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# **Accuglide™ Powered Roller Accumulation Conveyor Installation and Maintenance Manual**

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Read these documents thoroughly before attempting to perform installation, maintenance or repairs to the applicable Intelligrated equipment components or devices. Exercise extreme caution when working around moving and rotating equipment. Wear the proper clothing and safety equipment. DO NOT attempt to perform any maintenance until the equipment is de-energized, locked out and tagged out in accordance with established company procedures and OSHA/ANSI standards.

The information presented in these documents is correct at the time of publication. Intelligrated has made every effort to ensure that the information presented is correct and free from error. However, some errors or misprints may occur. Please contact Intelligrated with any corrections.

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<b>Revision</b>	<b>Date</b>	<b>Initials</b>	<b>Description</b>
Rev 1	08/06/12	KK, MM	Add Humphrey connector information to the Replacement Parts - Accessories

## **Use of Manual**

This manual contains important information. Please read this manual before attempting to operate or perform installation or maintenance on this Conveyor.

This manual is designed for operator personnel who have a substantial knowledge of mechanical operations and who have basic knowledge of typical mechanical operations. Failure to comply with the instructions and warnings contained in this manual, and the warnings posted on the Conveyor can result in serious injury to personnel and/or damage to the equipment.

## **Disclaimers**

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This manual contains a generalized description of the Conveyor and its operation available at the time this manual was approved for printing. Intelligated reserves the right to make changes in design and specifications and to make additions to, or improvements in, the product without imposing any obligations upon it to install them on previously manufactured products.





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# 1 Safety Instructions

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This chapter provides instructions for the safe and productive operation of the equipment.

## **WARNING**

You must read and understand these precautions completely before operating, setting up, installing, running, or performing maintenance on the equipment. Failure to follow this instruction may result in serious personal injury and/or equipment damage.

These safety precautions are to be used as a guide to supplement the following:

1. All other information pertaining to the equipment.
2. Local safety codes.
3. Plant and shop safety rules and codes.
4. Federal and state safety laws, regulations, and codes.

**NOTE:** Emphasis is placed on the latest edition of the Occupational Safety and Health Standards, which is available from the Department of Labor, Washington, D.C. These standards (found in Part 1910, Title 29 of the Code of Federal Regulations) contain the current, general industry occupational safety and health regulations set forth by federal legislation. Also, some of the information contained in this section has been reprinted from ASME, B20.1-2000 by permission of The American Society of Mechanical Engineers. All rights reserved.

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## For Your Safety

This manual contains important safety information concerning the use, maintenance, installation, and operation of this equipment. Read and become familiar with the contents of this manual before attempting to install, operate, or service this equipment. It is necessary that all operators and maintenance personnel study the applicable sections of this manual thoroughly before operating the equipment.

### **WARNING**

If you are unable to understand the contents of this manual, please bring it to the attention of your supervisor or foreman. Failure to comply with the instructions and warnings contained in this manual, and the warnings posted on the machine, can result in serious injury to personnel and damage to the equipment. Do not operate this equipment unless you have read and understood the contents of this manual.

## Standard Safety Conventions

This section includes information essential to the safety of personnel and equipment. Throughout this manual, and on the equipment, you will find **DANGER**, **WARNING**, and **CAUTION** signs. Pay particular attention to these because they signal information that is important to your safety and to the correct operation of the equipment.

Warning signs and labels posted on or near the equipment shall not be removed, painted over, or altered at any time. **Reference: ANSI Z535.4.** All safety devices, warning lights, and alarms associated with the conveyor system must be regularly tested (at least monthly) for proper operation and serviced as needed. If the original safety item(s) become defective or damaged, refer to the conveyor parts list(s) of bill(s)-of-materials for replacement part numbers.

### **DANGER**

DANGER indicates a hazardous situation that, if not avoided **will** result in immediate, serious personal injury or death.

### **WARNING**

A WARNING indicates a hazardous situation that, if not avoided, **could** result in death or serious injury.

### **CAUTION**

A CAUTION indicates a hazardous situation that, if not avoided, **could** result in minor or moderate injury.

### **NOTICE**

A NOTICE provides information that is considered important but is not hazard-related. This includes messages that discuss property damage.

**NOTE:** The term **NOTE** is used to call attention to useful information and is not a safety notice. Information appearing in a NOTE provides additional information that is helpful in understanding the item being explained.

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## Safety Precautions

The success of any safety program depends primarily on the attitudes and training of the installation, maintenance, and operating personnel. The very nature of their work makes it necessary that they develop a complete and firsthand knowledge of each piece of equipment that is within their care. This familiarity enables them to recognize the hazards resulting from improper usage.

### **Guards and Guarding**

Where necessary for the protection of personnel from hazards, all exposed moving machinery parts that present a hazard to employees at work stations or operator's stations shall be mechanically or electrically guarded, or guarded by location or position.

### **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**

Wherever conditions prevail that would require guarding under these standards, but such guarding would render the conveyor unusable, prominent warning means such as signs or warning lights shall be provided in the area or on the equipment in lieu of guarding.

### **Guarded by Location or Position**

Remoteness from frequent presence of public or employed personnel shall constitute guarding by location. Overhead conveyors, such as trolley equipment and hanger-suspended tray conveyors, for which guarding would render the equipment unusable or would be impractical, shall have prominent and legible warnings posted in the area or on the equipment, and, where feasible, lines shall be painted on the floor delineating the danger area.

When the equipment passes over a walkway, roadway, or work station, it is considered guarded by location if all moving parts are at least 8 ft. (2.4 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 endanger personnel.

### **Headroom**

When the equipment is installed above exit passageways, aisles, or corridors, there shall be a minimum clearance of 6 ft. 8 in. (2.03 m) measured vertically from the floor or walking surface to the lowest part of the equipment or guards. Where system function will be impaired by providing the minimum clearance of 6 ft. 8 in. (2.03 m) through an

emergency exit, alternate passageways shall be provided. It is permissible to allow passage under the equipment with less than 6 ft. 8 in. (2.03 m) clearance from the floor for other than emergency exits if a suitable warning indicates low headroom.

## Controls

All electrical installations 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 National Standards Institute, Inc.

### Control Stations

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

Equipment that 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 equipment is about to start. When the equipment would cause injury and is automatically controlled or must be controlled from a remote location is started, an audible device shall be provided which can be clearly heard at all points along the conveyor where personnel may be present. The audible warning shall be actuated by the controller device starting the equipment and shall continue for a required period of time before the equipment starts. A flashing light or similar visual warning may be used in conjunction with, or in place of, the audible device if a visual warning is more effective. 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 (e.g., a work area with many different pieces of equipment and allied devices), a clear, concise, and legible warning sign shall be provided. The warning shall indicate that the equipment and allied equipment may be started at any time, that danger exists, and that personnel must keep clear. These warning signs shall be provided along the equipment at areas not guarded by position or location.

Remotely and automatically controlled equipment, and equipment where operator stations are not manned or are beyond voice or visual contact from drive areas, loading areas, transfer points, and other potentially hazardous locations on the equipment 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 equipment 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 equipment 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.

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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 may confuse the operator.

