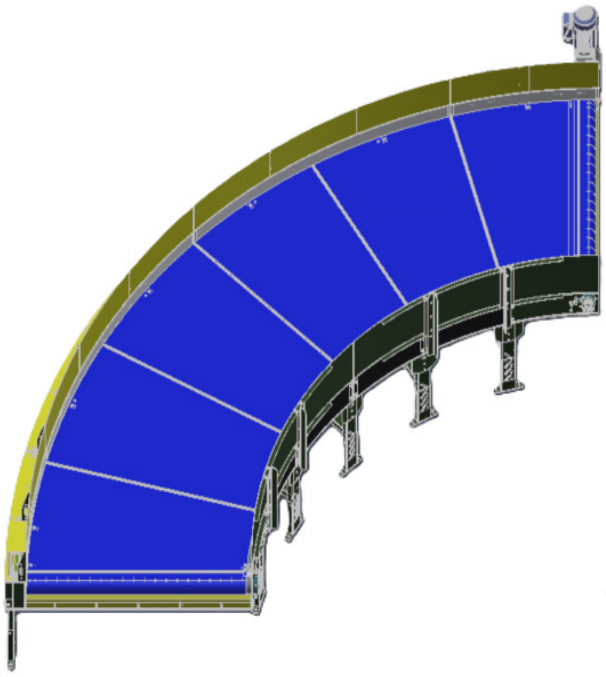
# SBC-SQ
# INSTALLATION AND MAINTENANCE MANUAL



| MODEL | BULLETIN | EFFECTIVE DATE |
| --- | --- | --- |
| SBC-SQ | # 757 | AUGUST 2025 |

870.935.3700 | www.Hytrol.com | 2020 Hytrol St. Jonesboro, AR 72401

# TABLE OF CONTENTS

# LIST OF FIGURES

# 1 INTRODUCTION

This manual provides guidelines and procedures for installing, operating, and maintaining your conveyor. A complete parts list is provided with recommended spare parts highlighted in gray.

Important safety information is also provided throughout the manual. For safety to personnel and for proper operation of your conveyor, it is recommended that you read and follow the instructions provided in this manual.

## 1.1 RECEIVING AND UNCRATING

- Check the number of items received against the bill of lading.
- Examine condition of equipment to determine if any damage occurred during shipment.
- Move all crates to area of installation.
- Remove crating and check for optional equipment that may be fastened to the conveyor. Make sure these parts (or any foreign pieces) are removed.

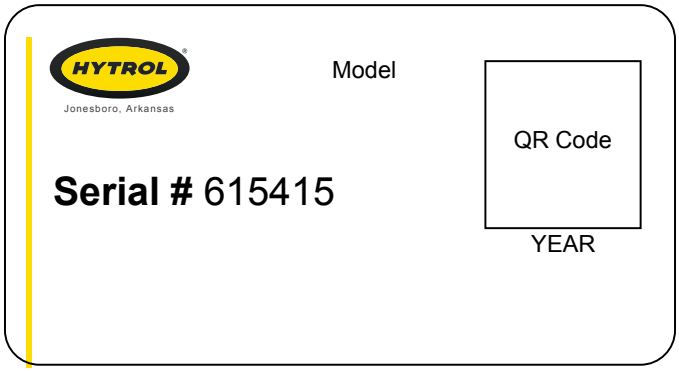
## 1.2 HOW TO ORDER REPLACEMENT PARTS

Included in this manual are parts drawings with complete replacement parts lists. Minor fasteners, such as nuts and bolts, are not included.

When ordering replacement parts:

- Contact dealer from whom conveyor was purchased or nearest Hytrol Integration Partner.
- Give Conveyor **Factory Order Number/Serial Number.**
- Give complete description from **Parts List.**
- If you are in a breakdown situation, call our Customer Care team at 1-844-4HYTROL.

**NOTE:**
If damage has occurred or freight is missing, contact your Hytrol Integration Partner.



# 2 SAFETY INFORMATION

## 2.1 INSTALLATION

### GUARDS AND GUARDING

**Interfacing of Equipment:** When two or more pieces of equipment are interfaced, special attention shall be given to the interfaced area to ensure the presence of adequate guarding and safety devices.

**Guarding Exceptions:** Whenever conditions prevail that would require guarding under these standards, but such guarding would render the conveyor unusable, prominent warning means shall be provided in the area or on the equipment in lieu of guarding.

**Guarded by Location or Position:** Where necessary for the protection of employees from hazards, all exposed moving machinery parts that present a hazard to employees at their work station shall be mechanically or electrically guarded, or guarded by location or position.

- Remoteness from frequent presence of public or employed personnel shall constitute guarding by location.
- When a conveyor passes over a walkway, roadway, or work station, it is considered guarded solely by location or position if all moving parts are at least 8 ft. (2.44 m) above the floor or walking surface or are otherwise located so that the employee cannot inadvertently come in contact with hazardous moving parts.
- Although overhead conveyors may be guarded by location, spill guards, pan guards, or equivalent shall be provided if the product may fall off the conveyor for any reason and if personnel would be endangered.

### HEADROOM

- When conveyors are installed above exit passageways, aisles, or corridors, there shall be provided a minimum clearance of 6 ft. 8 in. (2.032 m) measured vertically from the floor or walking surface to the lowest part of the conveyor or guards.
- Where system function will be impaired by providing the minimum clearance of 6 ft. 8 in. (2.032 m) through an emergency clearance, alternate passageways shall be provided.
- It is permissible to allow passage under conveyors with less than 6 ft. 8 in. (2.032 m) clearance from the floor for other than emergency exits if a suitable warning indicates low headroom.

# 2.2 OPERATION

A. Only trained employees shall be permitted to operate conveyors. Training shall include instruction in operation under normal conditions and emergency situations.

B. Where employee safety is dependent upon stopping and/or starting devices, they shall be kept free of obstructions to permit ready access.

C. The area around loading and unloading points shall be kept clear of obstructions which could endanger personnel.

D. No person shall ride the load-carrying element of a conveyor under any circumstances unless that person is specifically authorized by the owner or employer to do so. Under those circumstances, such employee shall only ride a conveyor which incorporates within its supporting structure platforms or control stations specifically designed for carrying personnel. Under no circumstances shall any person ride on any element of a vertical conveyor.

E. Personnel working on or near a conveyor shall be instructed as to the location and operation of pertinent stopping devices.

F. A conveyor shall be used to transport only material it is capable of handling safely.

G. Under no circumstances shall the safety characteristics of the conveyor be altered if such alterations would endanger personnel.

H. Routine inspections and preventive and corrective maintenance programs shall be conducted to ensure that all safety features and devices are retained and function properly.

I. Personnel should be alerted to the potential hazard of entanglement in conveyors caused by items such as long hair, loose clothing, and jewelry.

