

**CHIEF** 



**CHIEF INDUSTRIAL CHAIN CONVEYOR (CICC)  
P/N 94-0-300058**

# **INSTALLATION, MAINTENANCE AND OPERATION'S MANUAL**

*Trusted. Tested. True.®*

## Manual Revisions

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Release

**Westgo Chief Philippines Corporation**  
Building 19, Philexcel Business Park, Clark Freeport Zone,  
Angeles City, Pampanga, Philippines 2009

For more informaton about Westgo Chief Philippines Corporation and or additional products or services please visit our website.

<https://asia.chiefind.ph/>

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# STANDARD LIMITED WARRANTY

## Material Handling Products

**1. Definitions.** The following terms, when they appear in the body of this standard limited warranty for material handling products in initial capital letters shall have the meaning set forth below:

- A. Accepted purchase order shall mean the purchase order identified below.
- B. Westgo Chief shall mean Westgo Chief philippines corporation.
- C. Original owner shall mean the original owner identified below.
- D. Product shall mean the Industrial equipment as described in the accepted purchase order.
- E. Reseller shall mean the authorized Westgo Chief Philippines Corporation equipment dealer identified below.

**2. Limited product warranty.** Upon and subject to the terms and conditions set forth below, Westgo Chief hereby warrants to the reseller, and, if different, the original owner as follows: All new products delivered to the reseller or the original owner by Westgo Chief pursuant to the accepted purchase order will, when delivered, conform to the specifications set forth in the accepted purchase order;

- F. All new products delivered pursuant to the accepted purchase order will, in normal use and service, be free from defect in materials or workmanship; and
- G. Upon delivery, Westgo Chief will convey good and marketable title to the products, free and clear of any liens or encumbrances except for, where applicable, a purchase money security interest in favor of Westgo Chief.

**3. Duration of warranty and notice requirements.** Subject to the exceptions, exclusions and limitations set forth below, the warranties set forth in section 2 above shall apply to all covered non-conforming conditions that are discovered within the first twenty-four (24) months following delivery of the product to the carrier designated by the reseller and/or the original owner at Westgo Chief's manufacturing facility in Philippines, Clark Freeport Zone, Pampanga (the "warranty period") and are reported to the Westgo Chief as provided in section 4 below within thirty (30) days following discovery (a "notice period").

**4. Notice procedure.** In order to make a valid warranty claim, the reseller and/or the original owner must provide Westgo Chief with a written notice of any nonconforming condition discovered during the warranty period within the applicable notice period specified in section 3 above. Said notice must be in writing; be addressed to Westgo Chief Philippines Corporation, Building 19, Clark Freeport Zone 2009, Philippines and contain the following information: (a) the customer's name and address; (b) the reseller's name and address; (c) the make and model of the product in question; (d) the current location of the product; (e) a brief description of the problem with respect to which warranty coverage is claimed; and (f) the date on which the product was purchased.

**5. Exceptions and exclusions.** Anything herein to the contrary notwithstanding, the warranties set forth in section 2 above do **not** cover any of the following, each of which are hereby expressly excluded:

- A. Defects that are not discovered during the applicable warranty period;
- B. Defects that are not reported to the Westgo Chief Philippines Corporation customer service department in conformity with the notice procedure set forth in section 4 above within the applicable notice period specified in section 3;
- C. Any used or pre-owned products;
- D. Any Westgo Chief manufactured parts that are not furnished as a part of the accepted purchase order;
- E. Any fixtures, equipment, materials, supplies, accessories, parts or components that have been furnished by Westgo Chief but are manufactured by a third party;
- F. Any products which have been removed from the location at which they were originally installed;
- G. Any defect, loss, damage, cost or expense incurred by the Reseller or the Original Owner to the extent the same arise out of, relate to or result, in whole or in part, from any one or more of the following:
  - (i) Usual and customary deterioration, wear or tear resulting from normal use, service and exposure;

- (ii) Theft, vandalism, accident, war, insurrection, fire or other casualty;
- (iii) Any damage, shortages or missing parts which result during shipping or are otherwise caused by the Reseller, the Original Owner and/or any third party;
- (iv) Exposure to marine environments, including frequent or sustained salt or fresh water spray;
- (v) Exposure to corrosive, chemical, ash, smoke, fumes, or the like generated or released either within or outside of the structure on which the Product is installed, regardless of whether or not such facilities are owned or operated by the Reseller, the Original Owner or an unrelated third party;
- (vi) Exposure to or contact with animals, animal waste and/or decomposition;
- (vii) The effect or influence the Product may have on surrounding structures, including, without limitation, any loss, damage or expense caused by drifting snow;
- (viii) Any Product or portion thereof that has been altered, modified or repaired by the Reseller, the Original Owner or any third party without Westgo Chief's prior written consent;
- (ix) Any Product or portion thereof that has been attached to any adjacent structure without Westgo Chief's prior written approval;
- (x) Any Product to which any fixtures, equipment, accessories, materials, parts or components which were not provided as a part of the original Accepted Purchase Order have been attached without Westgo Chief's prior written approval;
- (xi) The failure on the part of the Reseller, the Original Owner or its or their third party contractors to satisfy the requirements of all applicable statutes, laws, ordinances rules, regulations and codes, (including zoning laws and/or building codes);
- (xii) The use of the Product for any purpose other than the purpose for which it was designed; and/or
- (xiii) The failure of the Reseller, the Original Owner and/or any third party to:
  - (a) properly handle, transport and/or store the Product or any component part thereof;
  - (b) properly select and prepare a site that is adequate for the installation and/or operation of the Product or any component part thereof;
  - (c) properly design and construct a foundation that is adequate for the installation and/or operation of the Product or any component part thereof;
  - (d) properly set up, erect, construct or install the Product and/or any component part thereof; and/or
  - (e) properly operate, use, service and/or maintain the Product and each component part thereof.

**6. Resolution of Warranty Claims.** In the event any nonconforming condition is discovered within the Warranty Period and Westgo Chief is notified of a warranty claim as required by Section 4 prior to the end of the applicable Notice Period set forth in Section 3 above, Westgo Chief shall, with the full cooperation of the Reseller and the Original Owner, immediately undertake an investigation of such claim. To the extent Westgo Chief shall determine, in its reasonable discretion, that the warranty claim is covered by the foregoing Limited Product Warranty, the following shall apply:

- A. Warranty Claims With Respect to Covered Non-Conforming Conditions Discovered Within the First Three Hundred Sixty Five (365) Days and Reported to Westgo Chief Within Thirty (30) Days of Discovery. In the case of a warranty claim which relates to a covered non-conforming condition that is discovered during the first three hundred sixty five (365) days of the Warranty Period and is reported to Westgo Chief as required by Section 4 within thirty (30) days of discovery as required by Section 3, Westgo Chief will, as Westgo Chief's sole and exclusive obligation to the Reseller and the Original Owner, and as their sole and exclusive remedy, work in cooperation with the Reseller and the Original Owner to correct such non-conforming condition, and in connection therewith, Westgo Chief will ship any required replacement parts to the "ship to address" set forth in the Accepted Purchase Order FOB. Westgo Chief's facilities in Philippines, Clark Freeport Zone, Pampanga and will either provide the labor or reimburse the Reseller or the Original Owner, as may be appropriate in the circumstances, for any out of pocket expense the Original Owner may reasonably and necessarily incur for the labor that is required to correct such non-conforming condition, provided that if work is to be performed by the Reseller or a third party contractor, Westgo Chief may require at least two competitive bids to perform the labor required to repair or correct the defect and reserves the right to reject all bids and obtain additional bids. Upon acceptance of a bid by Westgo Chief, Westgo Chief will authorize the necessary repairs.

- B. **All Other Warranty Claims.** Except as is otherwise provided in subsection 6A above, in the case of all other warranty claims which relate to covered non-conforming conditions that are discovered during the Warranty Period and are reported to Westgo Chief as required by Section 4 within thirty (30) days following discovery, Westgo Chief will, as Westgo Chief's sole and exclusive obligation to the Reseller and the Original Owner, and as the Reseller's and the Original Owner's sole and exclusive remedy, ship any required replacement parts to the Original Owner at the "ship to address" specified in the Accepted Purchase Order FOB Westgo Chief's facilities in Philippines, Clark Freeport Zone, Pampanga; and in such event, Westgo Chief shall have no responsibility or liability to either the Reseller or the Original Owner for the cost of any labor required to repair or correct the defect.
7. **Warranty Not Transferable.** This Warranty applies only to the Reseller and the Original Owner and is **not transferable**. As such, this Warranty does not cover any Product that is sold or otherwise transferred to any third party following its delivery to the Original Owner.
8. **Limitation on Warranties, Liabilities and Damages.** The Reseller and the Original Owner expressly agree that the allocation of the risk, liability, loss, damage, cost and expense arising from any Product that does not conform to the limited warranty given in Section 2 above are fair and reasonable and acknowledge that such allocation was expressly negotiated by the parties and was reflected in the Purchase Price of the Product. Accordingly the Reseller and the Original Owner expressly agree as follows:
- A. **Disclaimer of Implied Warranties.** EXCEPT AS IS OTHERWISE EXPRESSLY SET FORTH HEREIN, WESTGO CHIEF MAKES NO OTHER REPRESENTATIONS OR WARRANTIES OF ANY KIND WHATSOEVER, WHETHER EXPRESS OR IMPLIED, BY OPERATION OF LAW, COURSE OF DEALING OR OTHERWISE WITH RESPECT TO THE PRODUCT, ANY COMPONENT PART THEREOF OR ANY OTHER GOODS OR SERVICES THAT CHIEF MANUFACTURES, FABRICATES, PRODUCES, SELLS OR PROVIDES TO THE DEALER OR THE ORIGINAL OWNER PURSUANT TO THE TERMS OF ANY ACCEPTED PURCHASE ORDER, INCLUDING WITHOUT LIMITATION ANY REPRESENTATION OR WARRANTY WITH RESPECT TO DESIGN, CONDITION, MERCHANTABILITY OR FITNESS OF THE PRODUCT OR ANY OTHER GOODS OR SERVICES FOR ANY PARTICULAR PURPOSE OR USE.
- B. **Limitation on Liability.** EXCEPT AS IS OTHERWISE EXPRESSLY SET FORTH IN SECTION 6 ABOVE, WESTGO CHIEF'S LIABILITY TO THE DEALER AND/OR THE ORIGINAL OWNER WITH RESPECT TO ANY DEFECTS IN ANY PRODUCTS OR FOR ANY OTHER GOODS OR SERVICES WHICH DO NOT CONFORM TO THE WARRANTIES SET FORTH ABOVE SHALL NOT, IN ANY EVENT, EXCEED THE ACTUAL COST OF SUCH NON-CONFORMING PRODUCT, GOODS OR SERVICES AS DETERMINED PURSUANT TO THE ACCEPTED PURCHASE ORDER; AND
- C. **Limitation on the Nature of Damages.** EXCEPT AS EXPRESSLY PROVIDED IN SECTION 6 ABOVE, WESTGO CHIEF SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO THE DEALER, THE ORIGINAL OWNER OR ANY THIRD PARTY FOR ATTORNEY FEES COURT COSTS OR ANY OTHER SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, LIQUIDATED OR PUNITIVE DAMAGES OF ANY NAME, NATURE OR DESCRIPTION AS A RESULT OF THE FAILURE OF ANY PRODUCT OR ANY OTHER GOODS OR SERVICES PURCHASED BY THE DEALER OR THE ORIGINAL OWNER FROM WESTGO CHIEF PURSUANT TO THE ACCEPTED PURCHASE ORDER TO CONFORM TO THE LIMITED WARRANTIES SET FORTH IN SECTION 2 ABOVE.
9. **Applicable Law.** This Limited Product Warranty has been issued, accepted and entered into by the Reseller, the Original Owner and Westgo Chief in the Philippines and shall be governed by, and construed in accordance with, the internal laws of the Philippines. Any legal action or proceeding with respect to any goods or services furnished to the Original Owner by Westgo Chief in connection herewith, or any document related hereto shall be brought only in the judicial courts of Philippines and, by execution and delivery of this Limited Product Warranty, the undersigned Original Owner hereby accept for themselves and with respect to their property, generally and unconditionally, the jurisdiction of the aforesaid courts. Further, the undersigned Original Owner hereby irrevocably waives any objection, including, without limitation, any forum non conveniens, which it may now or hereafter have to the bringing of such action or proceeding in such respective jurisdictions.