### **Safety Devices**

All safety devices, including wiring of electrical safety devices, shall be arranged to operate so that a power failure or failure of the device itself will not result in a hazardous condition.

### **Emergency Stops and Restarts**

The controls shall be arranged so that, in case of emergency stop, manual reset or start at the location where the emergency stop was initiated shall be required of the conveyor(s) and associated equipment to resume operation.

Before restarting the equipment that has been stopped because of an emergency, an inspection of the conveyor shall be made and the cause of the stoppage determined. The starting device shall be locked or tagged out before any attempt is made to remove the cause of the 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 29 CFR 1910.147, "The Control of Hazardous Energy (Lockout/Tagout)."



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## Operation Safety Precautions

Only a trained person shall be permitted to operate a conveyor. Training shall include instruction in operation under normal conditions and emergency situations.

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

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

No person shall ride on a conveyor under any circumstances.

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

A conveyor shall be used to transport only material it is designed to handle safely.

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

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

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

Conveyors shall not be newly installed, maintained, or serviced while in operation unless proper installation, 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.

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## Installation and Maintenance Safety

Installation and Maintenance shall be performed only by qualified and trained personnel.

It is important to establish an installation and maintenance program to ensure that all conveyor components are maintained in a condition which does not constitute a hazard to personnel.

When a conveyor is stopped during installation or for maintenance, 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. Personnel should be alerted to the hazard of stored energy, which may exist after the power source is locked out. Refer to ANSI Z244.1-1982, American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements, and OSHA Standard 29 CFR 1910.147, "The Control of Hazardous Energy (Lockout/Tagout)."

Replace all safety devices and guards before starting equipment for normal operation.

Conveyors shall not be lubricated while in operation unless it is impractical to shut them down for lubrication. Only trained and qualified personnel who are aware of the hazards of the conveyor in motion shall be allowed to lubricate a conveyor that is operating.

Guards and safety devices shall be maintained in a serviceable and operational condition. Warning signs shall be maintained in a legible and operational condition. Examples of warning signs are shown later in this section.

It is the responsibility of the owner/user to add any additional protective components that may be needed whenever changes or variations are made to any of the equipment components or operational characteristics.

## Lockout / Tagout Guidelines

Appropriate lockout and tagout policy and procedures shall comply with the **Code of Federal Regulations, 29 CFR 1910.147** and the minimum safety requirements outlined in the current publication of the **American National Standard Institute's Lockout/Tagout of Energy Sources (ANSI Z244.1)**.

Effective January 8, 1990, O.S.H.A. has designated the need for a 'positive, lockable' means to remove all energy sources from equipment prior to new installation(s) or any maintenance. The electrical power to your equipment can be locked out at the main disconnect switch, which is normally located on the electrical cabinet. When this is done, residual energy remains for some time in the capacitors associated with the electrical system. This residual energy is automatically depleted by features built into the equipment. After locking out the main disconnect switch, wait at least 60 seconds before beginning any installation or maintenance procedures. This allows the residual energy to diminish. (If an equipment-mounted plate indicates that you should wait longer than 60 seconds, wait the recommended period of time before beginning any installation or maintenance work.)

Whenever you need to install new equipment or perform maintenance on the equipment, or whenever you need to shut it down for any other reason, a lockout procedure must be followed. Your employer is required by O.S.H.A. to develop a written lockout/tagout procedure for this equipment. The following items should be considered in developing this procedure:

- Notify everyone who normally operates, sets up, installs, or performs maintenance on the equipment that it will be shut down.
- Turn off all electric motors.
- Turn off the main electrical disconnect switch.
- Lock the main disconnect switch in the OFF position, and place a tag on the switch to indicate that work is being performed on the equipment.
- If there is any auxiliary equipment associated with the equipment, make sure the main electrical disconnect switch is also turned off for each piece of auxiliary equipment. Then lock each disconnect switch in the OFF position, and tag each switch to indicate that work is being performed on the equipment.
- Lock the air supply valves to make sure no air can be supplied to the equipment.
- Verify that no sources of residual energy (capacitors, suspended equipment components, etc.) are present on the equipment or any piece of auxiliary equipment. If any such energy sources are located, make sure they are neutralized. If necessary, manually discharge air pressure and capacitor voltage from charged components. Also, block all suspended or spring loaded mechanical parts to prevent movement.

- 
- Verify that electrical power has been disconnected from the equipment, and from any auxiliary equipment, by trying to energize the equipment and any auxiliaries with the appropriate control switches. If any piece of equipment is found to be operational, locate the electrical circuit(s) supplying the power, and disconnect all such power sources. Then lock and tag these power sources.
  - Make sure the air system pressure is 0 PSI.
  - Before you begin any work on the equipment or any auxiliary equipment, make sure that at least 60 seconds has elapsed since you turned off the main disconnect switch. (If an equipment-mounted plate indicates that you should wait longer than 60 seconds, wait the recommended period of time before beginning any new installation or performing any maintenance work.)
  - Verify that any equipment which may have been added, and which is not covered by previous bulleted items, is considered for the lockout/tagout procedure.
  - After you have completed your work on the equipment, make sure all guards, gates and other safety-related devices are in place and functioning properly.
  - When the equipment is completely ready to resume operation, remove your lock and tag from the main electrical disconnect switch. If someone else has placed a lock and/or tag on the main disconnect, do not remove the additional lock or tag. If there is no other lock or tag on the main disconnect, turn on the main disconnect switch and the electric motors, then perform the daily safety checks.

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## Safety Signs

In an effort to reduce the possibility of injury to personnel working around conveying equipment, safety signs are placed at various points on the equipment to alert them of potential dangers. Please check the equipment and note all safety signs. Make certain your personnel are alerted to and obey these signs.

The following illustration shows pictograms designed by the Conveyor Equipment Manufacturers Association (CEMA) Safety Committee as a service to the industry. They also mirror, to the extent practical, the pictograms on the associated CEMA Safety Labels placed on the equipment. CEMA Safety Posters are also available to place in work areas and break areas to remind personnel of safe practices.





# Package Conveyors



 <p>Do Not Climb, Sit, Stand, Walk, Ride, or Touch the Conveyor at Any Time</p>	 <p>Do Not Perform Maintenance on Conveyor Until Electrical, Air, Hydraulic and Gravity Energy Sources Have Been Locked Out and Blocked</p>	 <p>Operate Equipment Only With All Approved Covers and Guards in Place</p>
 <p>Do Not Load a Stopped Conveyor or Overload a Running Conveyor</p>	 <p>Ensure That All Personnel Are Clear of Equipment Before Starting</p>	 <p>Allow Only Authorized Personnel To Operate or Maintain Material Handling Equipment</p>
 <p>Do Not Modify or Misuse Conveyor Controls</p>	 <p>Keep Clothing, Body Parts and Hair Away from Conveyors</p>	 <p>Remove Trash, Paperwork and Other Debris Only When Power is Locked Out</p>
 <p>Ensure That ALL Controls and Pull Cords are Visible and Accessible</p>	 <p>Know the Location and Function of All Stop and Start Controls</p>	 <p>Report All Unsafe Conditions</p>

POST IN PROMINENT AREA





## 2 General Description

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### Introduction



The Intelligated® Accuglide™ powered roller conveyor provides quiet, positive transportation and zero-pressure accumulation of cartons, totes, etc. in accumulation lines that may include both straight and curve sections. This chain-drive, zero-pressure accumulation conveyor is designed to control product flow and optimize throughput while minimizing product damage. The standard dual-zone control modules offer an array of benefits, including the flexibility of multiple accumulation and release modes. These modules are DIP switch configurable to easily fine tune the line pressure, accumulation density and throughput rate.