J. Conveyors shall not be maintained or serviced while in operation unless proper maintenance or service requires the conveyor to be in motion. In this case, personnel shall be made aware of the hazards and how the task may be safely accomplished.

K. Conveyor owners should ensure proper safety labels are affixed to the conveyor, to warn of particular hazards involved in operation of their conveyors.

**CAUTION!**

Because of the many moving parts on the conveyor, all personnel in the area of the conveyor need to be warned that the conveyor is about to be started.

# 2.3 MAINTENANCE

Refer to ANSI Z244.1-1982, American National Standard for Personnel Protection – Lockout/Tagout of Energy Sources – Minimum Safety Requirements and OSHA Standard Number 29 CFR 1910.147 “The Control of Hazardous Energy (Lockout/Tagout).”

- All maintenance, including lubrication and adjustments, shall be performed only by qualified and trained personnel.
- It is important that a maintenance program be established to ensure that all conveyor components are maintained in a condition which does not constitute a hazard to personnel.
- When a conveyor is stopped for maintenance purposes, starting devices or powered accessories shall be locked or tagged out in accordance with a formalized procedure designed to protect all persons or groups involved with the conveyor against an unexpected start.
- Replace all safety devices and guards before starting equipment for normal operation.
- Whenever practical, DO NOT lubricate conveyors while they are in motion. Only trained personnel who are aware of the hazard of the conveyor in motion shall be allowed to lubricate.

**Safety Guards**
Maintain all guards and safety devices IN POSITION and IN SAFE REPAIR.

**Safety Labels**
In an effort to reduce the possibility of injury to personnel working around Hytrol conveying equipment, safety labels are placed at various points on the equipment to alert them of potential hazards. Please check equipment and note all safety labels. Make certain your personnel are alerted to and obey these warnings. See Safety Manual for examples of warning labels.

**REMEMBER**

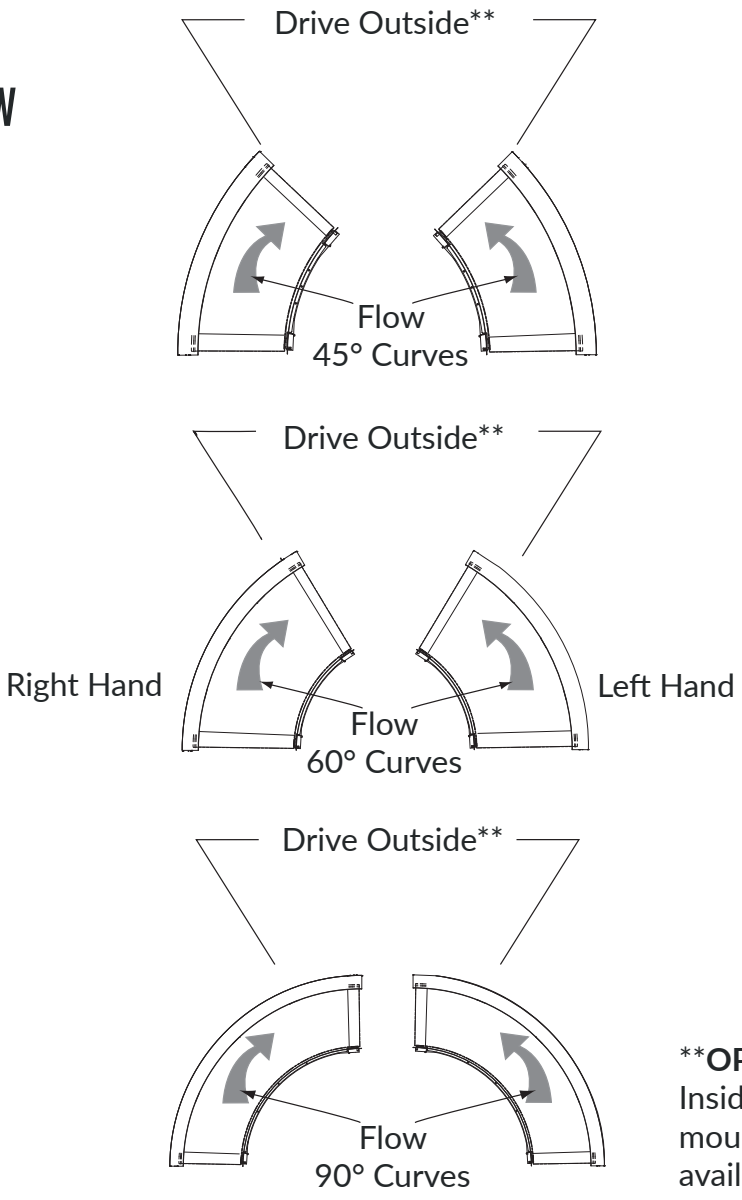
Do not remove, reuse or modify material handling equipment for any purpose other than it’s original intended use.

# 3 INSTALLATION

## 3.1 CONVEYOR SET-UP

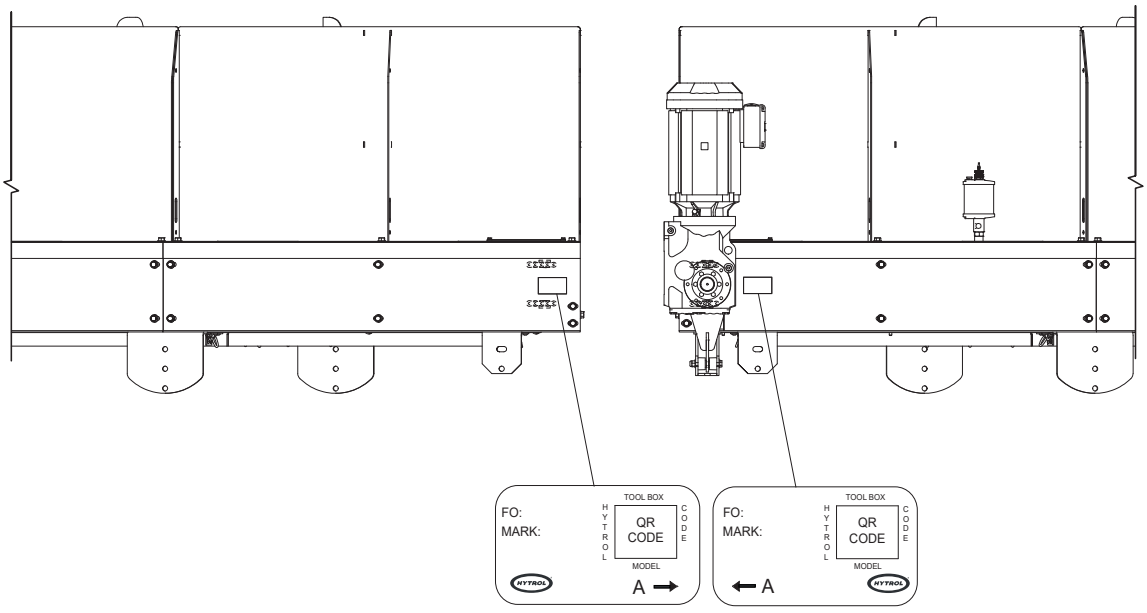
1. Determine direction of product flow. The drive is located at the discharge end of the Model SBC-SQ (Figure 1).
2. Refer to “Match-Mark” numbers on ends of conveyor sections (Figure 2). Position them in this sequence near the area of installation.
3. Attach supports to both ends of drive section and to one end of intermediate or tail sections (Figure 3). Hand tighten bolts only at this time. Adjust elevation to required height.
   - **NOTE:** If ceiling hangers are used, see section 3.2 Ceiling Hanger Installation on page 10.
4. Install electrical controls and wire motor.

