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## IMPORTANT INSTRUCTION FOR ORDERING PARTS

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It is important to have the following information available when ordering parts

SBI CHIP CONVEYOR Model Number :

SBI CONVEYOR Serial Number :

Party Name:

Manual Revision Date :

May be found of name plate located on the side of the head section of the conveyor.

## **INTRODUCTION**

The SHREE BAI INDUSTRIES Conveyor is available in a variety configuration to be adaptable to a wide Array of machine tools applications. The SHREE BAI INDUSTRIES conveyor is designed to remove chips and debris from coolant used in machine tools applications. The life of the SHREE BAI INDUSTRIES Conveyor can be extended greatly by following the instructions and guidelines in this manual. For assistance in new applications or questions regarding your system please contact a Customer Service Representative at our Manufacturing facility:

## **SHREE BAI INDUSTRIES**

Atika industrial area,

Street no. 3-A,

Opp. Sorathiya foundry,

Dist.: Rajkot-360002

Mo. no.: 9824218665

## **INSTALLATION AND START-UP INSTRUCTIONS**

Your new SHREE BAI INDUSTRIES has been tested and inspected prior to delivery to ensure it function properly upon installation. Please follow the following instruction for effective start-up your system:

1. Visually inspect your system any shipping damage. Contact SHREE BAI INDUSTRIES Immediately if damage has occurred.
2. Roll entire system (Conveyor and tank) into position so that the Conveyor chip chute is located under the machine coolant/chip discharge.
3. Level coolant tank using leveling screws mounted on the sides. After the tank is level, adjust the support feet (or caster) of the filter/conveyor for sufficient support. Tighten locknuts when leveling screw and support feet (or casters) are correctly adjusted.
4. Install wiring to electrical box of switch. Be sure to use the correct voltage and phase for the system. Proper rotation of the conveyor belt may be obtained by reversing power connection.
5. Make sure all foreign objects such as shipping papers, crating, cleaning rags, etc. are removed from the conveyor prior to start-up.
6. Fill the coolant tank to the level indicated on the chip conveyor system lay out drawing. Typically the coolant level can be maintained approximately 2" below the covers of the tank. Check for any leakage and contact SHREE BAI INDUSTRIES if any occurs.
7. Install all required plumbing to pumps, chillers, etc. Ensure that all fittings are correctly tightened before starting pumps.
8. Install wiring for pumps, chillers, oil skimmers high/low float switches, etc. to machine electrical system if required. Ensure that all electrical service meet local codes.
9. Make sure hands, feet, and clothing are clear of all moving parts before start-up.
10. Make sure all drive train guarding is securely attached before start-up.
11. Locate a chip hopper under the conveyor discharge for collection of chips.
12. Start-up machine and SHREE BAI INDUSTRIES conveyor system.

Note: the conveyor should be set up to run continuously while machine tool is discharging coolant and chips. Unusually high amount of chips during a short period of time can result in jamming the conveyor.

### **CAUTION**

**KEEP HANDS, FEET, AND CLOTHING CLEAR  
OF MOVING PARTS OF CONVEYOR**

## **SCHEDULED MAINTENANCE PROCEDURES**

### **Daily Maintenance:**

1. Check coolant level in tank. Fill if necessary. Never fill tank with pumps in operation overflow. May occur due to overfilling once pumps are shut off.
2. Insert 1-3 shop rags in the discharge of the conveyor to run through the bottom in an effort to clean out any chips. Repeat if necessary. Caution: Do not stick hands into harm's way of conveyor belt avoid pinch points.

### **Every 1000 Hours of use Maintenance**

1. Check tension of conveyor "hinge/scrapper belt" by checking the torque setting of the "adjusting screws" for the "take-up bearings" on each side of the head. Torque to be set at 25 in-lbs. Note: if the "hinge/scrapper belt" tension is adjusted please check the "motor drive chain" tension as it may have changed.
2. The "torque limiter" or "current sensor" is set at the factory. The torque setting can vary between individual systems but typically ranges between 20-60 ft-lbs. Do not over-tighten the "torque limiter" as damage may occur to the conveyor in the event of a jam.
3. Check the tension and alignment of the "motor drive chain" There should be approximately  $\frac{1}{2}$ " of slack (side to side) on the chain. The chain should also be lightly oiled at this time, taking care not to introduce oil to the "torque limiter friction pads."
4. Grease "take-up bearings" with grease gun. Do not over grease-seals can be damaged.
5. Inspect "hinge/scrapper belt" for wear or damage. (see Hinge/scrapper Belt Removal and installation Procedure if necessary)
6. Maintain pumps, chillers, oil skimmers, etc. per manufacturer's instructions.