Accuglide incorporates several features designed to minimize installation and maintenance downtime.

- Quick and easy conveyor release mode configuration
- Easy zone control/power connections
- Quiet non-contacting sensors
- Safe, low voltage power supply requirements
- Release rates available up to 95%
- Acceptance rates up to 100%

Simple efficient roller chain and urethane driver pads are pneumatically raised to engage and power the carrier rollers. They are lowered to disengage drive power from the rollers when sensors detect the presence of product within the next downstream zone.

---

The Accuglide powered roller conveyor has many benefits and options, they are:

### **Benefits**

- Convey around curves with a single drive
- Ease of installation and start-up
- Quiet, positive transportation with zero pressure accumulation
- Quick and easy conveyor release mode configuration
- Safe, low-voltage power supply requirements, and
- Quick error diagnosis to minimize downtime.

### **Options**

- Sensor-less transportation or photo-electric accumulation
- Standard or under-roller style photo-eye sensors
- High-speed rollers with coated axles to minimize noise and frame wear
- High volume acceptance and release (slug)
- Brake-modules
- Mechanical or solenoid-style oiler, and
- Spring or pneumatic-style automatic chain-tensioner.

## Product Summary

- Widths (Conveyor):** Standard - 16, 22, 28, 34 and 40 inches (Between Frame). Left and Right Hand
- Capacity:** 100 lbs./ft. Live Load; (200 lbs. max. item weight)
- Drive Section:** 6 feet long, 650 pounds Effective Pull Capacity; with power unit, spring-type chain tensioner, magnetic-type track lubricator, and 6-foot long operational zone; Right Hand / Left Hand assembly. Carrier rollers set high at 2 inch centers with fixed-type mounting. Carrier rollers are always located at infeed end of conveyor.
- Drive section includes standard spring-actuated chain tensioner and magnetic lubricator. Additional chain tensioner and lubricator options are available. Refer to the *Accuglide Installation Manual* - Chapter 4 Accessories for details.
- Power Units:** **Direct Drive and Side Mount** - 3/4 to 5 HP C-Face motor (Baldor) and C-Face, right-angle reducer (Dodge) providing 60-270 fpm (all speeds are not available in all horse-powers); standard and premium-efficiency motors; direct drive. Under-hung mount. **Side Mount and Underhung** - 3 to 5 HP. 350 to 600 fpm.
- Intermediate Section - Straight:** - “Accumulation” and “Transportation” types; (standard) 3 feet to 12 feet long in operational-zone length increments; bolted cross members; low-pressure air actuators support the drive components; carrier rollers at 2-inch, 3-inch, or 4-inch centers with fixed or pop-out type roller mounting; Right Hand / Left Hand assembly.
- Accumulation** – 3-foot-long operational zones; each zone controlled by Solenoid Control Module and photo-eye sensor (24VDC); trailing-zone control; Carrier Roller set High; common piping for all operational modes (singulation, auto-slug, dual-zone and slug). (1-inch incremental lengths: 3 feet-1 inch through 5 feet-11 inches).
- Transportation/Pneumatic** – Same as “accumulation-type” without zone-control components. Low-pressure air actuators support the drive components.
- Transportation/Mechanical** – Same as “accumulation-type” without zone-control components. Springs support the drive components.

**Intermediate Section - Transportation Type - 30°, 45°, 60°, 90° and 180° with tapered Curved:** rollers set high at 2-inch for TTF frame 3-inch roller centers (nominal at inside rail) for 26IR, 11-inch-long straight tangent at each end. Constant drive to Carrier Rollers.

**Intermediate Section - 30°/45° merge with fixed Carrier Rollers set high at 2-inch roller Sawtooth Junction:** centers. RH and LH merge assembly(ies) for RH/LH Chain Drive; transportation only; requires separate air supply (30 psi).

Available in main-line widths of 22 inches, 28 inches, 34 inches, and 40 inches W. Spur-line widths are 6 inches less than main-line width.

Length varies based on width of the main-line conveyor.

**Idler Section:** 3-foot-long overall with 3-foot-long accumulation zone, (controlled by solenoid valve remote 110VAC or 24VDC release signal); Carrier Rollers set High at 2-inch centers w/fixed-type mounting; all Carrier Rollers powered. Located at discharge end of conveyor.

**Carrier Rollers:** Straight – 1.9-inch galvanized steel tubing with standard precision-type ABEC bearings., High Speed Bearing, or Premium High Speed bearings.

Tapered – 2.50-inch/1.63-inch O.D. tapered, galvanized-steel tubing with ABEC or High Speed bearing only.

A specific “pop-out” carrier roller has a fixed axle that sets in molded, pop-out mounting inserts that are factory-assembled into the frame rail's hex axle holes at the specified centers. Pop-Out carrier rollers are not available for rollers on 2 inch centers.

Pop-out rollers should not be used in overhead situations. When offset side guide and pop-out rollers are selected, the side guide should not be offset to the inside of the conveyor frame.

Factory assembled into Infeed Drive Sections, Intermediate Curve Sections, Intermediate Merge Sections and Discharge Idler Sections; shipped separate and field-installed into Intermediate Straight Sections.

- Bearings:** ABEC – standard ABEC-1 rated bearings with a solid 7/16-inch steel hex axle. All standard ABEC rollers are double-sprung (axle can be compressed from either side).
- High Speed – High Speed – ABEC-1 rated bearings with a nylon coated axle. Roller features a 5/16-inch hexagonal steel axle core, with a 7/16-inch nylon adapter sleeve, which significantly reduces noise and frame wear. This roller is typically applied at speeds greater than 300 fpm.
- Premium High Speed (not available for tapered rollers) – ABEC-1 rated bearings with a nylon coated axle; this roller is similar to the standard High Speed, but offers an enhanced appearance utilizing an injection-molded bearing cap. There is also a nominal sound reduction compared to the standard High Speed rollers.
- Drive Components:** RC50 chain with extended pins and extruded urethane drive pad (gray with purple indicator stripe).
- Power Requirement:** For Power Unit – 230-460/3/60 VAC or 575/3/60 VAC - 380 VAC, 3 PH, 50 HZ  
For Power Unit Side Mounted - 380VAC, 3PH, 50HZ  
For Zone Control/Actuation Components – 110/3/60 VAC (7 AMP)  
For Component Solenoid-valves – 115 VAC or 24 VDC
- Finish:** Powder-coated