### FIGURE 1: PRODUCT FLOW




****OPTIONAL:** Inside drive mounting available

# FIGURE 2: MATCH MARK

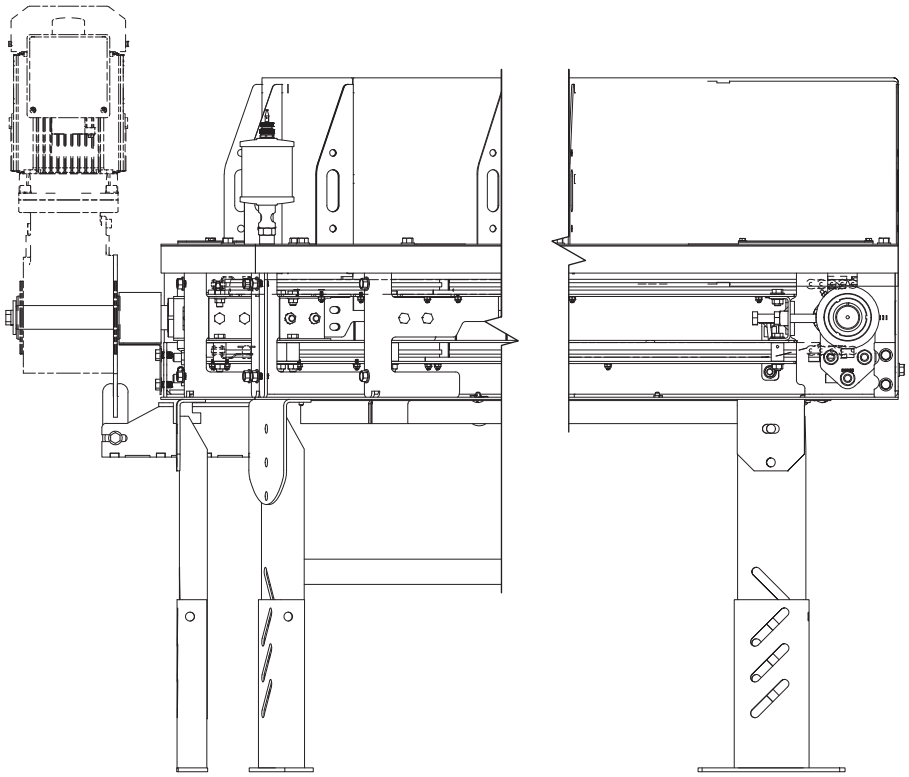



**"MATCH-MARK" NUMBERS**

*(NÚMEROS DE "MARCA DE REFERENCIA")*

# FIGURE 3: SUPPORT INSTALLATION

Adjust to Desired Elevation



HPS Floor Support

HSN Center Leg Only

# 3.2 CEILING HANGER INSTALLATION

If conveyors are to be used in an overhead application, ceiling hangers may have been supplied in place of floor supports.

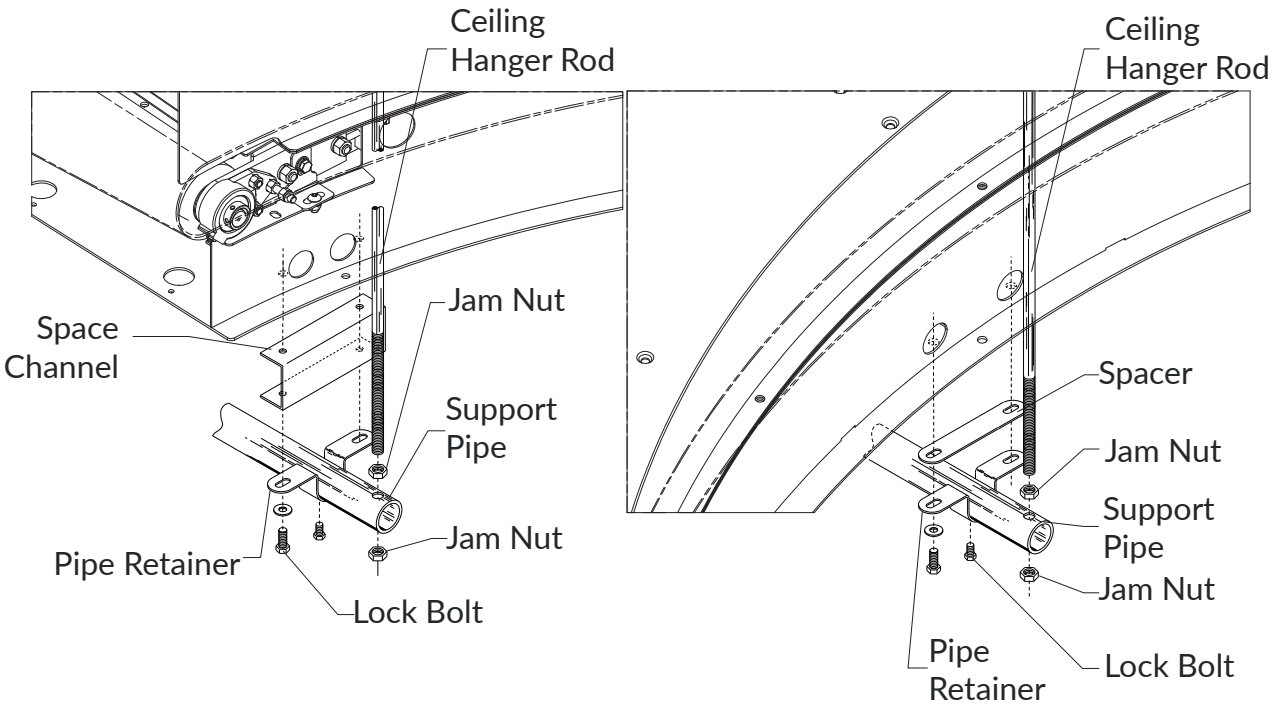
Figures 4.1 and 4.2 show how a ceiling hanger mounts to a conveyor section. Ceiling hangers should be mounted at section joints. Ceiling hanger rods need to be at a minimum of 3 inches from the inside channel.