## **CAUTION**

**ALWAYS DISCONNECT POWER BEFORE  
PERFORMING ANY MAINTENANCE**

## **BELT REMOVAL, MAINTENANCE, AND INSTALLATION**

SHREE BAI INDUSTRIES are typically equipped with either a “hinge belt” dependent upon the specific application. The “scraper belt” is wide open for viewing of critical components so maintenance requirement are easily seen. On the other hand, inspection of the “hinge belt” can be somewhere more difficult. General inspection of either belt type can be accomplished at the discharge opening at the head of the conveyor, by removal of the slide lid, or through (figure #1). Detailed inspection of a “hinge belt, “however, requires complete removal of the belt from the conveyor body to provide complete access to all the integrated components.

### **“Hinge Belt” Removal:**

1. Disconnect power source to conveyor.
2. Drain tank or remove conveyor from tank as required
3. Run conveyor until the “master shaft” (identified as shaft with cotter pins and washers) are positioned at slot opening locates near the discharge of the conveyor (so that the “master shaft” may be knocked out). Note: if conveyor is jammed and cannot be run, go to step
4. Remove “flip lid,” “bearing cover,” “outside chain guard,” and “slot guards” (found at discharge end of conveyor).
5. Remove “drive chain” from the “gear motor” by reducing tension and removing “chain master link.” For optional direct drive motor mounting, remove motor mounting screws and pull motor off drive shaft.
6. Turn “take-up bearing screws” counter-clockwise to reduce tension of “hinge belt.” Be sure to note the position of the bearings prior to reducing tension so the correct tension may be easily set upon re-installation.
7. Remove “cotter pin” and “washer” from “master shaft.” Out of the belt assembly. If the “master shaft” cannot be moved into removal position (as stated in step #3), any “shaft” located in the slot near the discharge of the filter/conveyor may be removed by, first, grinding the crimp from the end of the “shaft” to allow for removal (new “master shaft” may be obtained from SHREE BAI INDUSTRIES).
8. As this point, the belt should easily be disconnected. Re-install the “master shaft” into the belt in the top section only to ensure easy belt removal.
9. Remove the belt assembly from the conveyor by pulling out the bottom end of the belt assembly first (the “master shaft” should trail the belt assembly as it comes out).

### **CAUTION**

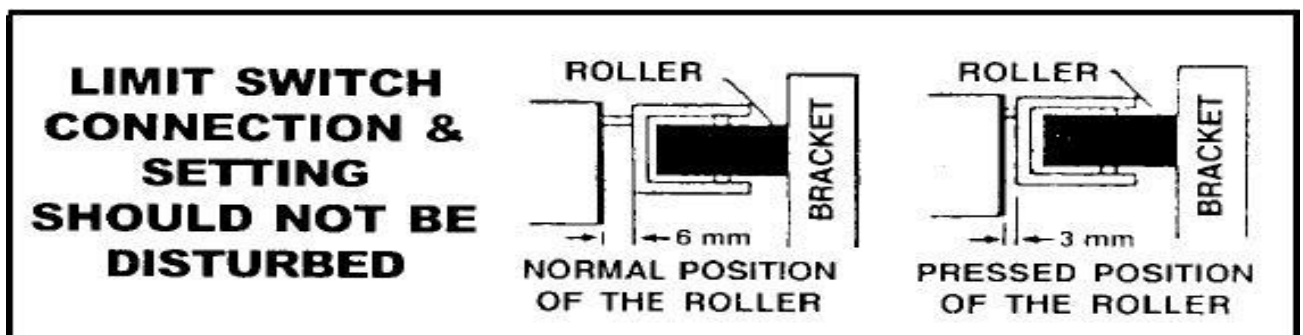
**ALWAYS WEAR PROTECTIVE GLOVES  
WHEN HANDLING A HINGE BELT**

### **“Hinge belt” Maintenance:**

1. Clean belt –remove excessive buildup of chips and swarf.
2. Visually inspect belt for damage and wear.
  - a. Ensure that rollers are rotating freely and check for wear.
  - b. Check belt shafts for wear.
  - c. Ensure that scrapers are still effective-replace if necessary.
  - d. Check “hinge plates” for damage.
3. Check guide rails, sprockets, and conveyor body for wear damage.