**Accessories:**

## Standard Accessories

- Air Control Assembly Kit (Filter/Regular)
- BM Curve Air Control 3-0 - Field Kit GEN 1.5
- BM Curve Solenoid \_V\_ Field Kit
- BM Intermediate Section System Control
- Drip Pan
- Field Cut Kit Template
- Terminal End Cover
- Interface Head-Tail Field Kit (GEN 1.5)
- Interface Head-Tail Field Kit (GEN 2)
- Power Supply
- Power Isolation Cord
- Power Tap / Slug Module Cord (T-Cord)
- Slug Terminator Cord 0-6 Black
- Blade Stop - Idler Section
- Brake Module - Idler Section
- Brake Module - Intermediate - Straight/Curve Sections
- Brake Module Kits
- Chain RC50 w/ext Pin\_\_
- DriverPadw/WearIndicator

## Optional Accessories

- Straight Side Guide
- Photo Eye and Reflector Side Guides
- Skate Wheel Side Guide
- Curve Side Guide
- Merge (Sawtooth) Section Side Guide
- Bull Nose Side Guide
- Side Guide Transition
- Side Guide Transition - End
- 9.75/6.5 Transition Bracket Field Kit
- Chain Track Lubricator
- Oil Reservoir and 1 Liter Float Switch
- Air-Actuated Chain-Tension - Drive Section
- Angle End Stop
- Knee Brace Assembly
- Rollers, Fixed ABEC, Fixed High Speed, Fixed Premium and Pop-out ABEC.
- Splice Plate Kit
- Splice Angle for Curves and Drive
- Skew Kit







# 3 Accessories

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This chapter contains standard and optional accessories and that are available for the conveyor product line.

## Standard Accessories

The following components are common for all Accuglide Conveyors.

- Air Control Assembly Kit (Filter/Regular)
- BM Curve Air Control 3-0 - Field Kit GEN 1.5
- BM Curve Solenoid \_V\_ Field Kit
- BM Intermediate Section System Control
- Drip Pan
- Field Cut Kit Template
- Terminal End Cover
- Interface Head-Tail Field Kit (GEN 1.5)
- Interface Head-Tail Field Kit (GEN 2)
- Power Supply
- Power Isolation Cord
- Power Tap / Slug Module Cord (T-Cord)
- Slug Terminator Cord 0-6 Black
- Blade Stop - Idler Section
- Brake Module - Idler Section
- Brake Module - Intermediate - Straight/Curve Sections
- Brake Module Kits
- Chain RC50 w/ext Pin\_\_
- DriverPadw/WearIndicator

## Air Control Assembly Kit (Filter/Regulator)

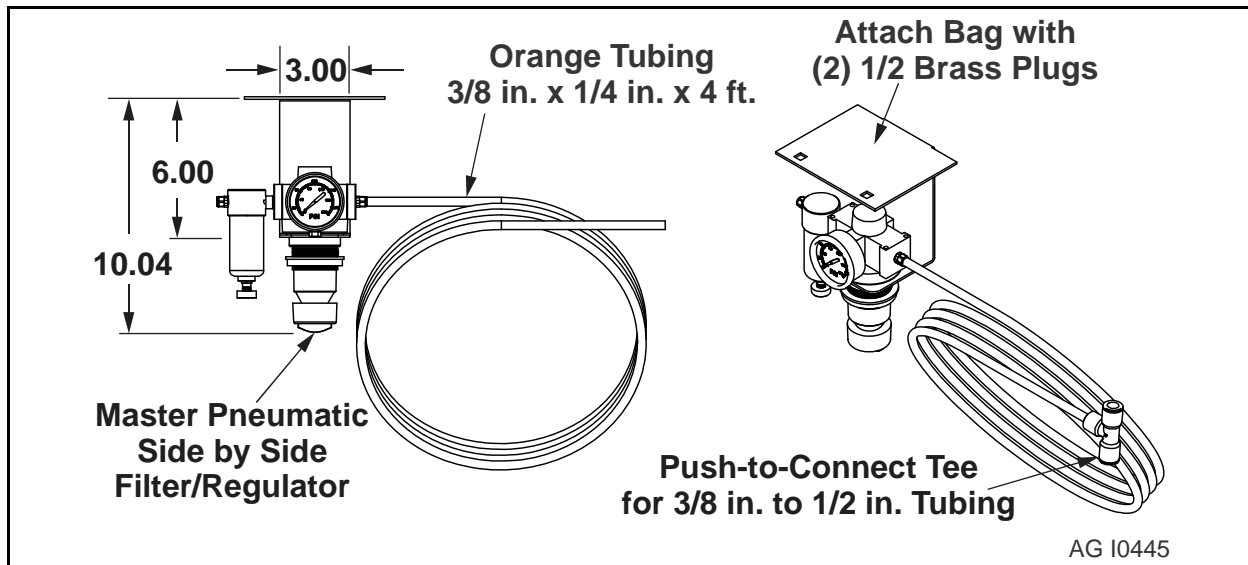


Figure 3 - 1 Air Control Assembly Kit (Filter/Regulator)

Overview	A minimum of one is required for each 200 feet of conveyor; 0 - 15 psi filter/regulator with mounting brackets and hardware.
Operation	Recommended initial setting of operation pressure for intermediates is 12 psi.
Kit Includes	Filter/Regulator/Gauge Assembly: Air filter (10 micron); air regulator and gauge (0-30 psi); mounting bracket; tubing and fittings required for connecting assembly to the conveyor's air supply line. Air Line Plugs: (2) barb fittings (.375 inch OD x 1-8 NPT); and (2) plugs (1/8 inch NPT dome nut).
Installation	The filter regulator gauge (FRG) assembly's mounting bracket bolts to the bottom flange of the conveyor frame rail at a power near the middle of the conveyor. The FRG assembly is connected to the conveyor's main air supply line via the tubing and Adapter and Tee and fittings furnished. Air-Line Plugs - short lengths of the main air supply line tubing (1/2 inch OD) are cut and connected to the terminal ports of the conveyor's first and last Zone Control modules. A barb fitting is connected to each length of tubing and a dome nut is threaded on the barb fitting.
Part Numbers	70074201