**ACKNOWLEDGMENT OF RECEIPT**

By its signature hereto, the undersigned Reseller represents and warrants to Chief that the Reseller has provided a true, correct and complete copy of this Standard Limited Warranty to the Original Owner at the time the product was purchased.

**Reseller Name and Address:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Original Owner Name and Address:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Accepted Purchase Order No.**

\_\_\_\_\_

**Original Jobsite Address:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**RESELLER:**

By: \_\_\_\_\_  
Date

\_\_\_\_\_  
Print name and title

## Warning

### Water Sensitive Materials - Read this notice carefully

Items must be inspected and carrier advised immediately if damage is noted. White rust is a corrosion attack of the zinc coating resulting from the presence of water. Anywhere rust is found will result in a reduction of the life of the galvanized steel.

If water has entered a bundle or if condensation has formed between items, the bundle must be opened, the items separated and all surfaces dried.

#### **If items are to be installed within 10 days:**

Store bundled items off the ground high enough to allow air circulation beneath bundle and to prevent water from entering. Store 1 end at least 8" (20.32cm) higher than the opposite end. Support long bundles in the center. Prevent rain from entering the bundle by covering with a tarpaulin, making provision for air circulation between the draped edges and the ground.

#### **Do not wrap in plastic.**

#### **If items are not to be installed within 10 days:**

Provide inside dry storage. Storage beyond 6 months is not recommended. If white rust is apparent upon receipt of shipment, notify Westgo Chief immediately. Damage to items, resulting from improper storage, is the responsibility of the receiver.

## BEFORE YOU BEGIN

Before starting the installation of the chain conveyor, take time to thoroughly study the construction methods in this manual, this will save you time and money.

Westgo Chief makes no warranty concerning components, accessories or equipment not manufactured by Westgo Chief Philippines Corporation.

When using a cutting torch or welding galvanized material, the possibility of developing toxic fumes will exist. Provide adequate ventilation and respiratory protection when using this type of equipment during installation.

## Introduction

Thank you for purchasing a Westgo Chief chain conveyor. Proper installation and operation will ensure you the best overall experience with your equipment and guarantee smooth operation.

This proprietary information is loaned with the expressed agreement that the drawings and information therein contained are the property of Westgo Chief Philippines Corporation and will not be reproduced, copied, or otherwise disposed of, directly or indirectly, and will not be used in whole or in part to assist in making or to furnish any information for the making of drawings, prints or other reproduction hereof, or for the making of additional products or equipment except upon written permission of Westgo Chief Philippines Corporation first obtained and specific as to each case. The acceptance of this material will be construed as an acceptance of the foregoing agreement.

The technical data contained herein is the most recent available at the time of publication and is subject to modification without notice. Westgo Chief Philippines Corporation reserves the right to modify the construction and method of operation of their products at any time without any obligation on their part to modify any equipment previously sold and delivered.

**Important Note:** If you are unable to remedy any service problem after thoroughly studying this manual, contact the dealer from whom you purchased the unit. Your dealer is your first line of service. The following information is required for service:

1. Chain conveyor model and serial number: \_\_\_\_\_
2. Sprocket size and number of teeth: \_\_\_\_\_
3. Overall length: \_\_\_\_\_
4. Motor RPM and HP: \_\_\_\_\_
5. Type of grain and capacity: \_\_\_\_\_
6. Dealer purchased from: \_\_\_\_\_
7. Dealer address and phone number: \_\_\_\_\_
8. Date purchased: \_\_\_\_\_
9. Service contractor:
  - Name: \_\_\_\_\_
  - Address: \_\_\_\_\_
  - Phone: \_\_\_\_\_

## General Design Information

All steel materials are purchased in accordance with the applicable ASTM Standard.

All bolted connections are designed using high strength bolts which meet the specifications of the applicable ASTM or SAE standard.

All galvanized steel conform to ASTM specification A653 with the galvanized coating to ASTM specification A924.

Galvanized coating type G-115 specifies galvanization of 1.15 oz/ft<sup>2</sup> (Z350; 350 gm/m<sup>2</sup>) total for both sides in the following materials:

- 22 Gauge thickness & lighter = Commercial Steel Type A, 33ksi min yield (grade 230)
- 18 & 20 Gauge thickness = Structural Steel Grade 40, Class I; 40ksi min yield (grade 275)
- 17 Gauge thickness & heavier = Structural Steel Grade 55, Class I; 55ksi min yield (grade 340)

## Accessory Equipment

All accessory equipment should be installed and maintained in accordance with each individual supplier's installation and operation instructions. However, if any modifications to the Westgo Chief standard design are required, contact Westgo Chief for special recommendations.

**Important Note:** Do not modify the bucket elevator design without Chief approval. It is the responsibility of the general contractor to verify that all equipment is properly installed and that the equipment is compatible with the intended use. A qualified electrician should be contracted to complete all electrical wiring and servicing.

## General Contractor Responsibilities

It is the responsibility of the general contractor to verify that the complete system (drag conveyor, foundation and other accessory equipment) is constructed with quality workmanship and that all equipment is installed per the respective manufacturer's instructions.

In addition, the general contractor is responsible for the fitness of use of any system which he constructs. All accessory equipment incorporated into the system should be approved for the intended use by each respective equipment manufacturer.

## Field Modifications and Installation Defects

Westgo Chief assumes no responsibility for field modifications or installation defects which result in structural damage or storage quality problems. If any field modifications are necessary which are not specifically covered by the contents of the installation manual, contact Westgo Chief for approval. Any unauthorized modification or installation defect which affects the structural integrity of the bucket elevator will void the warranty.

## Checking Shipment

For your convenience individual items will be labeled with an appropriate part number and packages labeled. Hardware, including bolts, nuts, screws and other small clips or brackets may be divided into smaller packages for ease of use and identification. Check your shipment at the time of delivery against the packing list provided with the shipment. If any items are missing or any damaged material is evident, note such shortage or damage on the freight bill before you sign the shipment paperwork. Claims of shortages will not be honored after 30 days from receipt of shipment. Parts that are missing or damaged are the responsibility of the delivering carrier, not the manufacturer or dealer. It is advisable to reorder damaged or missing parts immediately so that there will be no delay in the bin installation. After receiving the invoice for the reordered material, file a claim with the delivering carrier immediately.

## Suggested Equipment

Chief recommends the following equipment and tools needed for installation. Individual installations may vary.

- Impact wrenches and sockets
- End wrenches
- Crescent wrenches
- Vise grip pliers
- Alignment punches
- Rubber mallets
- Level
- Drill and drill bits
- Screw Guns
- Metal Saw
- Extension cords

## Hardware Torque

The following table contains recommended minimum and maximum torque values for installation.

When installing hardware the minimum and maximum torque values shown below must be followed. All hardware must seat tight against the corresponding bin component.

Bolt Diameter	Torque
5/16" (8mm)	16 ft.-lbs. (22N-m)
3/8" (10mm)	29 ft.-lbs (39N-m)
7/16" (11mm)	46 ft.-lbs. (62N-m)
1/2" (13mm)	70 ft.-lbs (95N-m)
5/8" (16mm)	140 ft.-lbs (190N-m)
3/4" (19mm)	250 ft.-lbs (340N-m)
7/8" (22mm)	400 ft.-lbs (542N-m)
1" (25mm)	600 ft.-lbs. (813N-m)
1 1/2" (29mm)	750 ft.-lbs (1017N-m)
1 1/4" (32mm)	1100 ft.-lbs (1491N-m)

## **READ THIS SECTION BEFORE ASSEMBLING, INSTALLING, OR OPERATING THE DRAG CONVEYOR.**

This section provides important cautions and recommendations relating to personal safety. If you have questions regarding safety, installation, operation, and maintenance of your Drag Conveyor that are not answered in this manual, contact Westgo Chief Philippines Corporation.

### **PERSONAL SAFETY**

Westgo Chief Philippines Corporation strongly recommends the following safety precaution be observed at all times, during assembly, installation, and operation of the Drag Conveyor.

- Make sure lighting is adequate around the area where equipment is used.
- Do not operate the conveyor until all guards have been securely installed.
- Never operate the conveyor with safety guards removed.
- Always clear the area of bystanders before starting the unit.
- Wear proper eye protection whenever operating the conveyor.
- Keep hands, feet, clothing, and hair away from all moving parts.
- Never step, walk, or ride on the conveyor. Keep off equipment at all times.
- Keep untrained personnel away from the equipment while in operation.
- Safety warning labels have been provided by Westgo Chief for the protection of personnel who operate the conveyor. Should warning labels be removed or made illegible, contact Westgo Chief for replacement safety labels.



### **Electrical Safety Recommendations**

- All electrical connections should be made by a qualified electrician.
- Check local codes before installation.
- A lockable external safety lockout switch (line disconnect) must be provided and located as close as possible to the machine.
- Always be sure that electrical outlets, tools, and components are properly grounded.
- Make sure all electrical connections are tight and the electrical cords are routed safely out of the way of traffic or protected.
- Make sure all control switches are in the off position before connecting the unit to the power source.
- Before adjusting, repairing, or cleaning the unit, shut down the conveyor and power source, lock out the power source, and make sure all moving parts have stopped.

## Chain conveyor Safety

The following decals are installed at appropriate locations. Keep the decals clean at all times. If decals are no longer readable or missing they must be replaced. Contact Westgo Chief for replacement decals.

CEMA Safety Labels

Product: Screw Conveyors

Equipment: Drag Conveyor



To be placed on removable guards to warn that operation of the machinery with guards removed would expose chains, belts, gears, shafts, pulleys, couplings, etc. which create hazards.



Located on top covers.



Located on inlets and discharges, troughs, covers, and inspection doors of screw conveyors to provide warning against exposed moving parts while in operation.

## Pre-Installation Planning Information

Chain conveyors should be preplanned to meet the project requirements. Engineering drawings will simplify the installation and should include the following:

- Site layout
- Capacities
- Location and orientation of chain conveyor
- Location of accessories

The general installation of the chain conveyor components will be in the following order.