For safety information concerning conveyors mounted overhead, refer to section 2.1 Installation on page 5.

**NOTE:**

When installing ceiling hanger rods in an existing building, all methods of attachment must comply with local building codes.

## FIGURES 4.1 AND 4.2: CEILING HANGER INSTALLATION



# 3.3 ELECTRICAL EQUIPMENT

**CONTROLS**

Electrical Code: All motor controls and wiring shall conform to the National Electrical Code (Article 670 or other applicable articles) as published by the National Fire Protection Association and as approved by the American Standards Institute, Inc.

**CONTROL STATIONS**

A. Control stations should be so arranged and located that the operation of the equipment is visible from them, and shall be clearly marked or labeled to indicate the function controlled.

B. A conveyor which would cause injury when started shall not be started until employees in the area are alerted by a signal or by a designated person that the conveyor is about to start.
   - When a conveyor would cause injury when started and is automatically controlled or must be controlled from a remote location, an audible device shall be provided which can be clearly heard at all points along the conveyor where personnel may be present. The warning device shall be actuated by the controller device starting the conveyor and shall continue for a required period of time before the conveyor starts. A flashing light or similar visual warning may be used in conjunction with or in place of the audible device if more effective in particular circumstances.
   - Where system function would be seriously hindered or adversely affected by the required time delay or where the intent of the warning may be misinterpreted (i.e., a work area with many different conveyors and allied devices), clear, concise, and legible warning shall be provided. The warning shall indicate that conveyors and allied equipment may be started at any time, that danger exists, and that personnel must keep clear. The warnings shall be provided along the conveyor at areas not guarded by position or location.

C. Remotely and automatically controlled conveyors, and conveyors where operator stations are not manned or are beyond voice and visual contact from drive areas, loading areas, transfer points, and other potentially hazardous locations on the conveyor path not guarded by location, position, or guards, shall be furnished with emergency stop buttons, pull cords, limit switches, or similar emergency stop devices.
   - All such emergency stop devices shall be easily identifiable in the immediate vicinity of such locations unless guarded by location, position, or guards. Where the design, function, and operation of such conveyor clearly is not hazardous to personnel, an emergency stop device is not required.
   - The emergency stop device shall act directly on the control of the conveyor concerned and shall not depend on the stopping of any other equipment. The emergency stop devices shall be installed so that they cannot be overridden from other locations.

D. Inactive and unused actuators, controllers, and wiring should be removed from control stations and panel boards, together with obsolete diagrams, indicators, control labels, and other material which serve to confuse the operator.

## SAFETY DEVICES

A. All safety devices, including wiring of electrical safety devices, must be arranged to operate in a “Fail-Safe” manner, that is, if power failure or failure of the device itself would occur, a hazardous condition must not result.
B. Emergency Stops and Restarts: Conveyor controls must be arranged that, in case of emergency stop, manual reset or start at the location where the emergency stop was initiated, must be required of the conveyor(s) and associated equipment to resume operation.
C. Before restarting a conveyor which has been stopped because of an emergency, an inspection of the conveyor must be made and the cause of the stoppage determined. The starting device must be locked out before any attempt is made to remove the cause of stoppage, unless operation is necessary to determine the cause or to safely remove the stoppage.

Refer to ANSI Z244.1-1982, American National Standard for Personnel Protection – Lockout/Tagout of Energy Sources – Minimum Safety Requirements and OSHA Standard Number 29 CFR 1910.147 “The Control of Hazardous Energy (Lockout/Tagout).”

**WARNING!**

Electrical controls shall be installed and wired by a qualified electrician. Wiring information for the motor and controls are furnished by the equipment manufacturer.

# 4 OPERATION

## 4.1 OPERATION SET-UP

1. Only trained employees shall be permitted to operate conveyors. Training shall include instruction in operation under normal conditions and emergency situations.
2. Where employee safety is dependent upon stopping and/or starting devices, they shall be kept free of obstructions to permit ready access.
3. The area around loading and unloading points shall be kept clear of obstructions which could endanger personnel.
4. No person shall ride the load-carrying element of a conveyor under any circumstances unless that person is specifically authorized by the owner or employer to do so. Under those circumstances, such employee shall only ride a conveyor which incorporates within its supporting structure, platforms or control stations specifically designed for carrying personnel. Under no circumstances shall any person ride on any element of a vertical conveyor. Owners of conveyors should affix warning devices to the conveyor reading. Do not ride conveyor.
5. Personnel working on or near a conveyor shall be instructed as to the location and operation of pertinent stopping devices.
6. A conveyor shall be used to transport only material it is capable of handing safety.
7. Under no circumstances shall the safety characteristics of the conveyor be altered if such alterations would endanger personnel.
8. Routine inspections and preventive and corrective maintenance programs shall be conducted to ensure that all safety features and devices are retained and function properly.
9. Personnel should be alerted to the potential hazard of entanglement in conveyors caused by items such as long hair, loose clothing, and jewelry.
10. As a general rule, conveyors should not be cleaned while in operation. Where properly cleaning requires the conveyor to be in motion and a hazard exists, personnel should be made aware of the associated hazard.

## 4.2 CONVEYOR START-UP

Before the conveyor is turned on, check for foreign objects that may have been left inside conveyor during installation. These objects could cause serious damage during start-up.

After the conveyor has been turned on and is operating, check all moving parts to make sure they are working freely.

**CAUTION!**

Because of the many moving parts on the conveyor, all personnel in the area of the conveyor need to be warned that the conveyor is about to be started.

# 5 MAINTENANCE

## 5.1 LUBRICATION

Open up the valve of the lubricator via the flow spring adjustment until oil is seen slowly moving through the sight glass (Figure 5). Chain lubrication should be checked weekly and flow adjusted accordingly.

The chain should appear moist when properly lubricated. If oil is dripping from the tails, then the flow needs to be turned down. If the chain appears dry, then the flow needs to be turned up.

While the conveyor is running, the flow control should be set to the “on” position. During prolonged periods of down time, the flow control should be set to the “off” position.