### **“Hinge belt” Installation:**

1. With “master shaft” installed as stated in the “Hinge Belt Removal” procedure (step#8). Feed the belt in (master shaft first) on lower rail system until the ends of the belt meet back up at the discharge of the filter/conveyor.
2. Removal the “master shaft” and mesh the two ends of the belt assembly together. Slide the master shaft through the mating parts of belt assembly (install “washers” and “cotter pin” on each end.)
3. Adjust the belt tension by checking the torque setting of the “adjust screws” for the “take-up bearings” on each side of the head. Torque to be set at 25in-lbs or adjust “take-up bearings” to original position.
4. Install “motor drive chain” and tension until there is ½” of play side to side.(Figure#6) For direct drive motor option, install gear motor by sliding over shaft and key, and replace motor mounting screws and nuts.
5. Replace all guards and covers.
6. Re-install conveyor into tank and add coolant as required.
7. Connect power source.

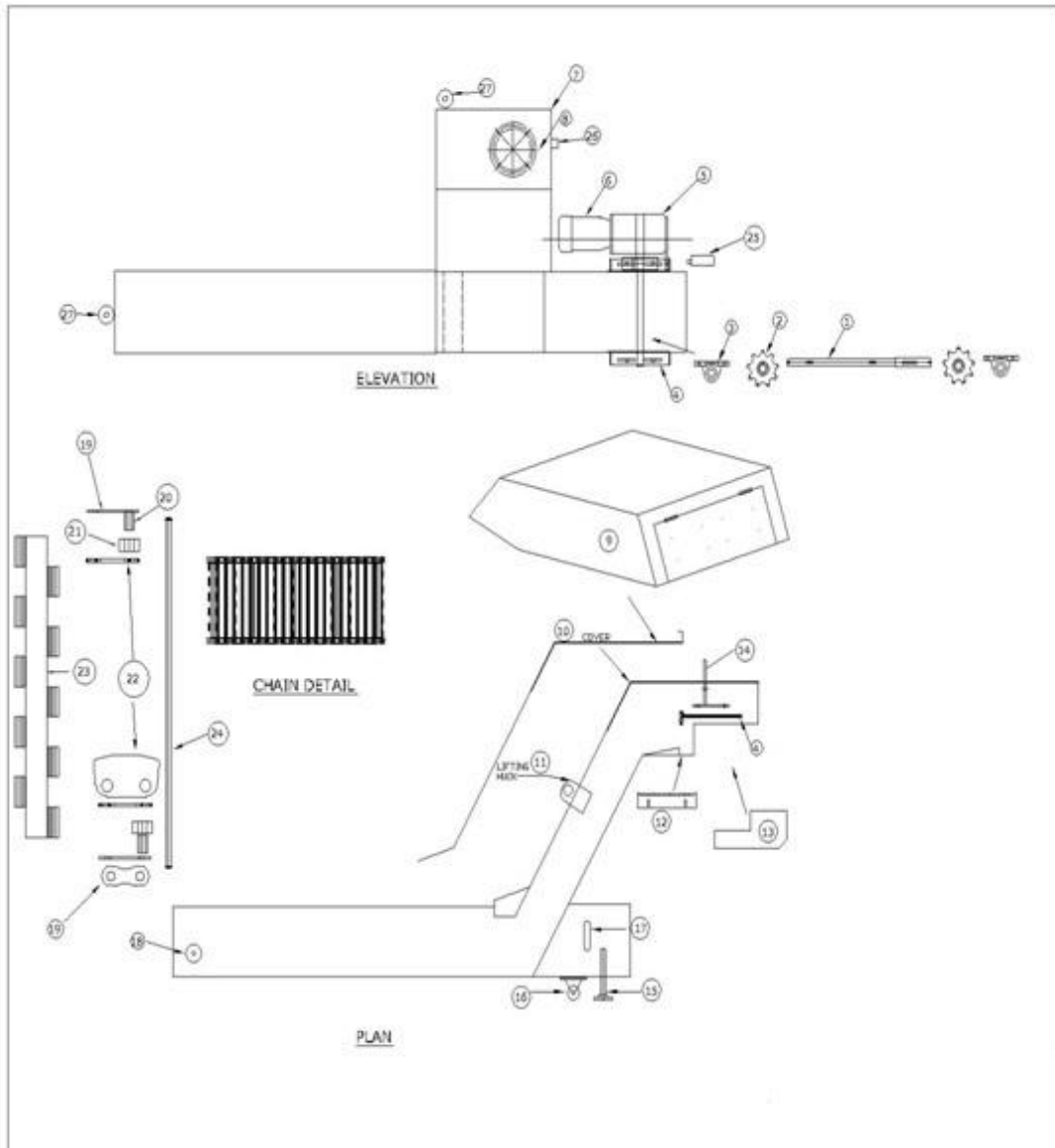


## TROUBLE SHOOTING

PROBLEMS	DUE TO	REMEDY
Jamming without blockage.	a) Scraper Belt is too loose. b) Clicking noise when conveyor is running	a) Adjust Tension of Scraper Belt
Excessive wear on the Scraper	a) Conveyor is not leveled. b) Drive shaft shifted c) Frame bent or twisted.	a) Level the Conveyor b) Align the drive shaft, c) Straighten frame as required
Gear box not working	a) Primary/Secondary wheel teeth are worn out	a) Replace worn out parts
Shaft rotating but chain not rotating	a) Spring dowel pin connecting sprocket & shaft sheared	a) Replace dowel parts