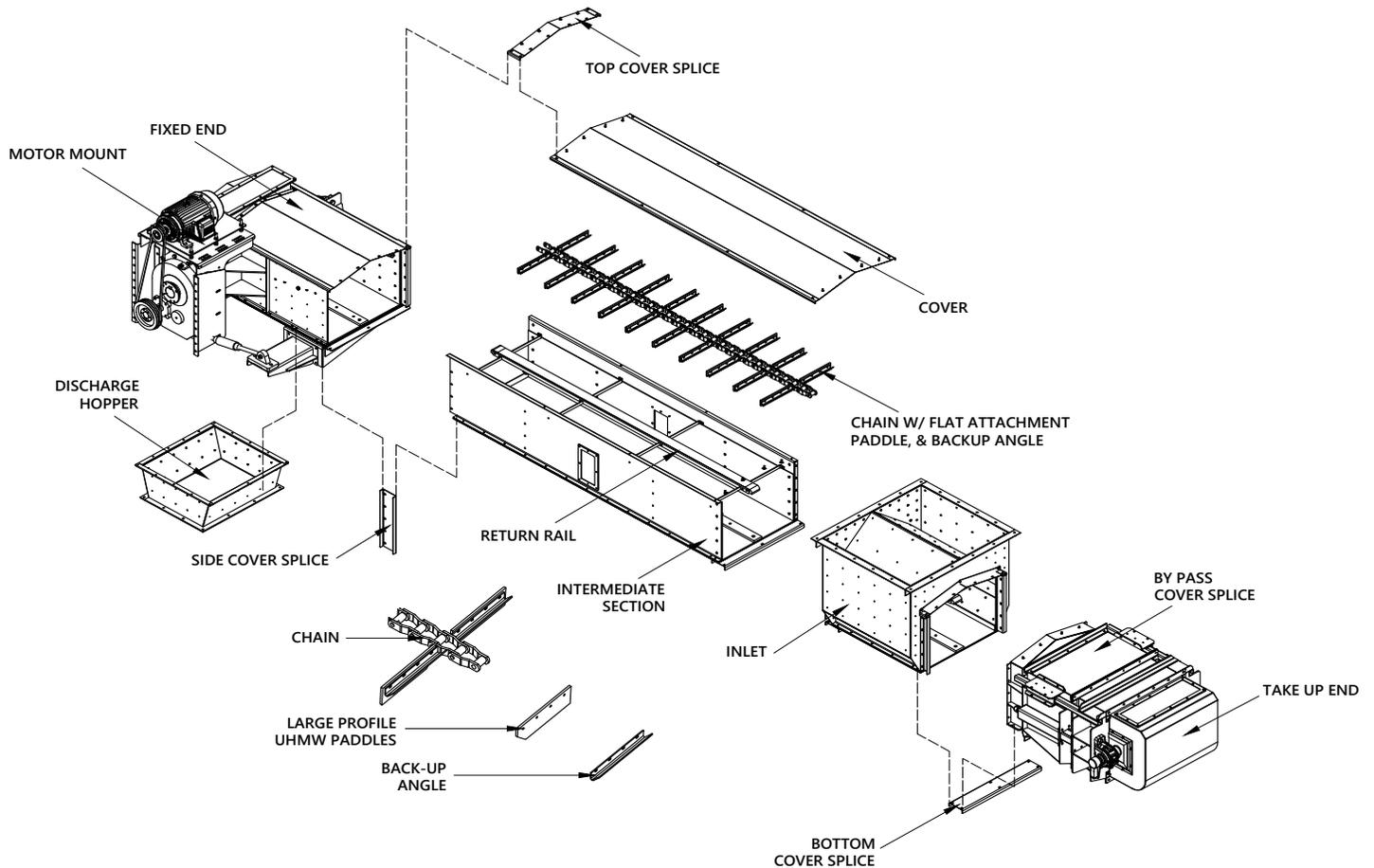
1. Install head section
2. Install intermediate sections
3. Install tail section

**Important Note:** Never weld the conveyor to the support structures. Bolting allows for realignment of sections and replacement if necessary.

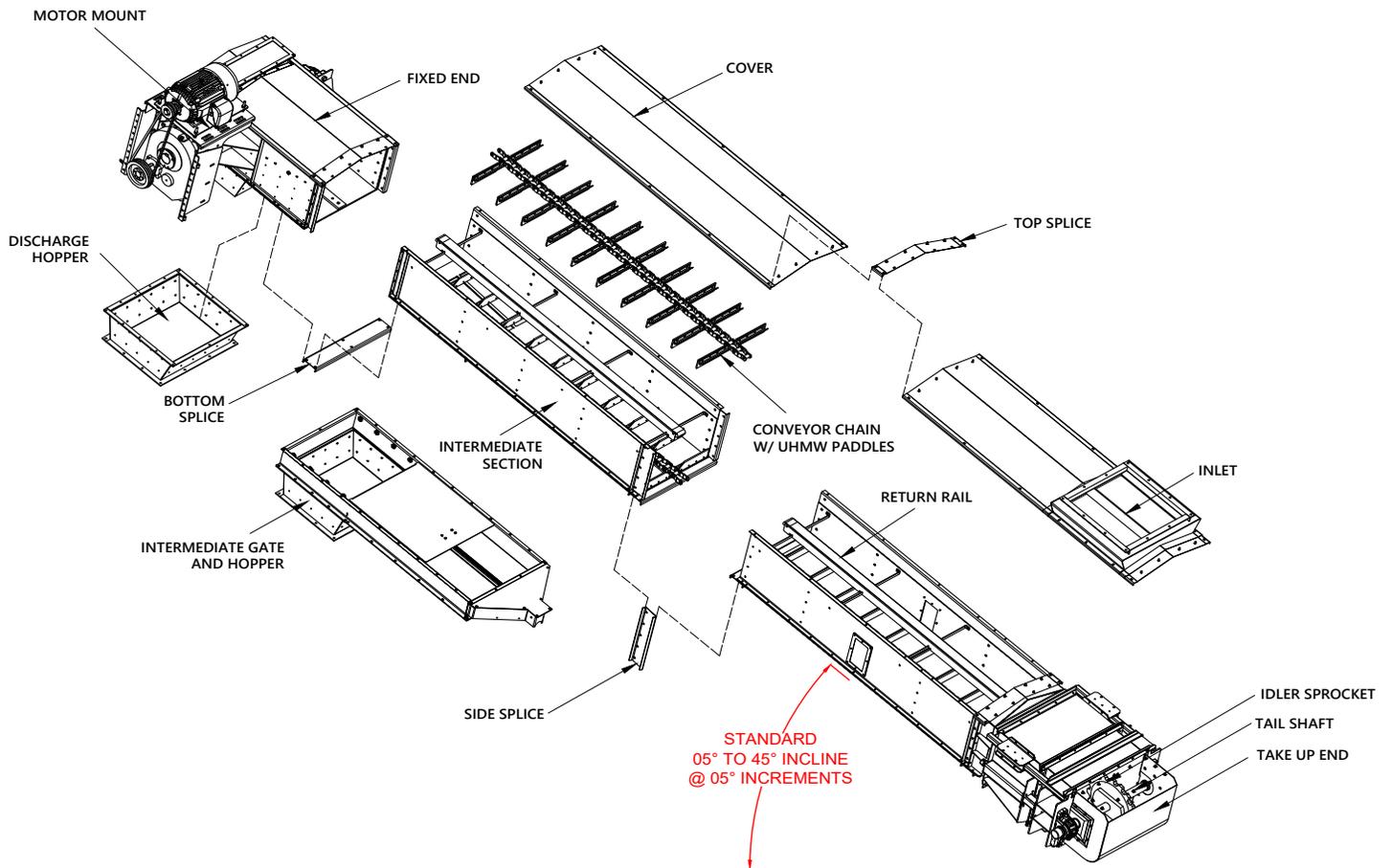
## COMPONENT IDENTIFICATION

Westgo Chief does not assume any responsibility from parts damaged due to faulty or improper installation procedures.

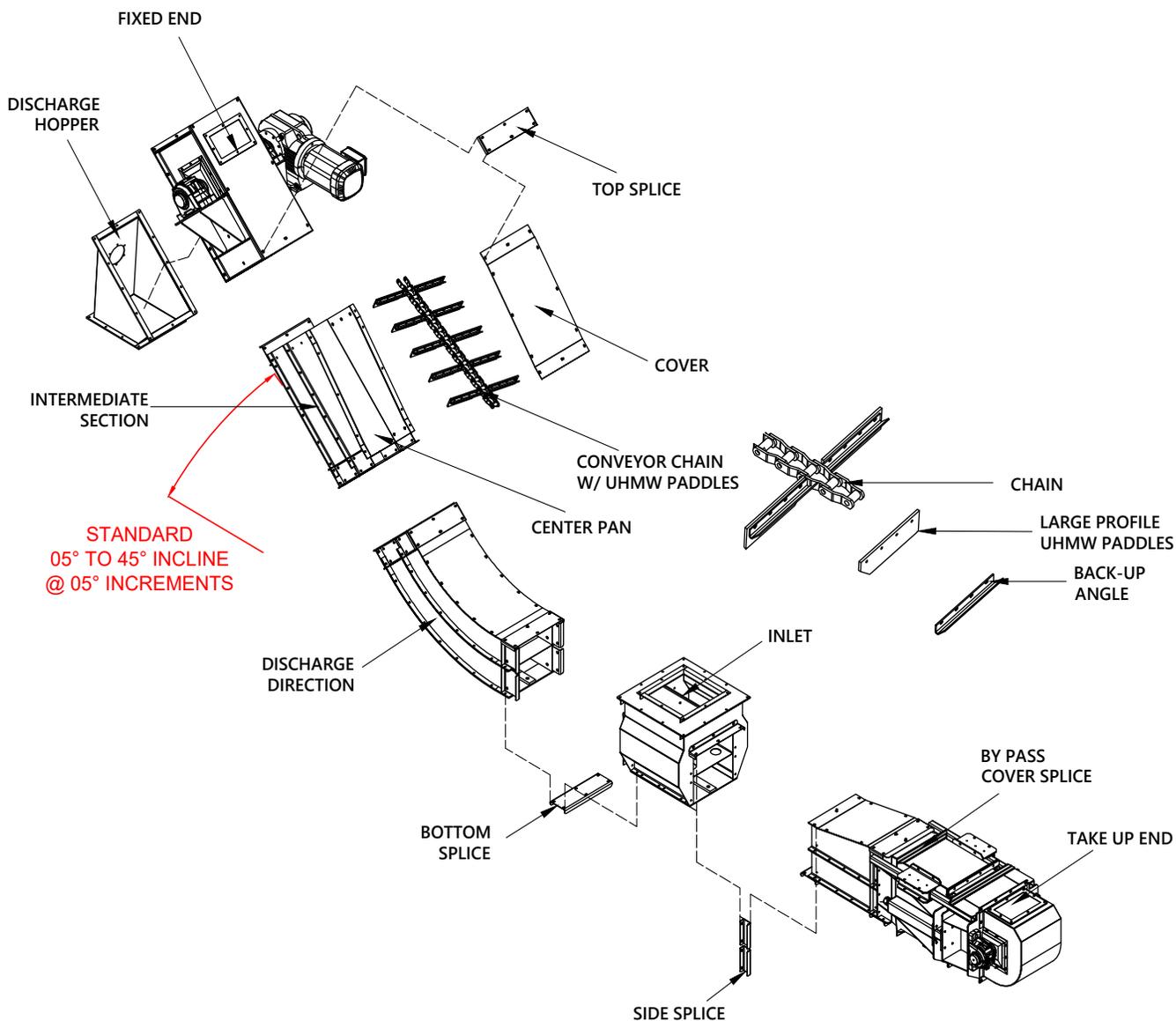
### HORIZONTAL CHAIN CONVEYOR



## INCLINE CHAIN CONVEYOR



### HORIZONTAL INCLINE CHAIN CONVEYOR



## ASSEMBLY INSTRUCTION

This section explains how to assemble the Drag Conveyor. If a question arises during the assembly procedure that is not answered in this document, contact Westgo Chief Philippines Corporation.