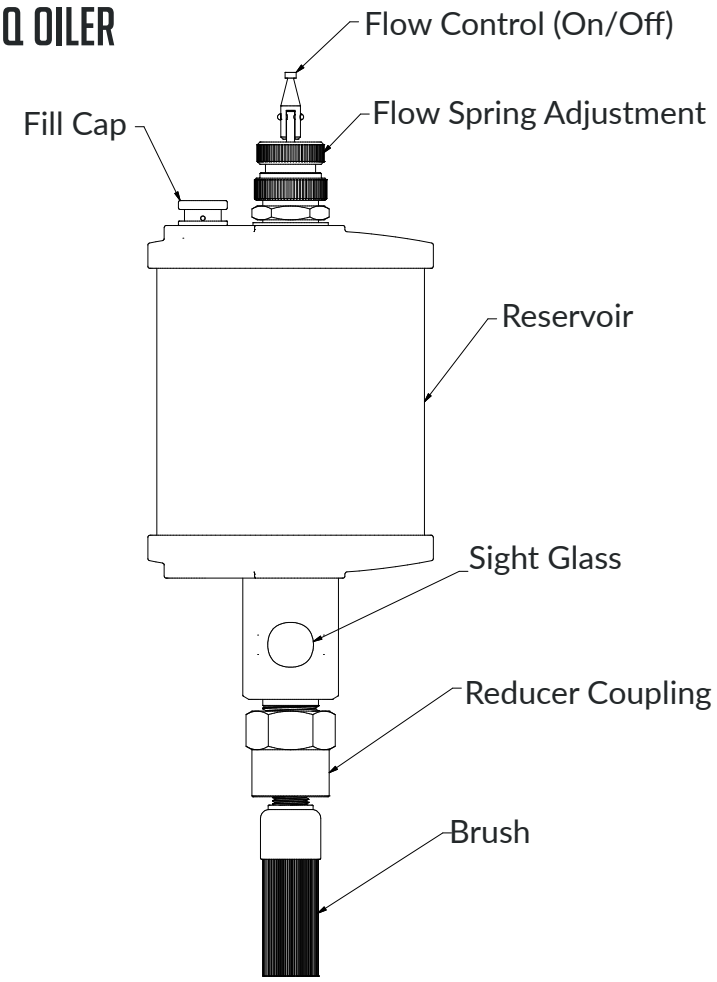
**BEARINGS**
**STANDARD:** Supplied sealed and pre-lubricated. No lubrication required.

**REDUCERS**
**MANUFACTURED BY HYTROL:** See separate manual in Packing Envelope that contains lubrication and maintenance instructions for HYTROL’s gear reducer.

**MANUFACTURED BY OTHERS:** Refer to their recommendations.

**CHAINS**
**PURCHASED BY HYTROL:** Chain curves are shipped with a starting dose of the Moly Roller Chain Lube ISO 22 spray can. Refer to section 8.1 Preventive Maintenance Checklist on page 22 for additional information.

## FIGURE 5: SBC-SQ OILER




| RECOMMENDED LUBRICATION PRODUCTS |
|---|
| MOLY LIQUID CHAIN LUBE #1 ISO 150, 5-GALLON PAIL |
| MOLY LIQUID CHAIN LUBE #1 ISO 150, 1-GALLON JUG |
| MOLY LIQUID CHAIN LUBE #2 ISO 460, 5-GALLON PAIL |
| MOLY ROLLER CHAIN LUBE ISO 22 SPRAY CAN |

**NOTE:**

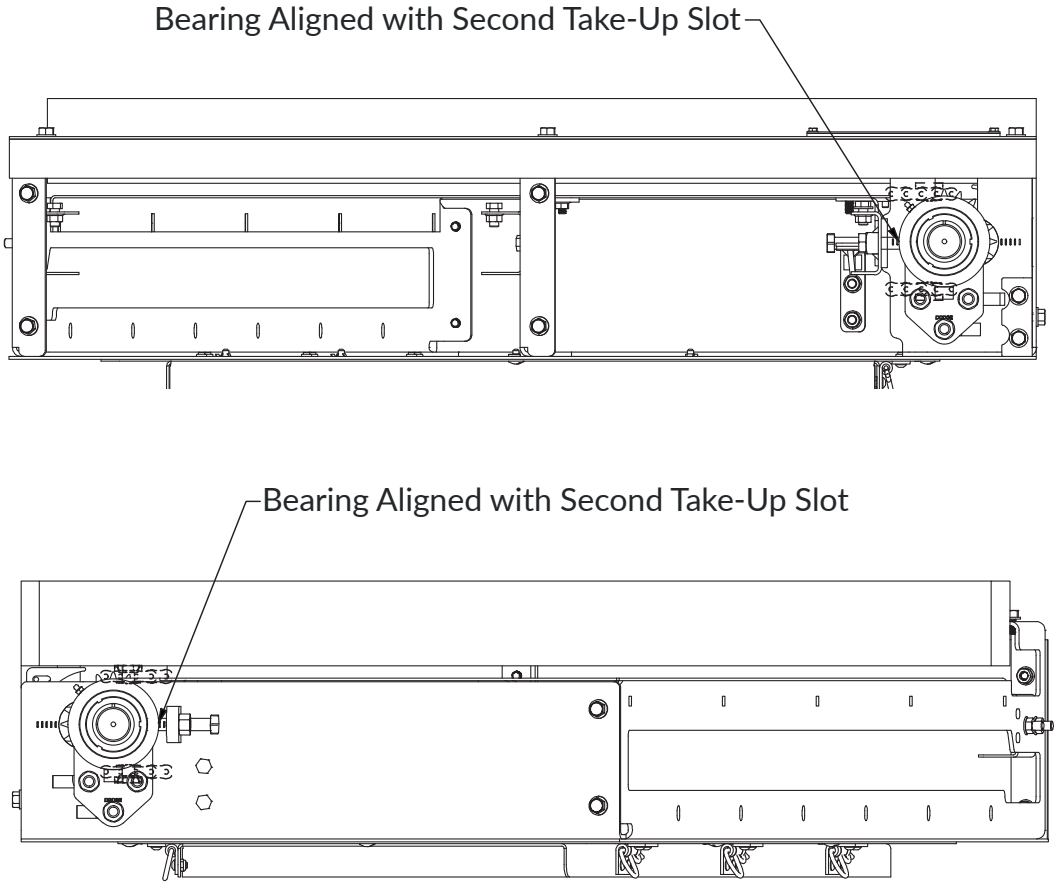
ISO 150 is for day-to-day operations. ISO 460 is available for high-speed applications or when sound reduction is required.

# 5.2 BELT TENSIONING

The designated starting point for tensioning a belted chain curve properly is to have all four bearings tensioned to the second take-up slot from the take-up lug (Figure 6).

If more tension is needed, adjust each of the bearings equally until the belt is tensioned properly.

## FIGURE 6: TAKE-UP ALIGNMENT



# 5.3 BELT REPLACEMENT

1. Loosen all four take-ups on the bearings and remove the outside radius chain guards.
2. Once removed, un-lace the belt and lace the new belt into the old one. Pulling the un-laced section of the old belt will allow for the new belt to thread through the curve.
3. Once the new belt is fully ran through the curve, remove the lacing between the old and new belt, removing the old belt, then lace the new belt together.
4. See section 5.2 Belt Tensioning on page 16 to achieve the right chain tension.