**BM Curve Air Control 3-0 Field Kit GEN 1.5**

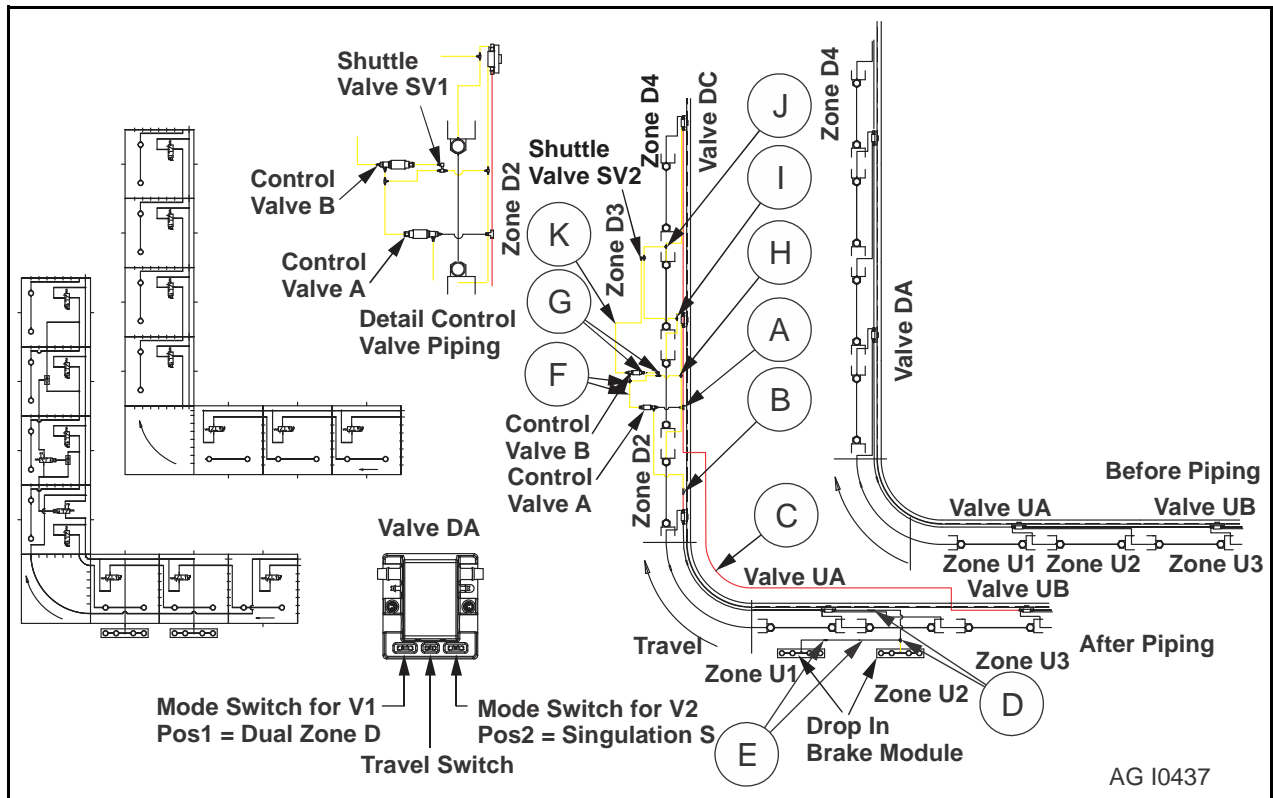


Figure 3 - 2 BM Curve Air Control 3-0 Field Kit GEN 1.5

- Overview**                      The curve air kit is used to prevent product from entering the transportation curve while product is accumulating.
- Operation**                      The kit keeps the two downstream zones of the curve clear before allowing upstream product to enter the curve. This allows product in the curve to discharge into these zones to minimize jams and side-by-sides. The upstream brakes minimize the chance of product being pushed into the curve during accumulation.

## Installation

Field instructions for 3 ft. and 9 ft. sections after the curve.

- Turn off and lockout power to system (if previously installed) and remove all air from system before working on conveyor.
  - Verify connection of valve "D1" to valve "U1" and diaphragms using appropriate AGP curve airline and cord kit. If missing, then install.
  - Install brake modules in zone "U1" and "U2" upstream of curve.
  - Install two (2) air pilot operated 3-way valves in zone "D2" downstream of curve.
  - All Zone control valves to be set to singulation mode.
- A Cut 1/2 inch red tubing between valve "DA" and valve "DB". Install 1/2 x 1/2 x 1/2 tee onto 1/2 inch tube from valve "DB". Install 1/2 x 1/4 adapter into tee. Install 1/4 inch yellow tube from adapter to input port of control valve "A".
- B Install 1/2 x 1/2 connector onto 1/2 inch red tube to valve "DA". Install 1/2 x 1/4 adapter into connector. Install 1/4 inch yellow tube from adapter to output port of control valve "A".
- C Remove 1/2 inch red tubing between valve "UA" and "UB" from valve "UB". Leaving shorter segment on valve "UA". Connect new 1/2 inch tube from valve "UB" to 1/2 x 1/2 x 1/2 tee previously installed in Step A.
- D Install 1/2 x 1/2 connector onto shortened 1/2 inch tube from valve "UA". Install 1/2 x 1/4 adapter to connector. Install 1/4 inch yellow tube from adapter to input tee (5/32 ID barb) of Brake module in zone "U2".
- E Remove input tee from Brake module in Zone "UA" and replace with straight connector (5/32 ID barb). Install 1/4 inch tube from connector to input tee of Brake module in zone "UB".
- F Connect a length of 1/4 inch yellow tube from output port of control valve "B" to pilot actuator port of control valve "A". Cut tube and install 5/32 barbed tee between control valves.
- G Connect a short length of 1/4 inch yellow tubing from pilot actuator port of control valve "B" to output port of shuttle valve "SV1". Connect a 1/4 inch yellow tube from one input port of shuttle valve "SV1" to 5/32 barbed tee installed in Step F.
- H Cut 1/4 inch yellow tube from upstream output port of valve "DB" and install 5/32 barbed tee between valve "DB" and diaphragms in zone "D1". Install 1/4 inch yellow tube from tee to second input port of shuttle valve "SV1" installed in Step G.
- I Cut 1/4 inch yellow tube from downstream output port of valve "DB" and install 5/32 barbed tee between valve "D3" and diaphragms in zone "D2". Install 1/4 inch yellow tube from tee to one input port of shuttle valve "SV2".

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Installation (continued) J Cut 1/4 inch yellow tube from upstream output port of valve "DC" and install 5/32 barbed tee between valve "DC" and diaphragms in zone "D3". Install 1/4 inch yellow tube from tee to second input port of shuttle valve "SV2".

K Install 1/4 inch yellow tube from output port of shuttle valve "SV2" to input port of control valve "B".

Part Numbers 51043100 - BM Sing Curve Air Control  
51043200 - BM Auto Curve Air Control