If the head and tail sections of your conveyor were connected for shipping, disconnect the two sections.

If the conveyor was required to be shipped knocked down (no pre-assembly), see TROUGH ASSEMBLY in the Options section of this manual and follow those instructions before proceeding here.

### ARRANGE CONVEYOR SECTIONS:

- Lay sections end-to-end as they are intended to be installed.
- Tail Section
- Trough sections, ( 3 meters standard length)
- A short trough section is generally required to complete a given overall length. A short section may be installed at any point that is convenient to the building layout. Westgo Chief suggests a 3 meter section be installed next to the head and tail sections, with any of the short sections placed in between. The head section should be connected to the 3 meter section that has the drive bracket mounted on it.
- Intermediate discharge gates are normally installed on the proper trough sections at the factory. See drag layout drawing for the correct trough position with gates.
- If gates were required to be shipped unmounted, the location of the discharges must be determined before proceeding with the assembly. Intermediate discharges CANNOT be installed over a trough joint, therefore it may be necessary to position a short section as a spacer.
- Head Section.

### CONNECTING THE SECTIONS

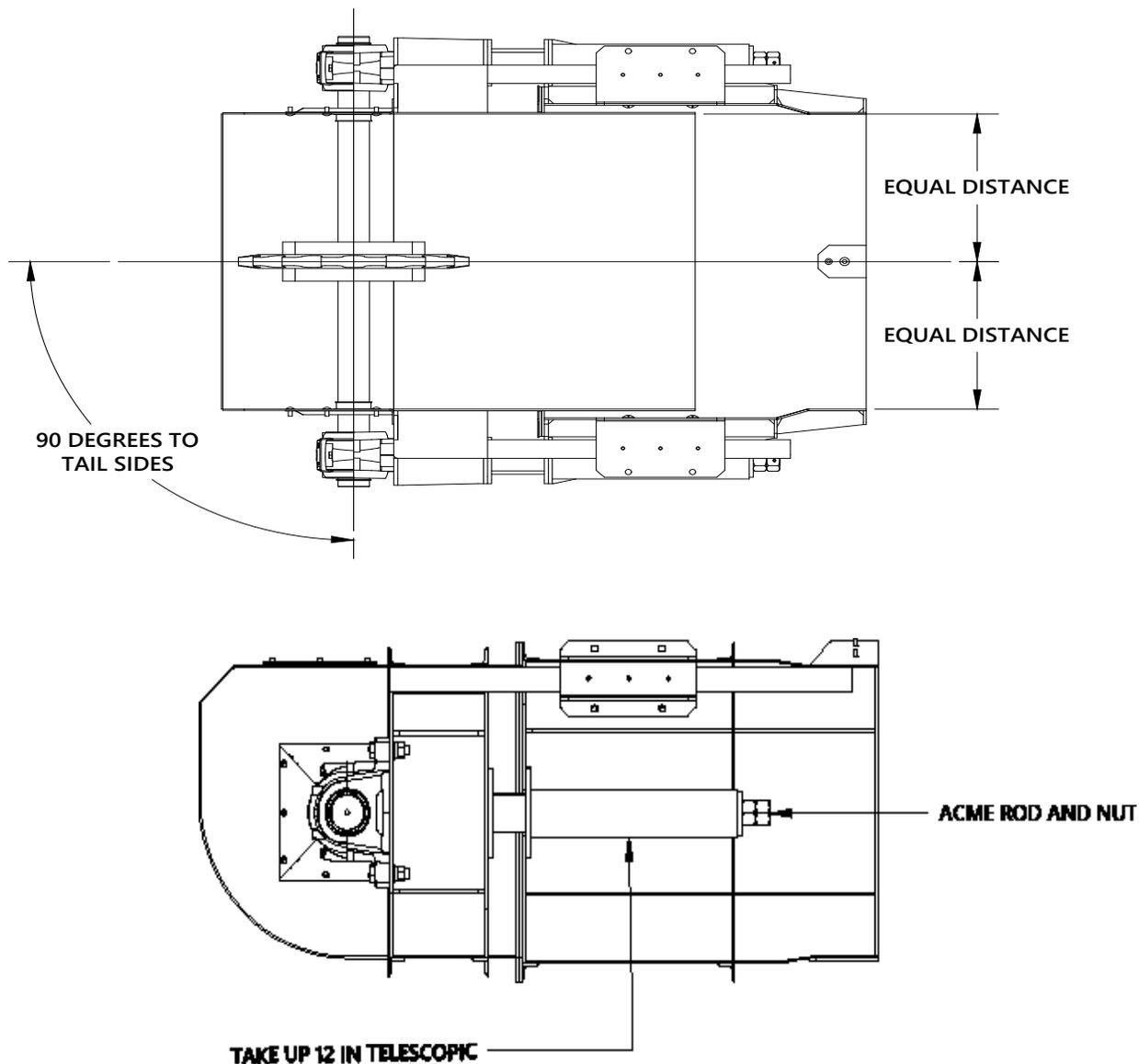
- Beginning with the tail section, connect the sections using 3/8 x1 (M10X25) hex bolts, serrated flange nut and hex nuts. Do not tighten the fasteners at this time.
- Make sure all surfaces (sides and bottom) are flush at the flange joints.
- If the trough is misaligned as little as 1/32" (0.79mm) the conveyor chain flights can catch the raw edge and may cause damage or excessive wear.
- Connect the head section using the same alignment and caution as stated previously.

## CENTERING THE HEAD SECTION CHAIN SPROCKET

- Check to make sure the center line of the sprocket tooth is of equal distance from the inside walls of the head section.
- If you need to center the sprocket, loosen the sprocket set screws and slide the sprocket on the shaft to the center position and retighten the set screws.

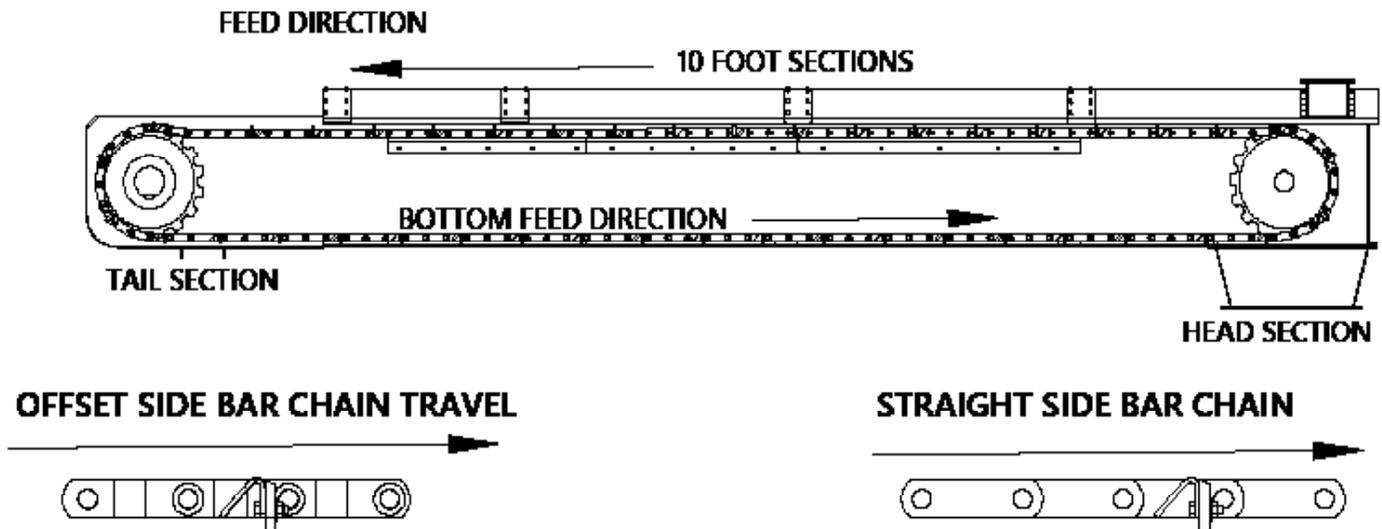
## CENTERING THE TAIL SECTION CHAIN SPROCKET

- Move the sprocket all the way forward in the tail take-up slots.
- The center of the tail shaft should measure equal distance from the end plate on both sides. If not, adjust one take-up screw until shaft is equal distance (90 degrees to tail sides) then tighten the jam nut on the take-up screws to hold sprocket in position.
- The center line of the sprocket tooth should be equal distance from the inside walls of the tail section.
- If you need to center the sprocket, loosen the sprocket set screws and slide the sprocket on the shaft to the center position and retighten the set screws.



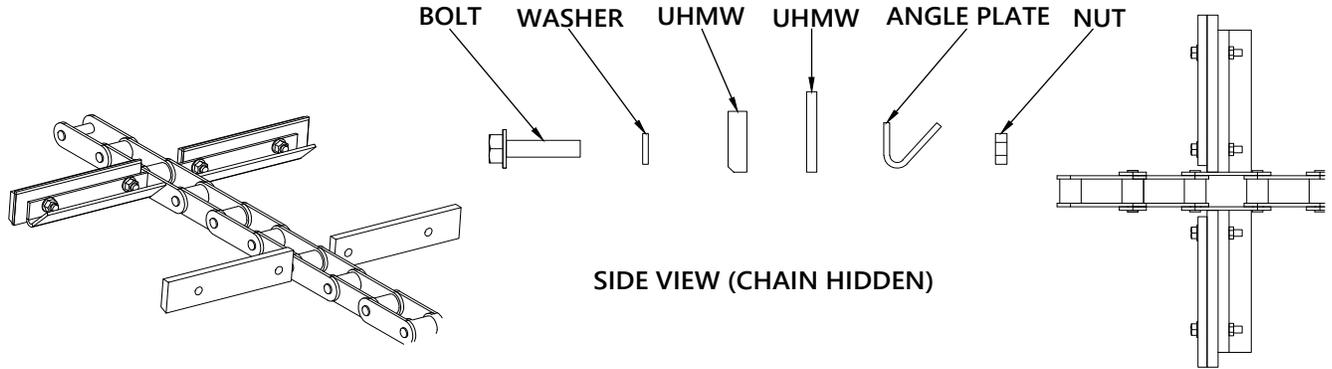
## CHAIN INSTALLATION

The chain may be installed at any time during the assembly process. The paddles are attached prior to the chain installation, with paddles bolted to every attachment.