Motor rotating but conveyor shaft is not rotating	a) Key in the coupling sheared b) Nylon drive pins in the coupling sheared	a) Replace worn or damaged parts.
Frequent tripping of Gear box	a) Limit switch tripping dog is closer to the bracket	a) Set Limit switch by Adj. bolt (min. 3 mm gap)

## CAUTION

- \* DO NOT RIDE, STAND OR SITE ON THE CONVEYOR BELT WHILE IT IS MOVING
- \* DO NOT STEP ACROSS BELT WHILE IT IS MOVING
- \* DO NOT OPERATR CONVEYOR WITHOUT GUARDS IN PLACE
- \* DO NOT PUT HANDS OR FEET NEAR CONVEYOR OPENINGS WHILE IT IS IN OPERATION
- \* DO NOT THROW OR ALLOW FALLING OF ANY SOLIDS/TOOL/JOBS INTO THE CONVEYOR.





When ordering Parts, be sure to mention the following information – **Serial Number** of Conveyor (Stamped on name plate) and Part

Name from list:

Item No.	TITLE	Item No.	TITLE
01.	Main Shaft	15.	Jack
02.	Chain Six Teeth Gear	16.	Castor Wheel
03.	Pillow Block	17.	Level Indicator
04.	Pillow Blocks ( Side )	18.	Fly Wheel
05.	Gearbox	19.	Side Bar
06.	Electric Motor	20.	Bushing
07.	Coolant tank	21.	Roller
08.	Coolant Pump Ring	22.	Side Wing
09.	Main Gearbox Cover	23.	Apron Plates
10.	Conveyor Cover	24.	Belt Axle
11.	Flat Lifting Huck	25.	Limit Switch
12.	Teeth	26.	Drain plug
13.	Chain Guard	27.	Round Huck
14.	Adjustable Stand		

## QUALITY ASSURANCE REPORT

DATE.

PARTY NAME.

PO.NO.

DATE.

DRAWING NO.

CONVEYOR NO.

MODEL NO.

### SPECIFICATION OF CHIP CONVEYOR

Width :

Charge Length :

Angle Of Inclination :

Discharge Height :

Overload Protection :

Gear Box Make :

Gear Box No :

Gear Box Ratio :

Motor Make :

Motor No :

Motor H.P. :

Motor Rpm. :

Colour :

### SPECIFICATION OF CHIP CHAIN

Working With :

Type Of Belt :

Pitch Of Chain :

Roller :

FOR, QUALITY ASSURANCE DEPARTMENT

Signature