## BM Curve Solenoid \_V\_ Field Kit

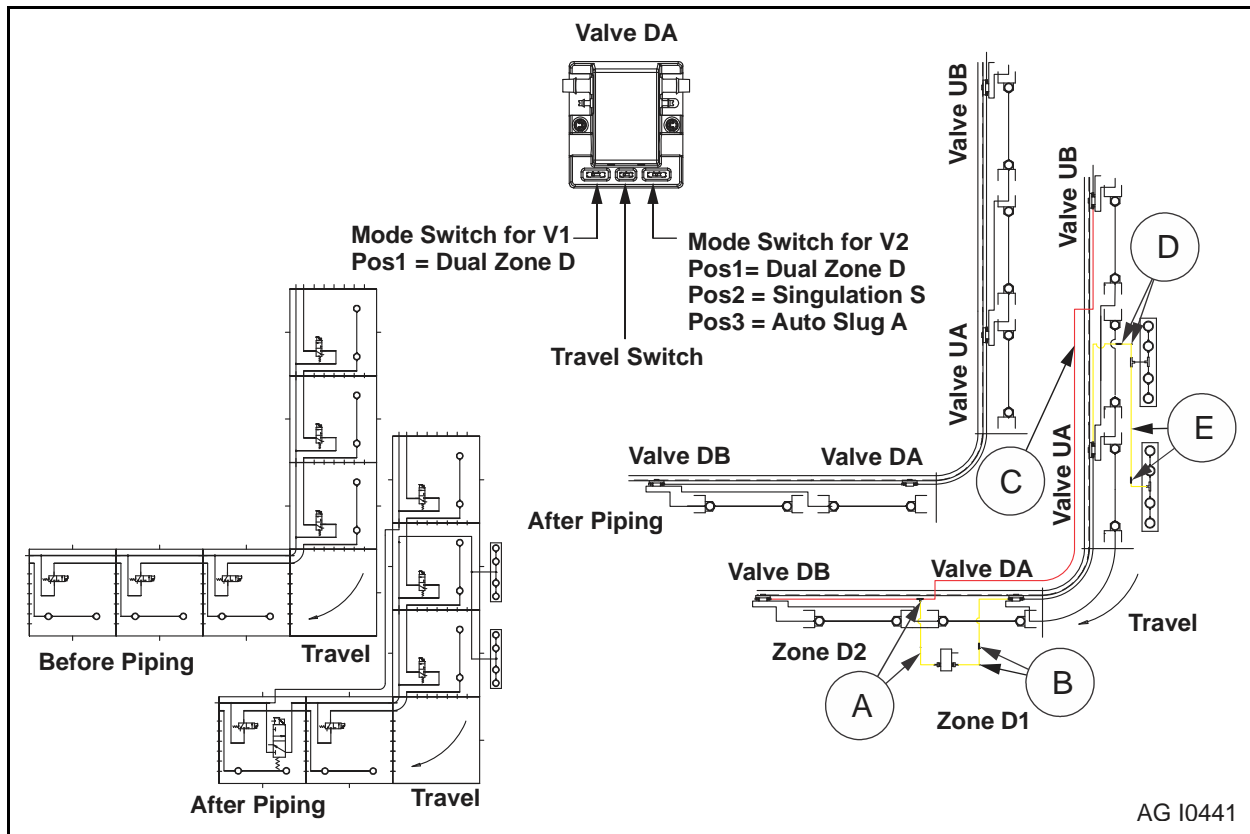


Figure 3 - 3 BM Curve Solenoid \_V\_ Field Kit

### Overview

The curve air kits are only used when there are accumulating straight sections with a transportation curve. The kit looks at the eye three zones upstream, when this eye is blocked it applies the brake in the upstream section of the curve and prevents product from entering a curve. Then, whatever product is in the transportation curve is released to the two downstream zones, and the curve is left empty.

### Operation

The kit uses an external signal to keep the two downstream zones of the curve clear before allowing upstream product to enter the curve. This allows product in the curve to discharge into these zones to minimize jams and side by sides. The upstream brakes minimize the chance of product being pushed into the curve during accumulation.

Installation	<p>Field instructions 3 ft. and 9 ft. sections</p> <ul style="list-style-type: none"><li>• Turn off and lockout power to system (if previously installed) and remove all air from system before working on conveyor.</li><li>• Verify connection of valve D1 to valve U1 and diaphragms using appropriate AGP curve airline and cord kit. If missing, then install.</li><li>• Install Brake modules in zones U1 and U2 upstream of curve.</li><li>• Install 3-way solenoid valve in zone D1 or D2 downstream of curve with bracket and hardware in kit.</li></ul> <p>A Cut 1/2 inch tube between valve "DA" and "DB". Install 1/2 x 1/2 x 1/2 tee onto 1/2 inch tube from valve "DB". Install 1/2 to 1/4 adapter onto tee. Install 1/4 inch tube from adapter to input port of 3-2ay solenoid valve.</p> <p>B Install 1/2 x 1/2 connector onto just cut end of 1/2 inch tube to valve "DA" install 1/2 to 1/4 adapter into connector. Install 1/4 inch tube from adapter to output port of 3-way solenoid valve.</p> <p>C Remove 1/2 inch tube between valve "UA" and "UB" from valve "UB". Connect new 1/2 inch tube from valve "UB" to 1/2 x 1/2 x 1/2 tee previously installed in Zone "D2".</p> <p>D Install 1/2 x 1/2 connector onto 1/2 inch tube from valve "UA" (end removed from valve "UB"). Install 1/2 to 1/4 adapter to connector. Install 1/4 inch tube from adapter to input tee or Brake module in zone "U2".</p> <p>E Remove input tee from Brake module in zone "U1" and replace with straight connector. Install 1/4 inch tube from connector to input tee of Brake module in zone "U2".</p>
Part Numbers	51043301 51043302