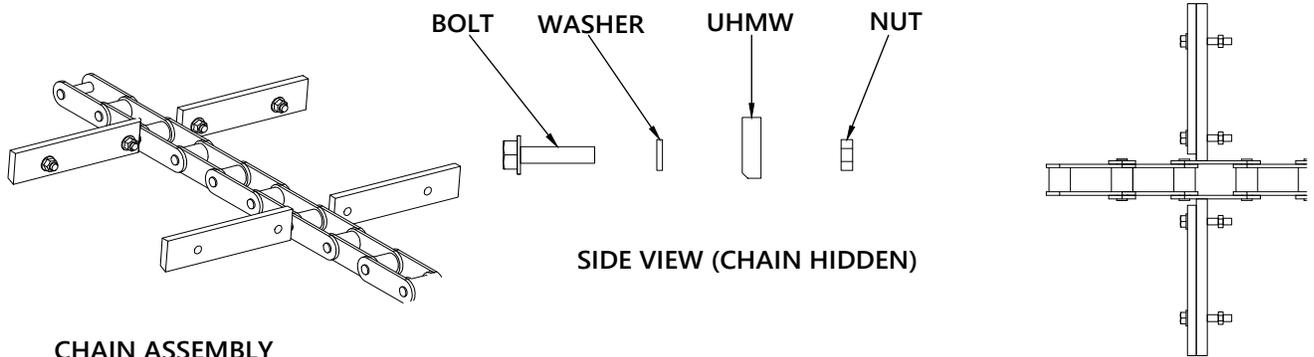


- Starting at the head end of the conveyor, feed the chain along the slide return toward the tail section.
- Continue pulling the chain along the top slide return connecting the 10 foot chain lengths with connecting links or pins as you go until the chain reaches the tail sprocket. Make sure that the take-up screws are as loose as possible.
- Bring the chain around the tail sprocket and onto the trough bottom.
- Pull the chain along the trough bottom while continuing to connect the 10 foot lengths on the top side of the return rails and feed it up and around the head sprocket until the two ends of chain meet.
- Connect the chain ends together using the pin and cotter pin located in one end of the chain. Be sure the cotter pin is installed so the head will lie in the direction of material flow. Bend the pin legs to lock it in place.
- Tighten the chain assembly using the take-up screws located on the exterior wall of the tail section.
- After the chain is tight, check the tail sprocket shaft to make sure it is perpendicular to the trough sides.
- If the shaft is not perpendicular, loosen the jam nut on the tighter of the two take-up screws and turn the take-up screw clockwise until the shaft is perpendicular.
- Lock the take-up screw in place by tightening the jam nut against the tightener frame.
- Rotate chain on the sprockets by hand at least one complete revolution and inspect to see that the flights do not catch on trough joints or they do not rub the trough sides.
- If flights catch, adjust the flange connections (Aligning the Sections).
- If flights rub, adjust the sprocket centers (Centering the Chain Sprockets).
- Repeat the above steps until the chain runs smooth.

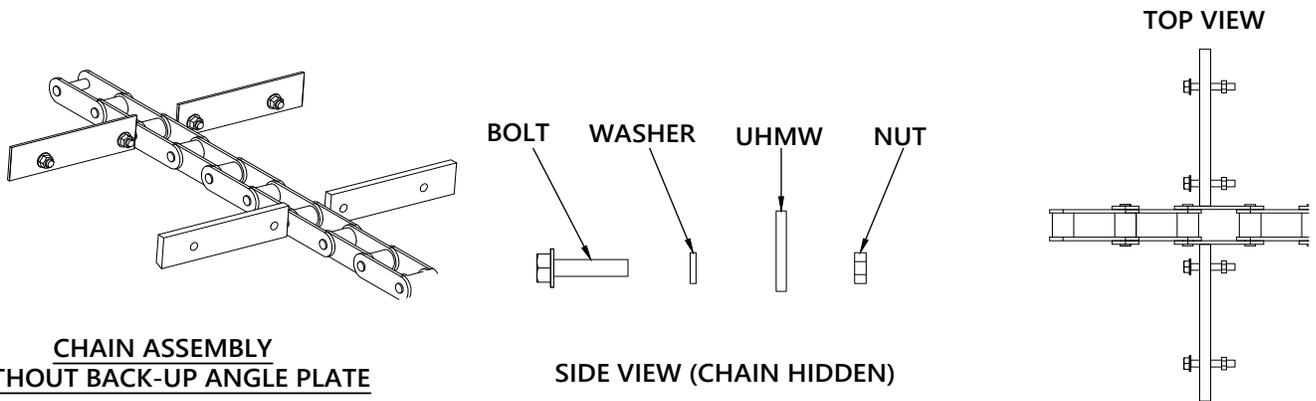
**Important note:** Attaching a come-along to each end of the chain will make the installation of the connecting link or pin easier and will help pre-tension the chain.



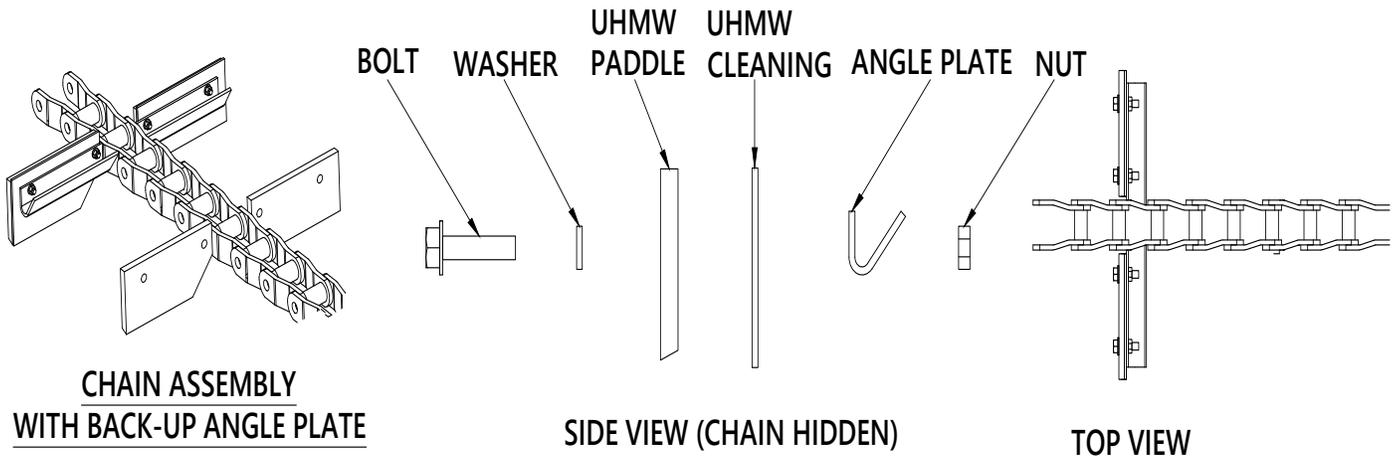
**CHAIN ASSEMBLY WITH BACK-UP ANGLE PLATE**



**CHAIN ASSEMBLY**



**CHAIN ASSEMBLY WITHOUT BACK-UP ANGLE PLATE**

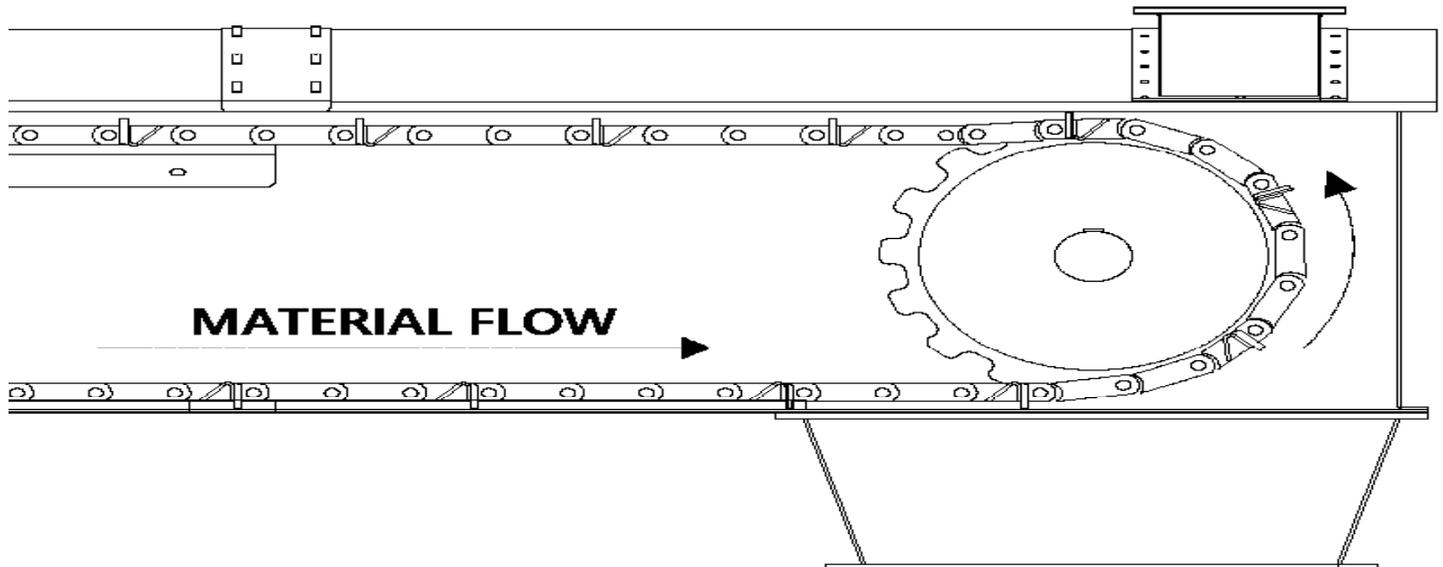


**CHAIN ASSEMBLY WITH BACK-UP ANGLE PLATE**

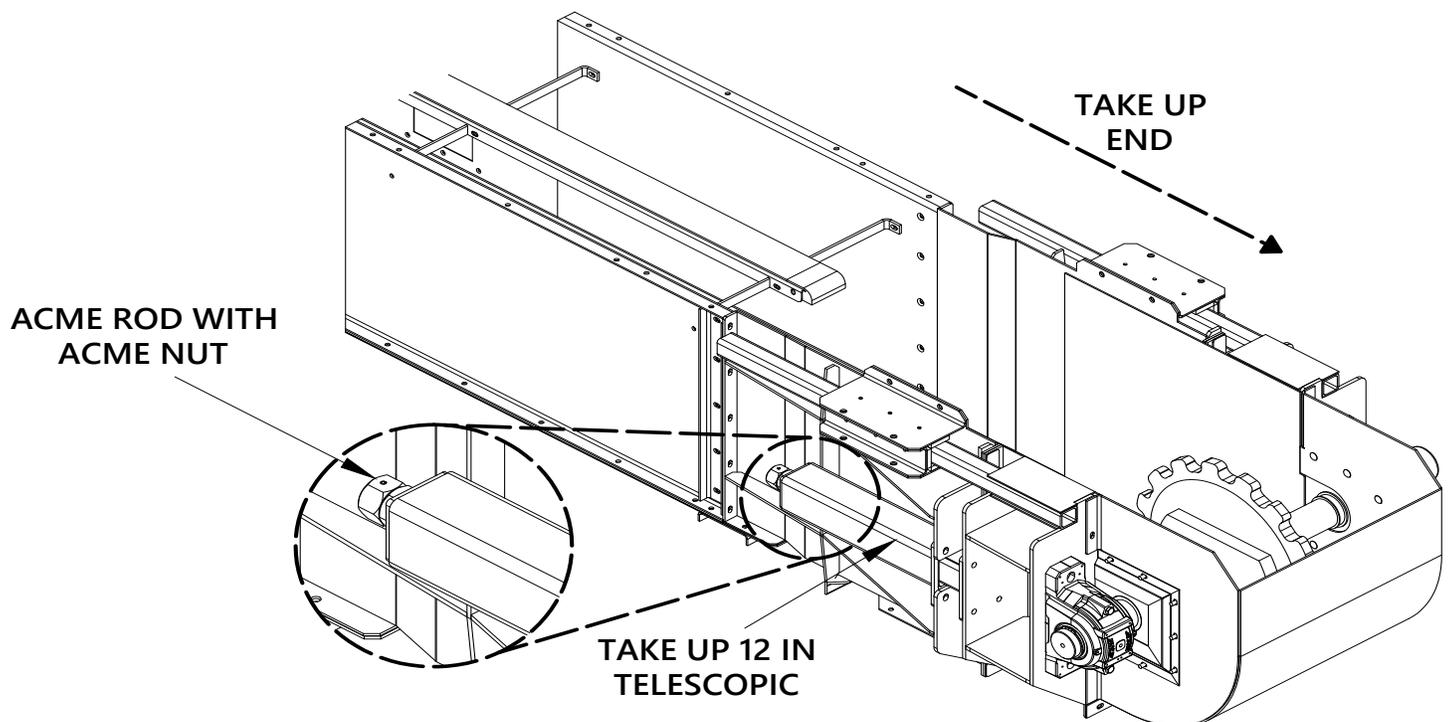
## CHAIN TENSION

The amount of chain tension required will vary with each conveyor. Conveyor capacity, conveyor length, characteristics of the conveyed product, and chain speed will factor into the chain tension required for a conveyor.