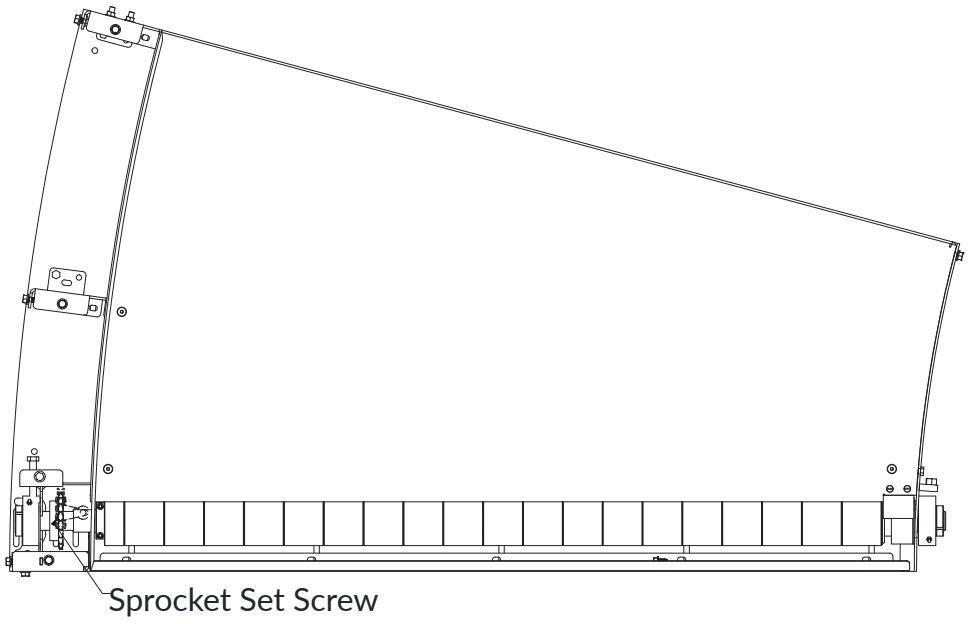
# 5.4 SPROCKET/PULLEY ALIGNMENT

When adjusting or replacing the pulleys, it is crucial to allow for the sprocket to home itself on the pulley (Figure 7). This is done by leaving the sprocket set screws loose on the pulley and jogging the conveyor for multiple revolutions. This allows for the pulley to find its home position.

While doing this, ensure that the sprocket teeth sit in between the chain properly to avoid any additional noise or possible chain jumping issues.

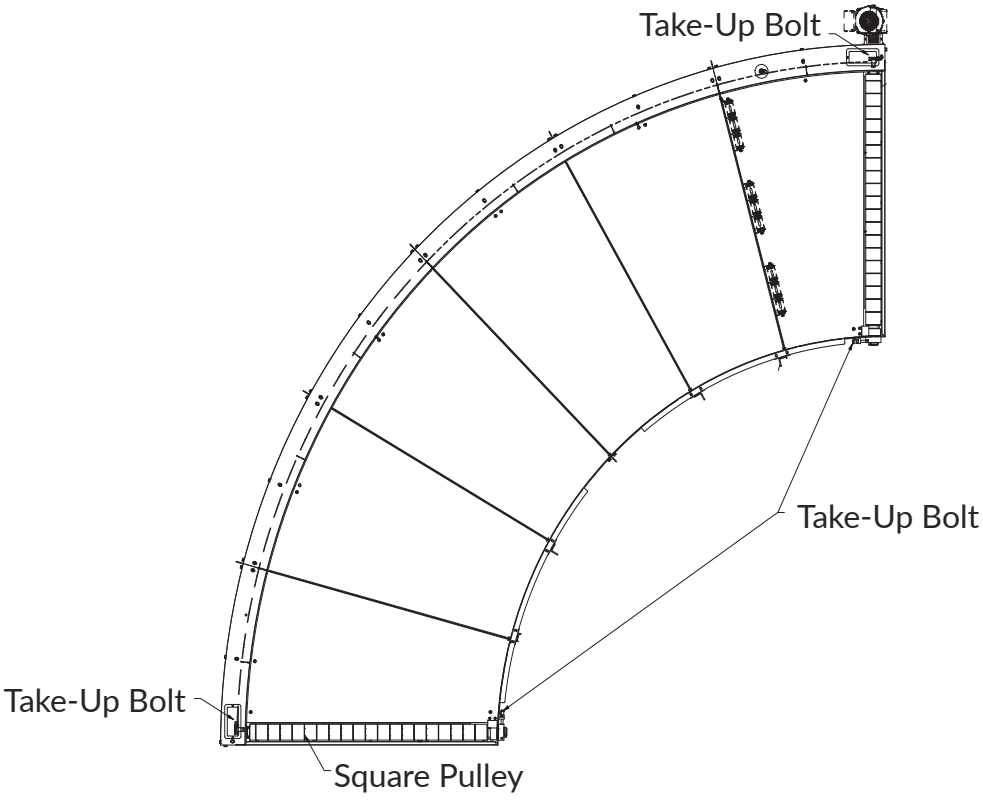
Once the sprocket is sitting in its proper position, tighten the set screws to their proper torque and replace all guards.