**BM Intermediate Section Solenoid \_V\_ Field Kit**

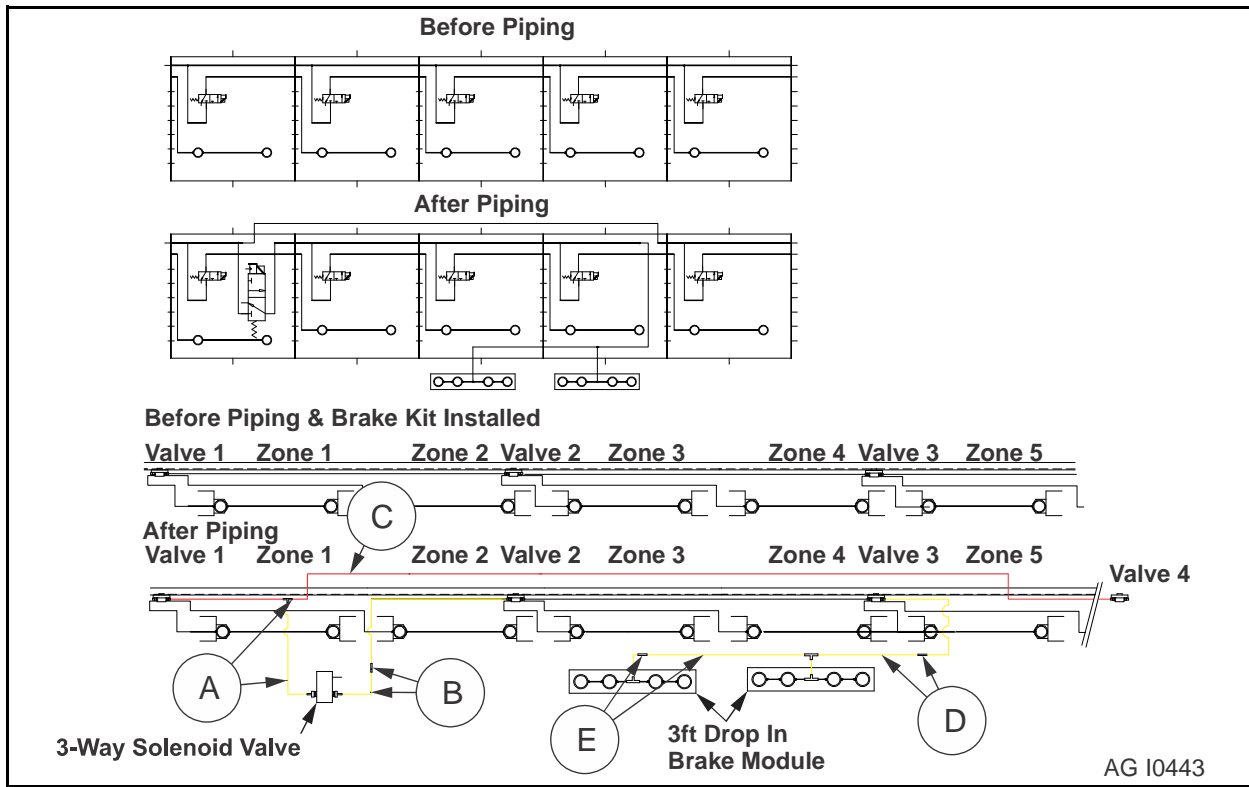


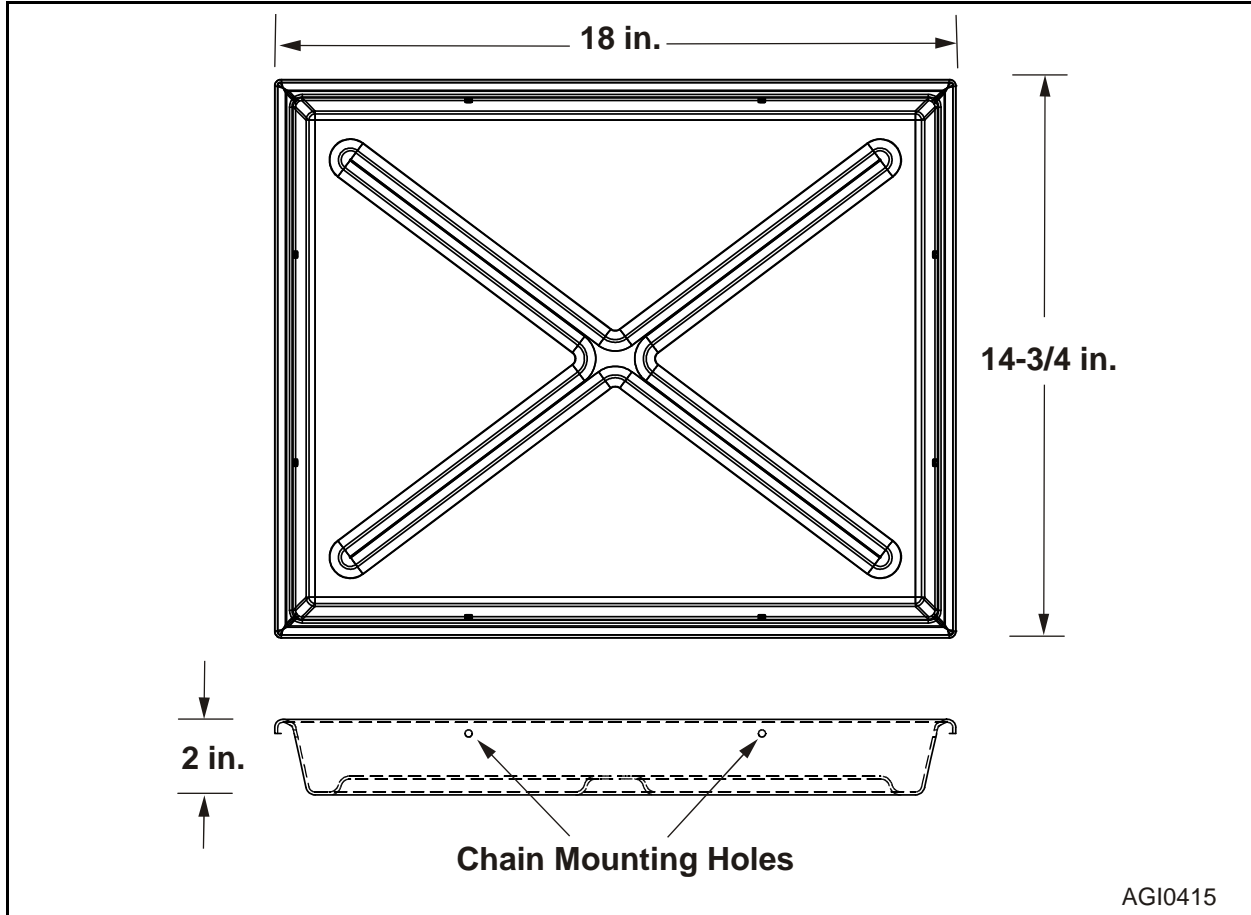
Figure 3 - 4 BM Intermediate Section Solenoid \_V\_ Field Kit

- Overview** All mechanical, air and electrical components required for installing two (2) Brake modules in any two (2) operational zones in an AGP1 Intermediate Section. BM is controlled by a remote signal (Singulation Release).
- Operation** The intermediate solenoid brake sections allow accumulation of product in any two operational zones along a length of Accuglide through a remote signal. This is typically used for an operation to be performed on the product.



Installation	<p>Field installation instructions.</p> <ul style="list-style-type: none"><li>• Turn off and lockout power to system (if previously installed) and remove all air from system before working on conveyor.</li><li>• Install Brake modules in zones #3 and #4. For other locations, move all related parts together.</li><li>• Install 3-way solenoid valve in Zone #1.</li></ul> <p>A Cut 1/2 inch tube between valve #1 and #2. Install 1/2 x 1/2 x 1/2 onto 1/2 inch tube from Valve #1. Install 1/2 to 1/4 adapter onto tee install 1/4 inch tube from adapter to input port of 3-2ay solenoid valve.</p> <p>B Install 1/2 x 1/2 connector onto 1/2 inch tube to valve #2. Install 1/2 to 1/4 adapter into connector. Install 1/4 inch tube from adapter to output port of 3-way solenoid valve.</p> <p>C Remove 1/2 inch tube between valve #3 and valve #4. Connect new 1/2 inch tube from valve #4 to 1/2 x 1/2 x 1/2 tee previously installed in zone #1.</p> <p>D Install 1/2 x 1/2 connector onto 1/2 inch tube from valve #3 (end removed from valve #4). Install 1/2 to 1/4 adapter to connector. Install 1/4 inch tube from adapter to input tee of Brake module in zone #4.</p> <p>E Remove input tee from brake module in zone #3 and replace with straight connector. Install 1/4 inch tube from connector to input tee of Brake module in zone #4.</p>
Part Numbers	51043501 51043502

**Drip Pan**



*Figure 3 - 5 Drip Pan*

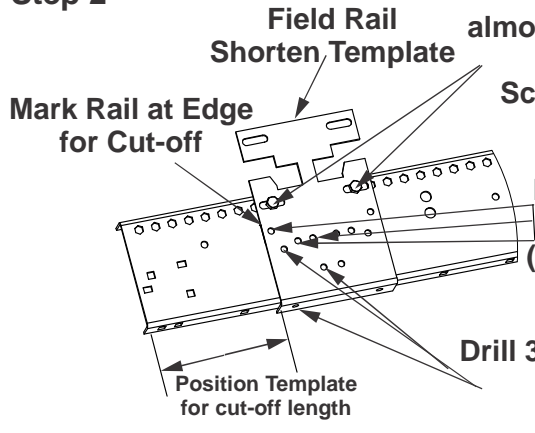
Overview	The drip pan catches oil dripping from the gearbox and/or oiler.
Installation	It is most commonly installed on the drive section of each conveyor. The drip pan hangs from chains mounted on the frame of the drive, or on the reducer itself. Install drip pans as needed, typically one per drive.
Part Numbers	29001300

**Field Cut Kit Template**

**Step 1**

Remove the end crossmember and advance/return tracks from the discharge end of the section to be shortened. Remove any hardware in the way of the following steps.