The chain tension will need to be tight enough, so it does not jump a sprocket tooth or accumulate enough slack on the return side at the driven sprocket to cause the chain to catch an additional tooth as the chain continues to wrap around the sprocket. Correct tension will prevent either a loose condition or excessive tension resulting in premature failure of the chain and sprocket.

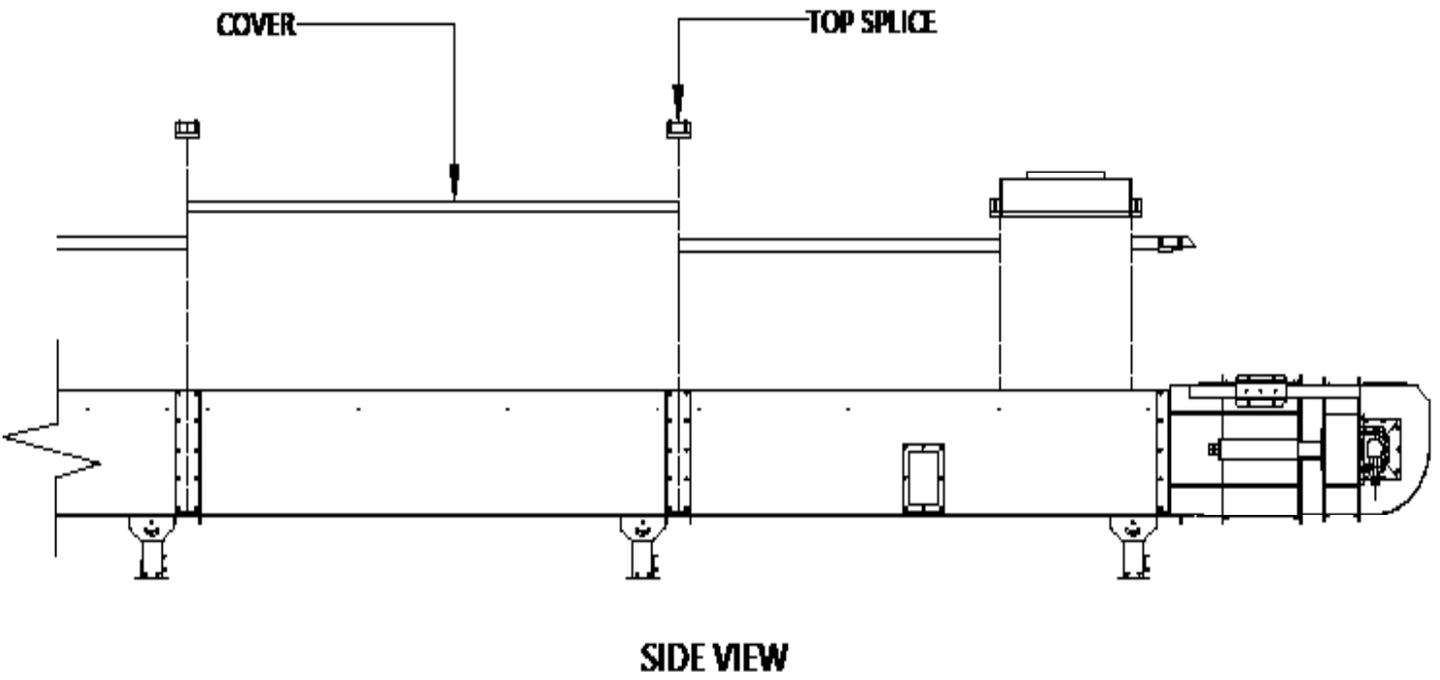
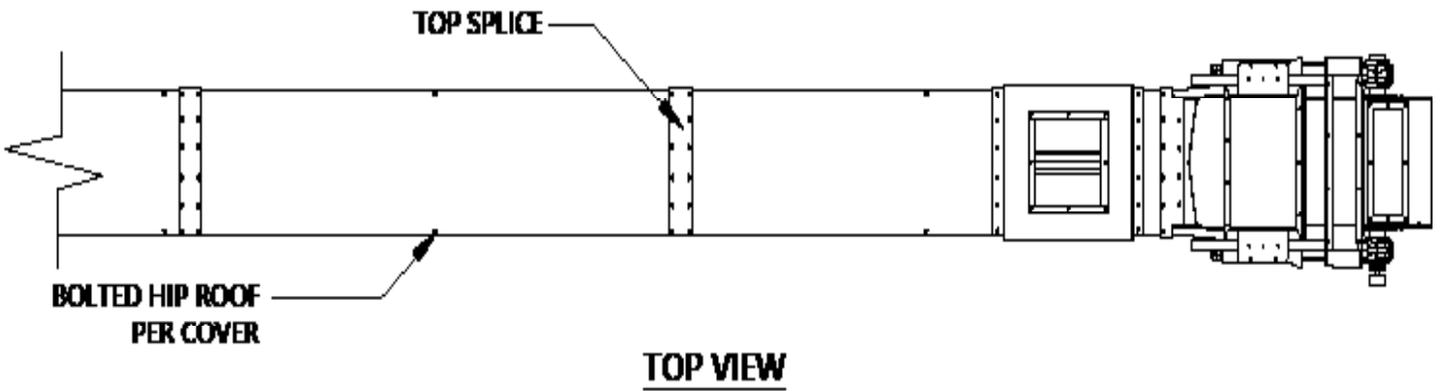


To tighten the chain, adjust the take up screws evenly to reduce the center distance between the conveyor shafts as shown in the following illustration. Eliminate the slack in the chain using a take-up device. Remove any extra chain links and rejoin chain. Then re-adjust the take-up screws evenly to achieve the required chain tension. Once proper chain adjustment is achieved, torque the jamb nuts to prevent loosening of the chain.



## COVERS INSTALLATION

- Starting with the tail section cover, lay conveyor covers on the top of the conveyor.
- Starting with the tail cover first (no seal plate) followed by the 3 meters sections with the seal plate ends towards the tail attach the cover clamps.



## INTERMEDIATE GATE COMPONENTS

- If your conveyor was equipped with electrically operated discharge gates, you will need to mount electrical components to the gate.
- If your conveyor was equipped with air operated discharge gates you will need to adjust electrical components on the gate.

### Connect Electrical Components

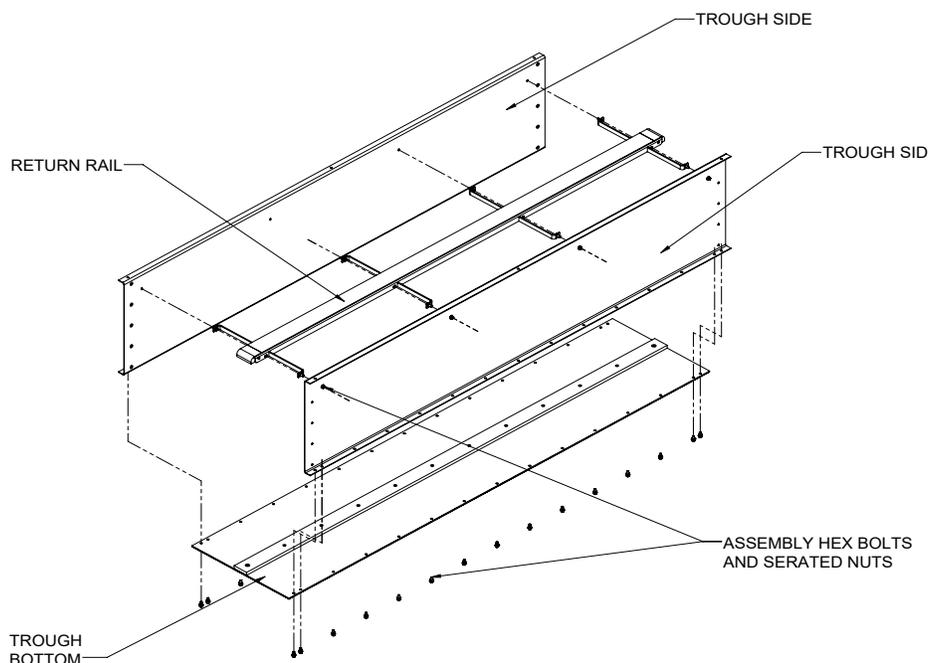
- All electrical connections should be made by a qualified electrician.
- Follow all local and applicable codes for installation.

**Important note:** A lockable, external safety lockout switch (line disconnect) must be provided and located as close as possible to the machine.

- Drive motor
  1. Before connecting motor to power source, you must check for correct conveyor rotation.
  2. Connect motor to power source. Run briefly to check rotation and connect accordingly.

## THROUGH ASSEMBLY

- Assemble trough bottom to trough sides using hex bolts, nuts and lock washers provided. (Do not tighten at this time.)
- Feed return rail support rods through side then into return rail pipes and through opposite trough side. Install lock washers and nuts onto the support rods. (Do not tighten at this time.)
- Make sure trough end flanges are flush and trough is square then tighten all bolts.
- When you have completed this section return to ARRANGE CONVEYOR SECTIONS in the assembly section of this manual.