## FIGURE 7: SPROCKET ALIGNMENT



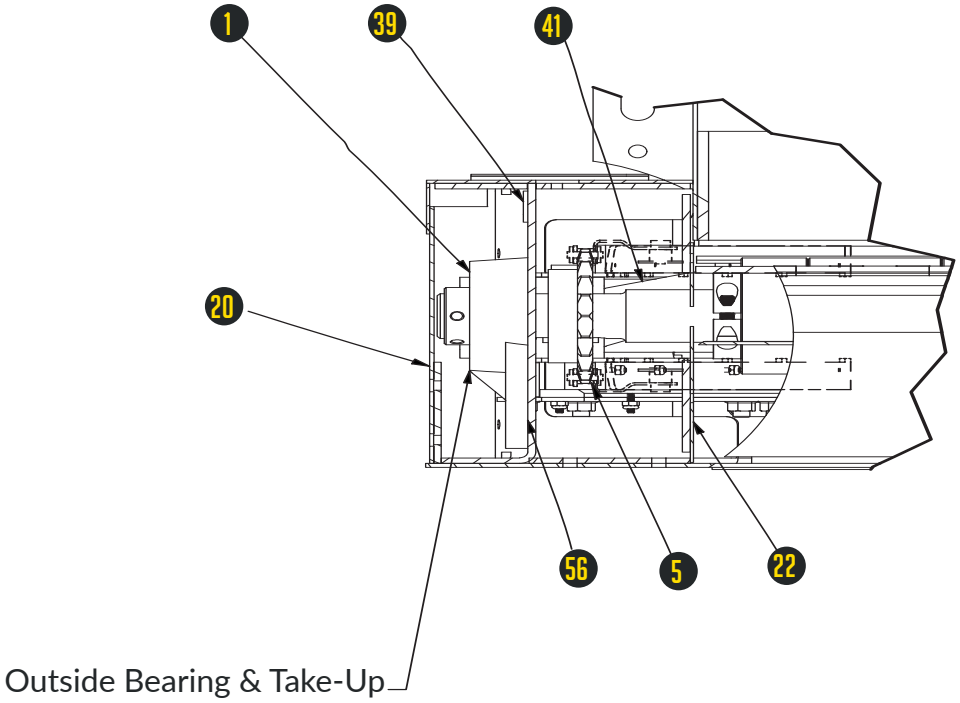
# 6 PARTS DRAWINGS

## 6.1 OVERVIEW OF FULL CURVE FROM TOP



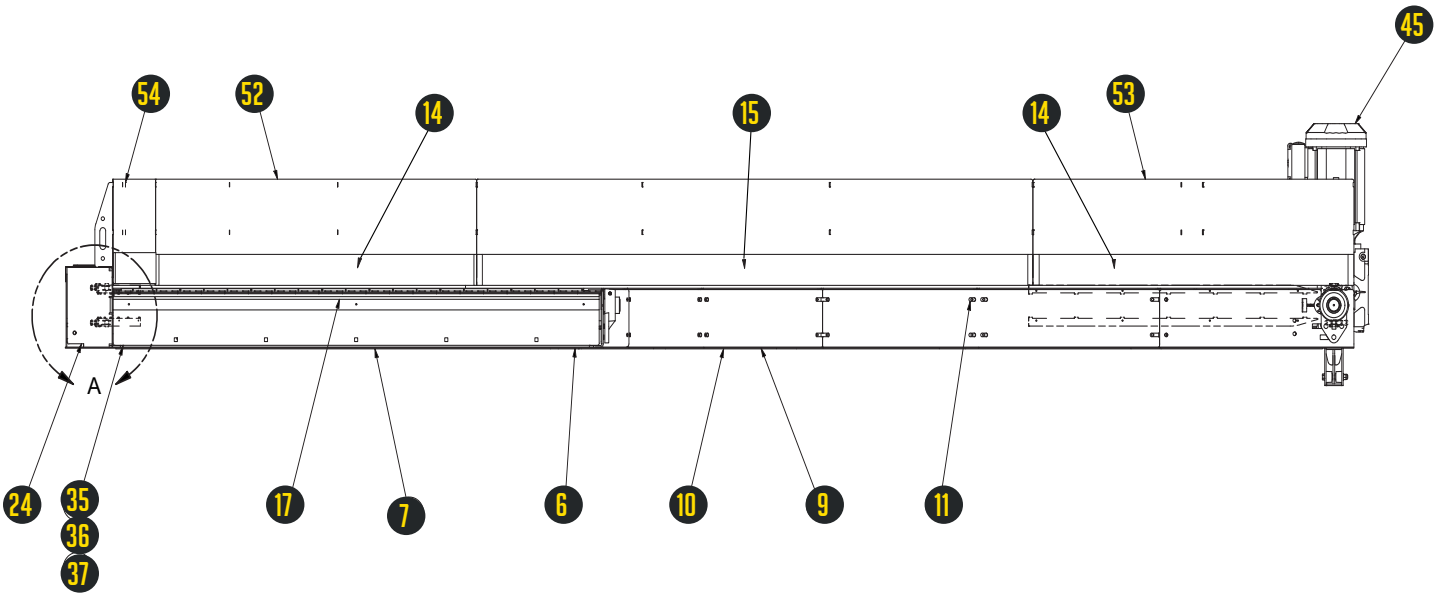

## 6.2 IDLER PULLEY SECTION VIEW

[Reference section 6.5 Parts List on page 18]



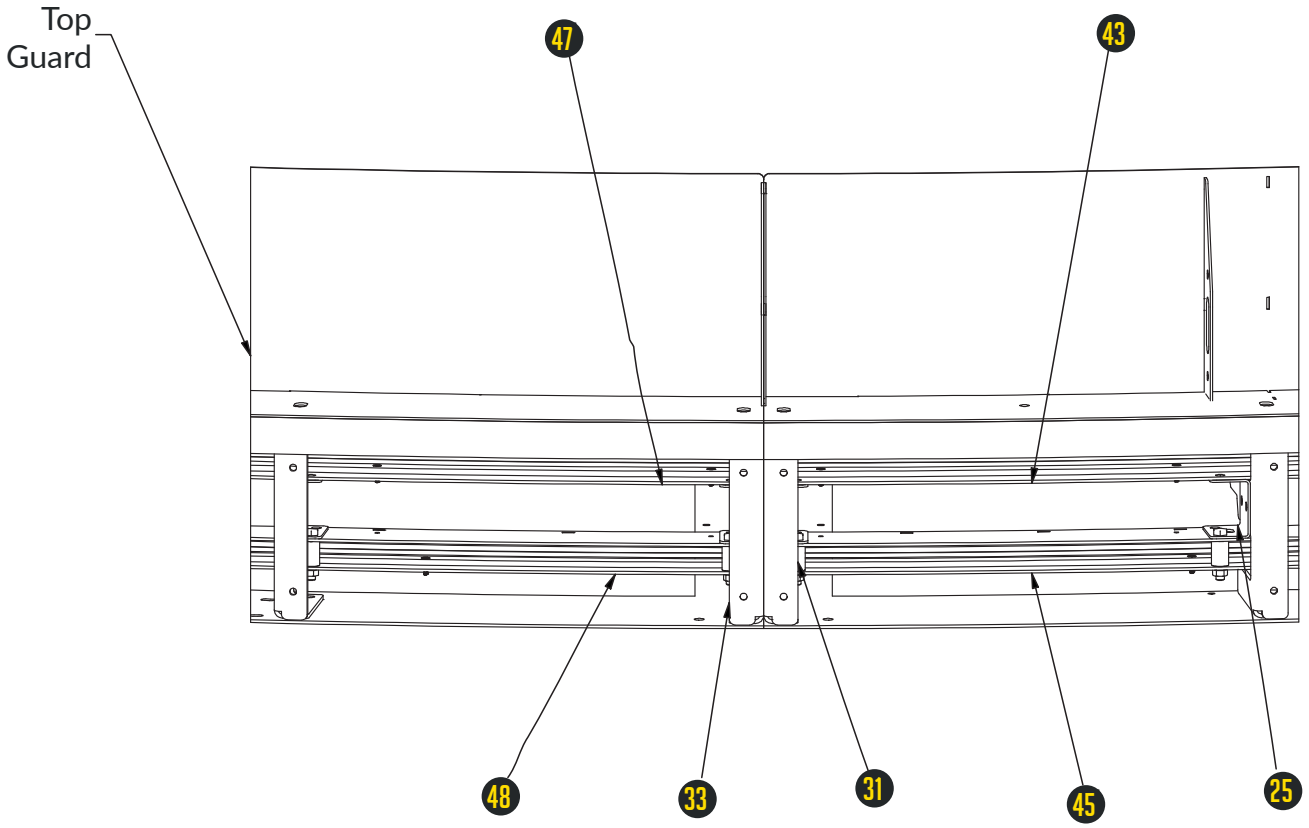
# 6.3 INFEED END VIEW

[Reference section 6.5 Parts List on page 18]




