sur le système de courroie d'entraînement.

### **Drive Belt Tension**

1. Push on the center of the belt span with a force of approximately 5 to 10 lbs.
2. Follow the belt tensioning specification on page 47 to determine proper belt deflection.
3. Move the motor up, using the adjustment bolts, to set drive belt tension (right).
4. Close and secure guards.

### **Drive Belt Alignment**

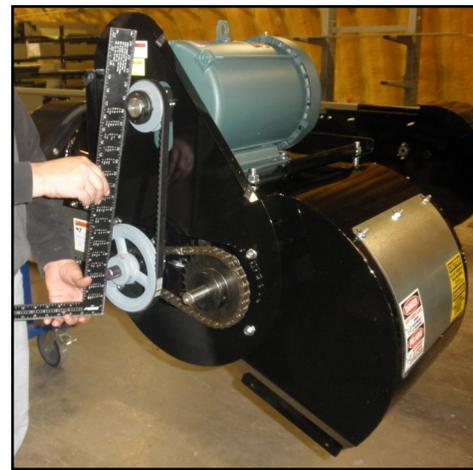
1. Lay a straightedge across the pulley faces to check the alignment (right).
2. Use the pulley hub or the motor mounting plate slots to move the pulley to the required position for alignment.
3. Tighten hub bolts to secure pulley on shaft.
4. Check belt tension
5. Close and secure guards.

### **Drive Belt Replacement**

1. Lower motor to its loosest position.
2. Remove old belt and replace with a new one.
3. Raise motor to set the belt tension.
4. Check pulley alignment. Adjust if required.
5. Close and secure guards.



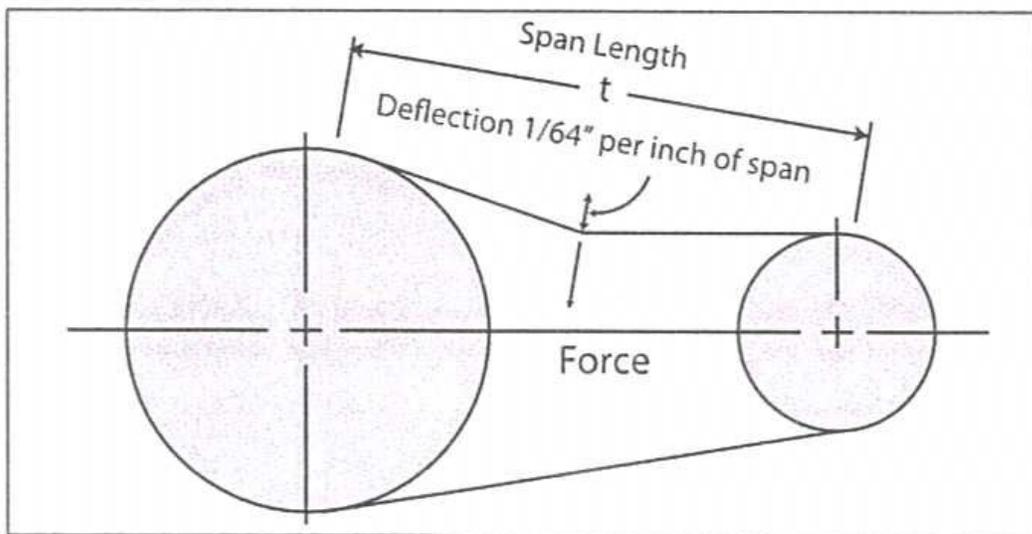
*Motor base adjustment*



*Lay a straightedge across*

## BELT TENSIONING SPECIFICATION

V-Belt tensioning adjustment can be made using a tension meter or other type spring scale using the following procedure. After seating the belts in the groove and adjusting center distance so as to take up the slack in the belts, further increase the tension until only a slight bow on the slack side is apparent while the drive is operating under load. Stop the drive and using the meter, measure the force necessary to depress one of the center belts 1/64 inch for every inch of belt span (see sketch below). For example, a deflection for a 50 inch belt span is 50/64 or 25/32 inch. The amount of force required to deflect the belt should compare with the deflection forces noted in the table below. Also notice for V- Belts that deflection forces vary from the initial RUN - IN values which are greater (reflecting higher run-in tensioning) to the NORMAL values for after the run-in period.



MEASURE THE SPAN LENGTH "T"  
AS SHOWN IN THE SKETCH ABOVE.

BELT CROSS SECTION	SMALLER PULLEY DIAMETER RANGE (inches)	DEFLECTION FORCE	
		RUN - IN (lbs)	NORMAL (lbs)
AX	3.0 - 3.6	4 - 1/8	2 - 3/4
	3.8 - 4.8	5	3 - 1/4
	5.0 - 7.0	6	4
BX	3.4 - 4.2	5 - 1/4	3 - 1/2
	4.4 - 5.2	7 - 1/8	4 - 3/4
	5.4 - 9.4	9	6