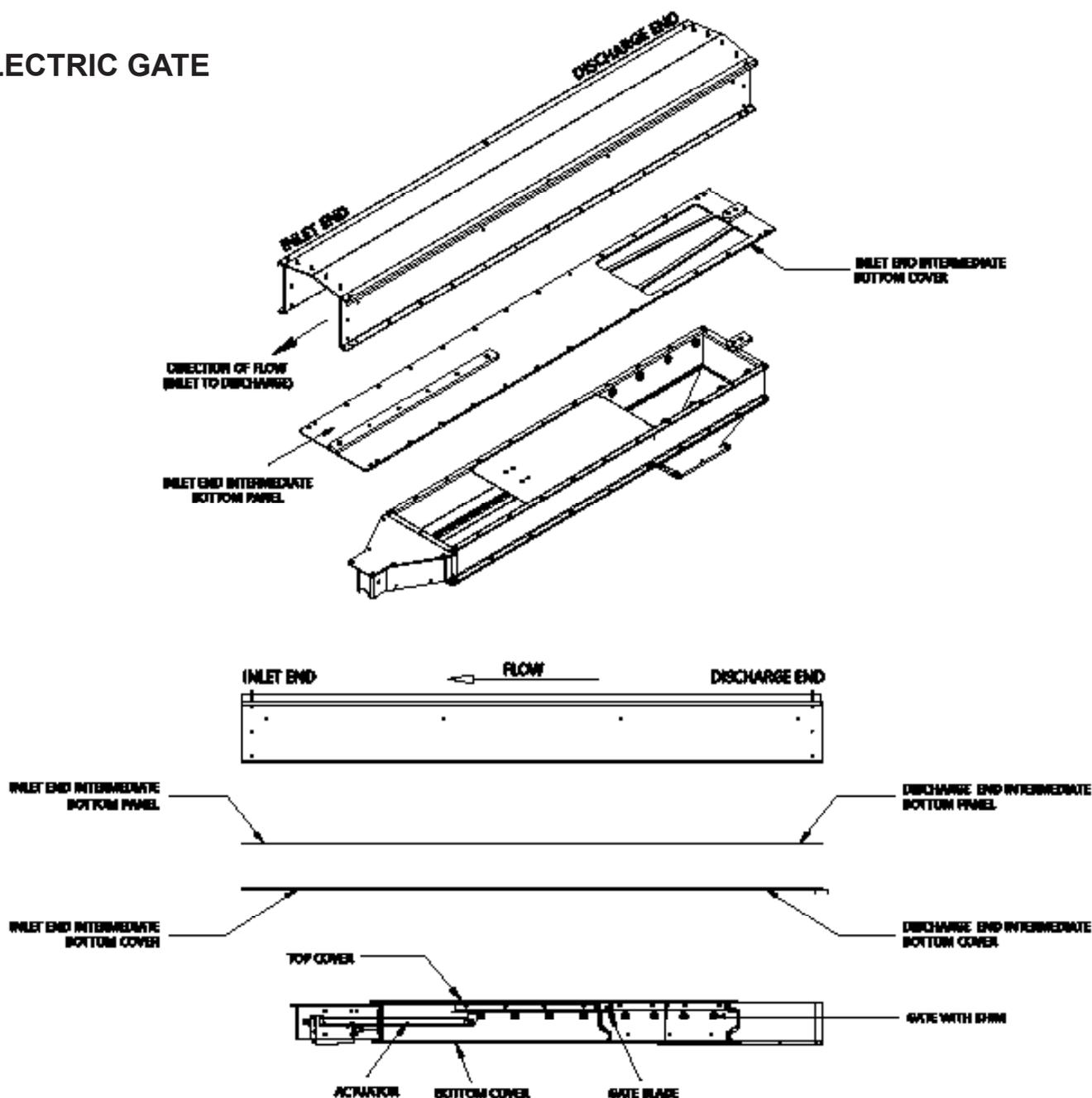
## DISCHARGE GATE INSTALLATION

- Determine gate location on trough section.
- Gate opening in trough bottom MUST BE AT LEAST 4" (100mm) from trough joint.
- Remove trough bottom and cut out 30" (762mm) at proper location.

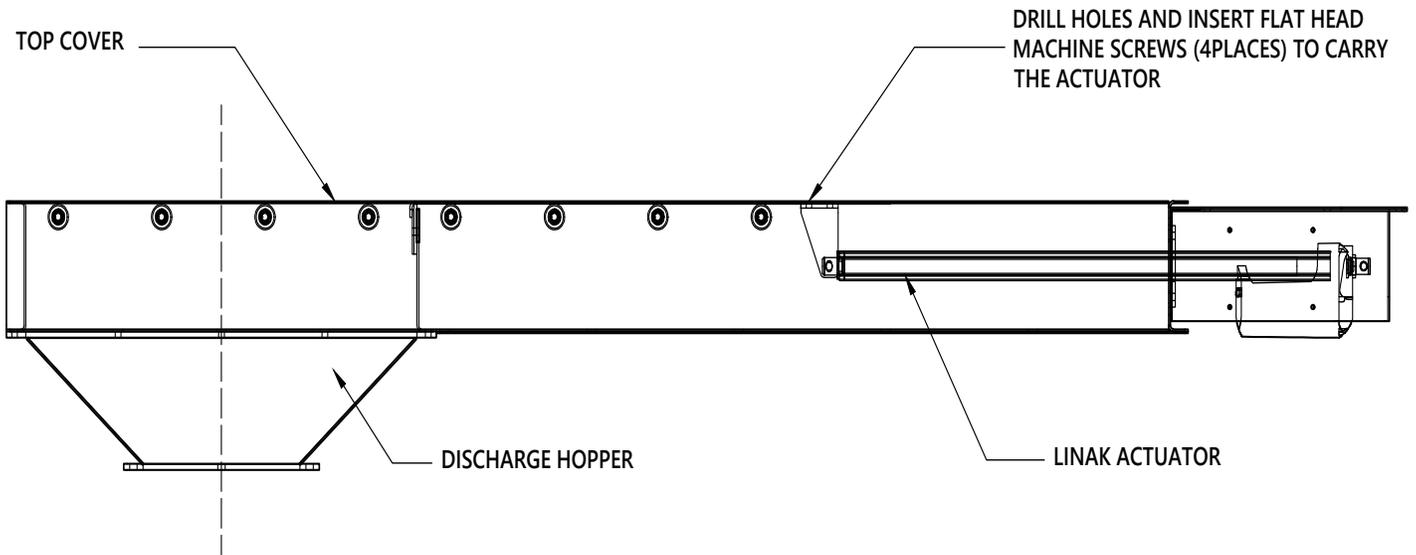
**Important note:** Gates cannot be located over a trough joint.

- Bolt trough bottom pieces back to bottom of trough.
- Clamp gate up to trough bottom. Make sure gate housing extends out the correct side of trough for your installation.
- Operate Gate Blade back and forth by hand and adjust gate location on trough bottom opening until gate blade slides free.
- With gate securely clamped in place, use gate flange bolt holes as a guide and drill the trough bottom and trough side flanges. (Four holes)

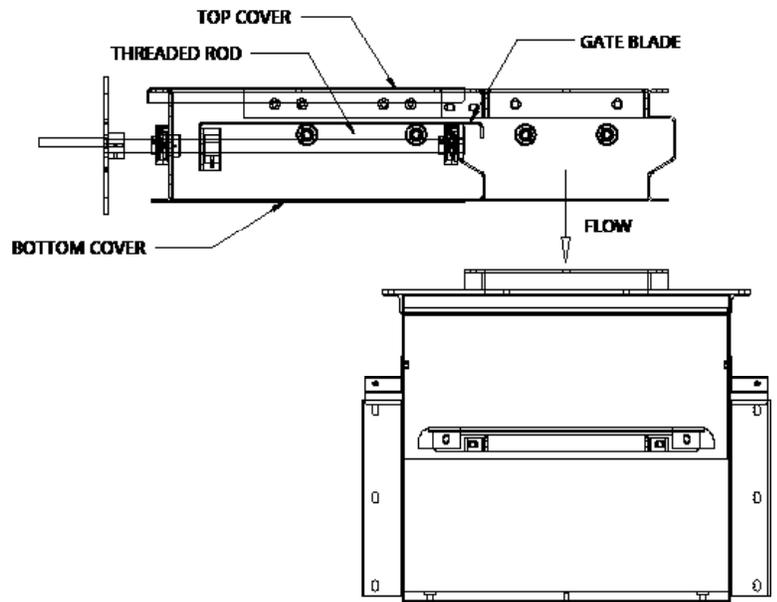
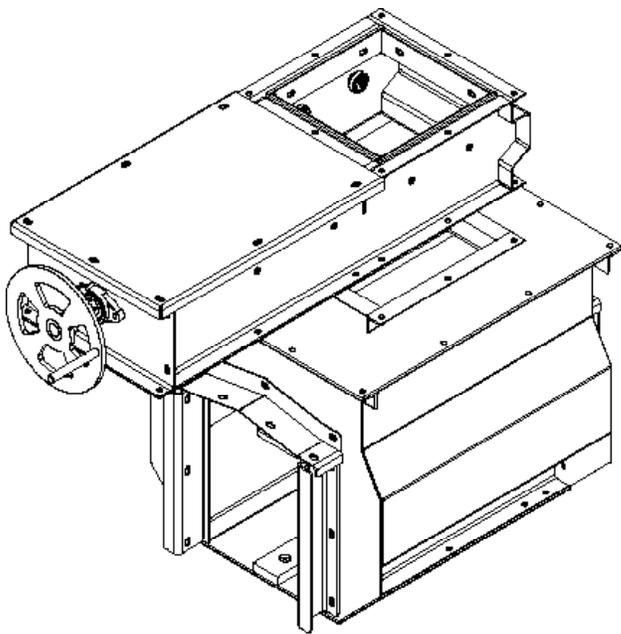
## ELECTRIC GATE



- Fasten gate to trough with (4) 3/8" x 1" hex bolts, nuts and lock washers.
- Mount gate top covers and discharge hopper.



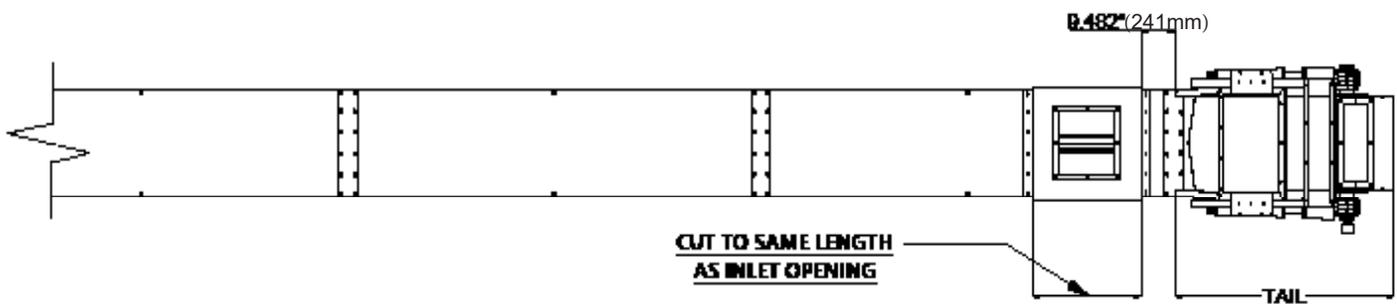
## MANUAL GATE



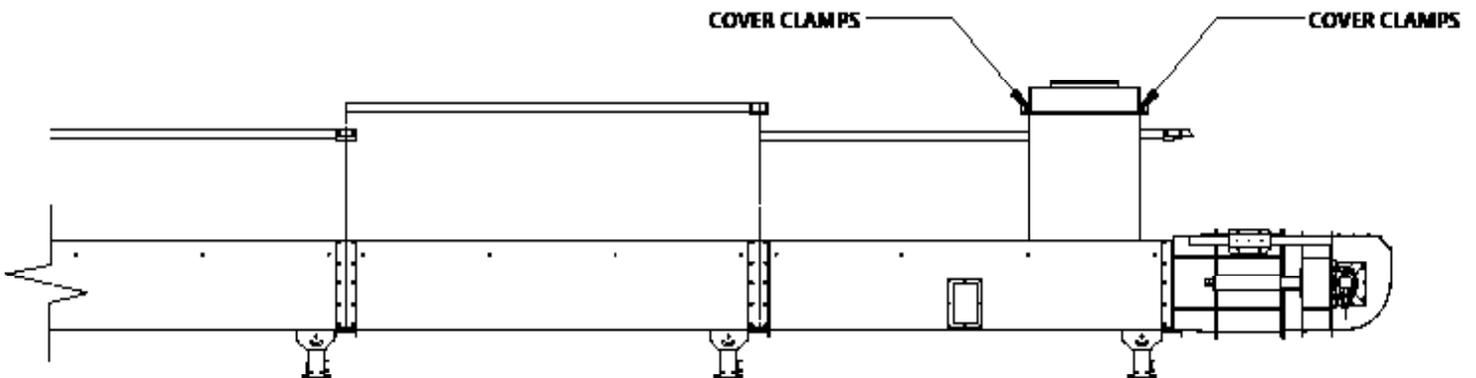
## INLET INSTALLATION

### Inlet Options

- Conveyor covers are not cut at the factory for inlet installation.
- Locate desired inlet locations.
- Cut cover at required installation point.
- Cut off required amount of cover for inlet.
- Install inlet in same manner as a cover piece and install bolt and nuts.