# 6.4 OUTSIDE SECTION VIEW

[Reference section 6.5 Parts List on page 18]



# 6.5 SBC-SQ PARTS LIST

| Ref # | Description |
|---|---|
| 1 | Flange Bracket Bearing - 1-7/16”Bore |
| 2 | Belt - 30/45/60/90 Degrees |
| 3 | Snap-In Segment 1.5 - Transition |
| 4 | Slider Plate - Left Hand |
| 5 | Slider Plate - Right Hand |
| 6 | Bottom Plate - Tail |
| 7 | Bottom Guard - Tail |
| 8 | Slider Plate |
| 9 | Bottom Plate - Intermediate |
| 10 | Bottom Guard - Intermediate |
| 11 | Inside Cover |
| 12 | Outside Inter Cover |
| 13 | 1.9” Outer Diameter Galvanized Roller - ABEC-1, 3-7/8”BR |
| 14 | UHMW Guard Strip - 1/4” X 3-1/2” |
| 15 | UHMW Guide Strip - 1/4” X 3-1/2” |
| 16 | Chain Guard Lexan Window |
| 17 | Transition Extruded Aluminum Bar |
| 18 | Transfer Segment 2-1/4”LG - Transition |
| 19 | Transfer Segment 2-1/4”LG - Transition |
| 20 | Outside Tail Cover |
| 21 | Outside Drive Cover |
| 22 | Pulley Guard |
| 23 | Bed Brace End - Left Hand |
| 24 | Bed Brace End - Right Hand |
| 25 | Chain Holder Channel Center |
| 26 | Belt Support Roller Channel-12” |
| 27 | Bed Brace - Left Hand |
| 28 | Bed Brace - Right Hand |
| 29 | Chain Guard Window Frame Top |
| 30 | Chain Guard Window Frame |
| 31 | Nip Point Guard - UHMW |
| 32 | Cover Plate - 3-3/4” X 5-5/8” |
| 33 | Bed Cross Member - Left Hand |
| 34 | Bed Cross Member - Right Hand |
| 35 | End Guard Angle |
| 36 | End Guard Plate |
| 37 | End Guard Transition Mounting Plate |
| 38 | Moduler Aligner Plate |
| 39 | Reinforcement Plate |
| 40 | Top Pan Brace - Left Hand |
| 41 | Top Pan Brace - Right Hand |
| 42 | Chain Guide Assembly Top - Left Hand |
| 43 | Chain Guide Assembly Top - Right Hand |
| 44 | Chain Guide Assembly Bottom - Left Hand |
| 45 | Chain Guide Assembly Bottom - Right Hand |
| 46 | Drive Kit |
| 47 | Chain Guard Assembly Top |
| 48 | Chain Guard Assembly Bottom |
| 49 | Tail Pulley Assembly |
| 50 | Inside Side Channel Weldment - Left Hand |
| 51 | Inside Side Channel Weldment - Right Hand |
| 52 | Belt Guard Weldment |
| 53 | Chain Guard Weldment - Left Hand |
| 54 | Chain Guard Weldment - Right Hand |
| 55 | Bearing Support Weld - Left Hand |
| 56 | Bearing Support Weld - Right Hand |
| 57 | Pulley Guard Weld |
| 58 | Reinforcement Angle Weld |
| 59 | Sprocket - 50B20 X 1-7/16”Bore |

# 7 TROUBLESHOOTING

## 7.1 TROUBLESHOOTING GUIDE

| Trouble | Cause | Solution |
|---|---|---|
| Conveyor will not start or shuts off automatically during operation. | 1. Electrical circuits.<br>2. Variable speed drive misadjusted or defective.<br>3. Drive motor defective. | 1. Check power and wiring.<br>2. Refer to variable speed drive manufacturer's manual for troubleshooting.<br>3. Replace motor. |
| Conveyor takes long time to reach speed or conveyor jerks when starting. | 1. Variable speed drive misadjusted or defective. | 1. Refer to variable speed drive manufacturer's manual for troubleshooting. |
| Loud popping or grinding noise. | 1. Defective bearing.<br>2. Loose set screws in bearing.<br>3. Sprocket misaligned with chain.<br>4. Chain not properly lubricated. | 1. Replace bearing.<br>2. Tighten set screw.<br>3. Loosen sprocket, run the curve slowly to allow for sprocket to find central homing point upon the chain and shaft.<br>4. Oil chain with Hytrol-provided lubricant. |

# 8 PREVENTIVE MAINTENANCE

## 8.1 PREVENTIVE MAINTENANCE CHECKLIST

The following is a general maintenance checklist which covers the major components of your conveyor. This will be helpful in establishing a standard maintenance schedule.

**Note:** Check set screw for proper torque value after the first 24 hours of operation.

| Component | Suggest Action | Schedule | | |
|---|---|---|---|---|
| | | Weekly | Monthly | Quarterly |
| Motor | Check Noise | | | |
| | Check Temperature | | | |
| | Check Mounting Bolts | | | |
| Reducer | Check Noise | | | |
| | Check Temperature | | | |
| | Check Oil Level | | | |
| Carrying Chains | Check Tension | | | |
| | Lubricate | | | |
| Carrying Chains Sprockets | Check Alignment with Chain Guards | | | |
| Carrying Chain Guides | Check for Wear | | | |
| Chain Oiler | Check Oil Level/Ensure Oiler is On | | | |
| Structural | General Check: Check All Loose Bolts, etc. Tightened | | | |

- **Carrying Chains:** Check lubrication. Chains should be lubricated by the gravity oiler. Quarterly oiling would be done in a maintenance window to allow for maintenance to spray the chain with penetrating lubricant.

  Additional penetration should be done quarterly during maintenance intervals with the conveyor running at a slow jog.

Need Assistance?
Contact Us

**Hytrol Customer Care:**
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Live Chat