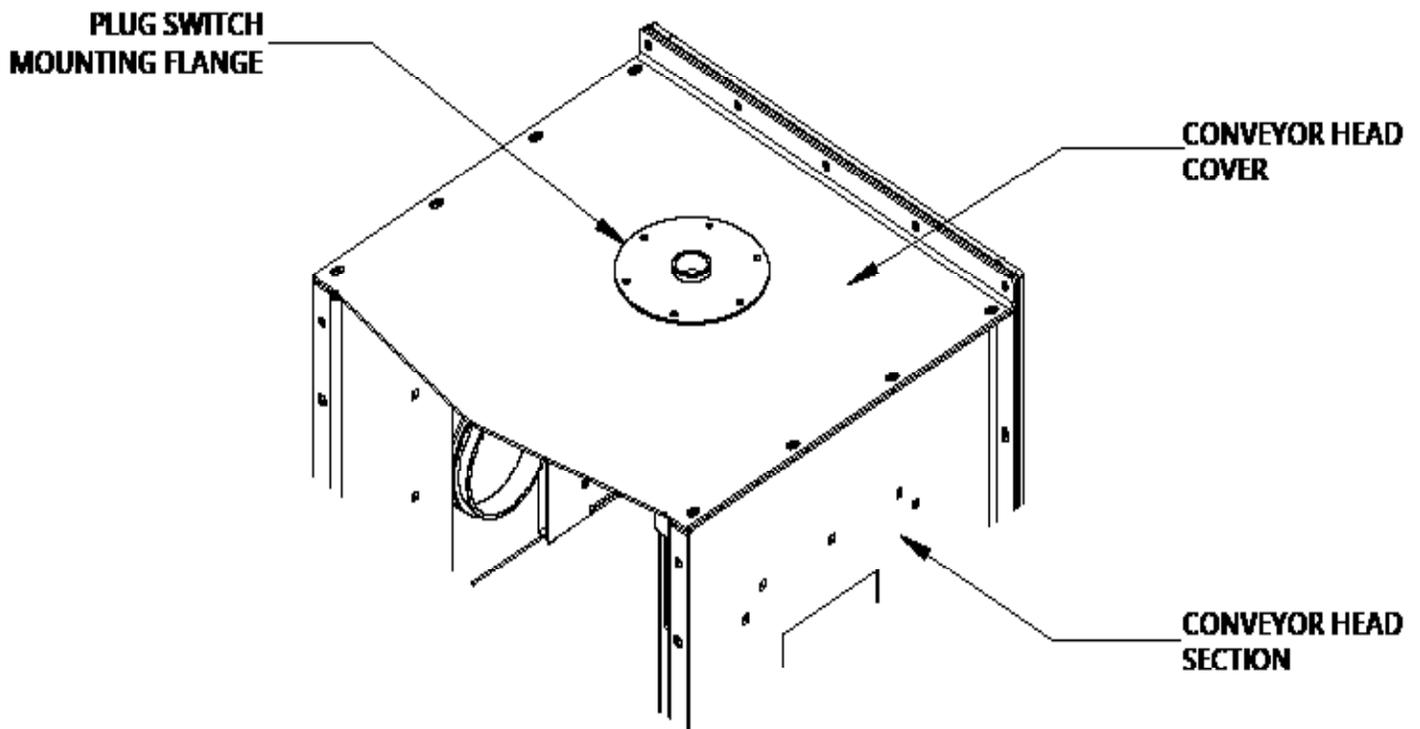
**TOP VIEW**



**SIDE VIEW**

## Plug Switch

- The plug switch is located on the head section cover. The head section cover has a switch adapter flange welded to it.
- Mount plug switch to the head section cover using the bolts provided.
- When you have completed this section return to **INSTALLING DRIVE** in the assembly section.



## START-UP AND OPERATION

Prior to operating the conveyor, check all areas for safety issues and machine damage which could occur during operation. Follow all manufacturers' pre-start up instructions for each individual component provided with your conveyor. In addition verify the following:

- All debris is removed from the conveyor.
- Conveyor sections are properly aligned and square.
- Return rails and idler rollers turn freely.
- Paddles do not interfere with sides of conveyor.
- All hardware is in place with correct torque.
- Dive and take up sprockets are centered across the width of the conveyor and square with the conveyor housing.
- Secure set screws in bearings, drive sheaves, head and tail shafts, and gear drive and drive sprocket key is secured in place.
- Chain tension is correct.
- Inspection section panels in place and properly secured.
- Discharge area free of obstructions.
- Gear drive installed to manufacturer specifications.
- Gear drive has lubricant and is filled to proper level.
- Safety restrictions on electric controls.
- Electrical equipment is installed to meet national electric code and/ or local safety codes, including explosion. Proof equipment where required.

After an initial pre-start inspection, operate the chain conveyor empty under power for a period of time to verify the chain is tracking correctly on the sprockets and idlers. If there is excess slack in the chain, adjust the take up evenly. Monitor the belts and sheaves for correct belt tension and sheave alignment.

Verify all gates and accessories for proper operation and monitor conveyor for unusual operation. Complete any necessary adjustments and verify all covers are installed correctly.

To complete a conveyor system, material feed and discharge connections must be made to the chain conveyor. Complete these connections prior to placing the chain conveyor into service.

Since the conveyor has been previously operated without material, it may now be tested under load. It is suggested that the flow systems be verified next. Allow only a small amount of material to enter the conveyor while it is running. Verify that the material can flow through the system connections, gates, etc. for proper operation. Once all flow paths have been verified, the conveyor may be gradually loaded to capacity. When the conveyor is operating at full capacity verify the following:

- Correct movement of material
- Electrical current draw on the motor (amperage)

**After the first 8-10 hours of operation inspect the following:**

- Verify all paddle attachment bolts are tight.
- Verify that the tracking of the chain is correct.
- Check the drive components.
- Check gear reducer for overheating or oil leakage.

**Operating Instruction**

1. After the installer/contractor has performed the initial start-up and break in inspection, it is his responsibility to instruct the owner in the proper operation and maintenance of this equipment. Use the following checklist.
2. Location of start/stop station(s).
3. Location of safety lockout switch/system.
4. Operation of inlet and discharge gates.
5. Machinery that must be running prior to starting the conveyor.
6. Shut down sequence.
7. Instruction on various maintenance procedures and other recommendations found in this manual.
8. How to clear plugs, foreign objects, etc. from the system.
9. Due to the variety of installation applications, the operating procedure can only be described in a general manner as shown above.

## Periodic Maintenance

The following are guidelines for maintaining the conveyor. Operators will have to determine what inspection and service intervals are necessary for their application. Factors to consider are the frequency of operation and the operating environment of the equipment.

### Daily

- Always be aware of the normal operating sounds. If any abnormal sounds occur, stop the conveyor, find the source of the noise, then lock out power to conveyor and repair the problem.

### Weekly

- Lubricate bearings according to manufacturer specifications.

### Monthly

- Check V-belt tension and overall condition. Replace if worn, frayed, or cracked.
- Check that set screws in pulleys and bearings are tight. If necessary tighten to manufacturers' specifications.
- Check for missing or damaged paddles. Replace if necessary. Check paddle bolts for tightness. Check attachments to chain. If attachments are slightly bent and do not appear to be in danger of separating from the chain and the attachments are not having an adverse effect upon the capacity, replacement is not necessary. Check that the conveyor chain is properly tensioned and is tracking correctly.
- Check oil level in gearbox and inspect seals for signs of leakage. Follow manufacturer's specifications for oil level and oil change periods.
- Check that the motor is clean and properly ventilated.
- Lubricate motor according to manufacturer's specifications and intervals.

### Quarterly

- Check all conveyor components for loose or missing fasteners.
- Check safety guards for interference with moving parts.

## Troubleshooting

Items shown below are an aide to troubleshooting when a problem is encountered. Some causes can be corrected by reviewing certain areas of the assembly instructions. When checking conveyor capacities, note that rated capacities are calculated using 75% cup fill.

### **Problem: Measured capacity is reduced from the rated capacity**

- a. Possible cause: Incorrect shaft RPM
  - i. Possible reason or solution
    - 1. Undersized gear drive
    - 2. Incorrect sheave orientation
- b. Possible cause: Loose chain
  - i. Possible reason or solution
    - 1. Incorrect chain speed
- c. Possible cause: Incorrect feed
  - i. Possible reason or solution
    - 1. Incorrect grain flow at inlet
- d. Possible cause: Conveyor incline level
  - i. Possible reason or solution
    - 1. 5% maximum incline level
- e. Possible cause: Conveyor plugging
  - i. Possible reason or solution
    - 1. Check and clear discharge opening

### **Problem: Noisy operation**

- a. Possible cause: Loose paddles
  - i. Possible reason or solution
    - 1. Tighten or replace fasteners
- b. Possible cause: Conveyor bottoms not aligned
  - i. Possible reason or solution
    - 1. Check intermediate bottom joints and verify they are flush
- c. Possible cause: Damaged chain attachments
  - i. Possible reason or solution
    - 1. Replace attachments
- d. Possible cause: Worn idler roller or rail return
  - i. Possible reason or solution
    - 1. Replace components
- e. Possible cause: Drive components
  - i. Possible reason or solution
    - 1. Check oil level

**Problem: Uneven paddle wear**

- a. Possible cause: Conveyor misalignment
  - i. Possible reason or solution
    - 1. Align conveyor sections from head to tail
- b. Possible cause: Sprocket slipped
  - i. Possible reason or solution
    - 1. Check set screws on sprocket.
    - 2. Center and square sprocket in opening and tighten set screws

**Problem: Excessive carry-over of material**

- a. Possible cause: Chain riding over material
  - i. Possible reason or solution
    - 1. Verify maximum incline is not above 5%
- b. Possible cause: Gates not fully open
  - i. Possible reason or solution
    - 1. Check gate operation

**Problem: Uneven sprocket wear**

- a. Possible cause: Worn chain
  - i. Possible reason or solution
    - 1. Replace chain
- b. Possible cause: Incorrect sprocket alignment
  - i. Possible reason or solution
    - 1. Center and square sprocket in opening and tighten set screws