**Step 2**



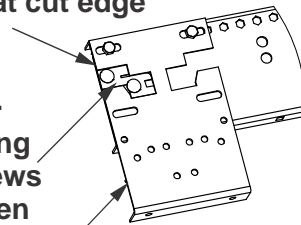
Bring 7/16 in. screws/nuts/washer almost tight. Let template hand down on screws (bottom flange will not locate)  
Screws must be bottomed on the hex holes  
Tighten screws/nuts

Drill 3/8 in. or 13/32 in. holes through rail (3) locations for moved spreader hardware

Drill 3/8 in. or 13/32 in. holes through rail (3) locations for splice plates/leg hardware

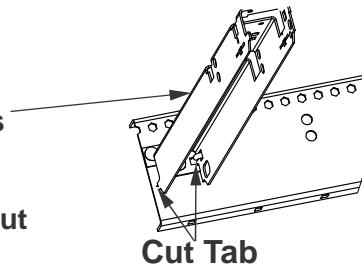
**Step 3**

Remove template and cut rail. Re-attach template using upper slots  
Hang down on bolts as in Step 1 and align at cut edge  
Tighten screws/nuts  
Template will help maintain critical alignment of field bracket.  
Attach field bracket using two 3/8 in. shoulder screws and nuts and fully tighten  
Remove template and hardware  
Repeat Steps 2 and 3 on the opposite rail



**Step 4**

Cut off the two short tabs on each end of crossmember  
Insert crossmember into the slots of field brackets  
Tighten against bracket sides  
Re-attach with original J-bolt and nut



**Step 5**

Cut the advance/return tracks and support channels the same amount as the frame rails  
Bevel the tracks in the chain enter/exit areas similar to the factor tracks  
Complete re-assembly  
Check corner to corner square of assembled frame maintain within +/- 1/32 in.

AG I0426

Figure 3 - 6 Field Cut Kit Template

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Overview	<p>The template is used when shortening a section of Accuglide in the field. It ensures that the spreader is re-installed at the proper height maintain proper drive through the zone. The zone closest to the drive is typically shortened and slaved to the next downstream zone.</p> <p>Note: there are 3 feet.-1 inch through 5 feet -11 inch incremental lengths available to minimize cutting in the field.</p>
Installation	<p>See Figure 3 - 6 for installation information.</p> <p>Shortening Ranges:</p> <p>Shorten up to 24 inches - follow instructions as shown in Figure 3 - 6.</p> <p>Shorten 24 inches to 26.5 inches - 1st intermediate spreader must be temporarily removed for work access.</p> <p>Shorten 34.25 inches - Cut off last section, remove 1st intermediate spreader, and move the end spreader over one zone; one tab needs to cut off.</p> <p>Shorten more than 34.25 inches - Delete intermediate spread and hardware; continue with above instructions.</p>
Part Number	51043800

**Terminal End Cover**

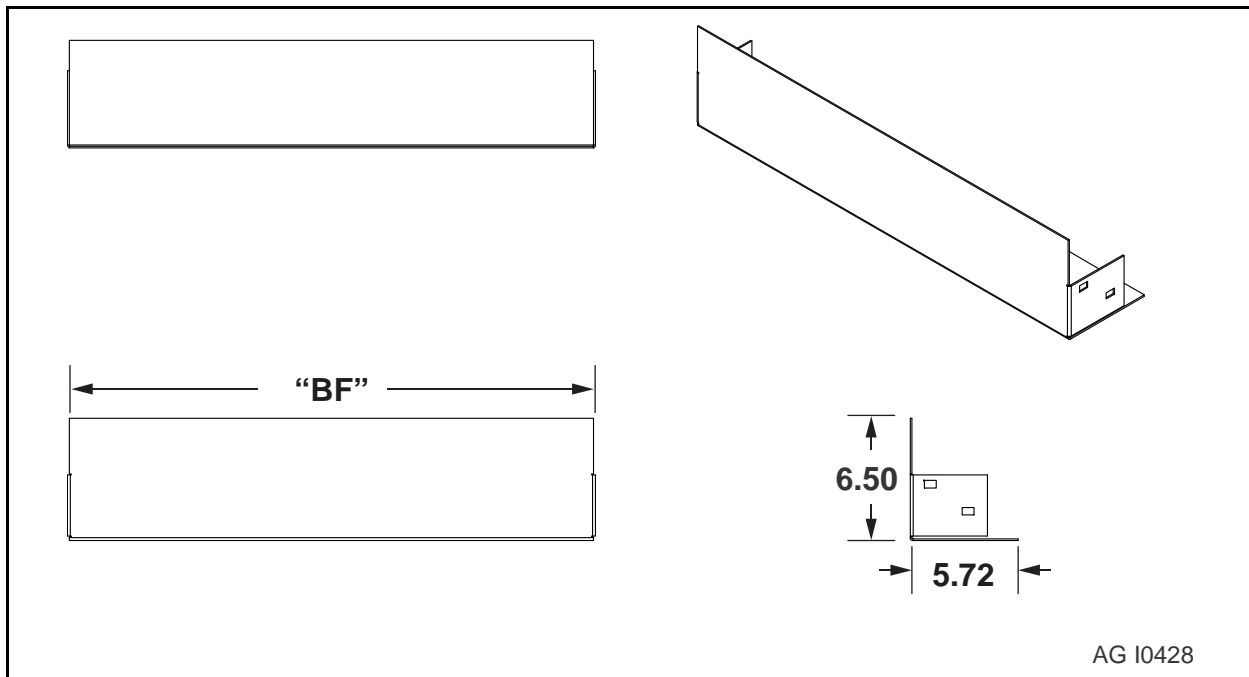


Figure 3 - 7 Terminal End Cover

**Overview** The Terminal End Cover is used if the drive or idler is not attached to another conveyor. It protects the End Unit from being damaged

**Kit Includes** End Covers - 5.5 inches high x 1.6 inches wide. LH and RH assemblies, powder coated finish.  
 Mounting Clip - Formed angle; plated finish.  
 Mounting Hardware - (4) 5/16-18 x .63 inch carriage bolts, (4) 5/16-18 serrated flange nuts.  
 Note: The drive and idler sections for GEN 2 already have the control modules and photo-eyes installed, therefore the kit only contains a length of tubing and a extension cable, and it is as simple as connecting the two valves together.

**Installation** Bolt the end covers to the conveyor frame rails using the hardware supplied.

Part Numbers	Part No.	BF(inches)
	51046501	16
	51046502	22
	51046503	28
	51046504	34
	51046505	40

## Interface Head-Tail (GEN1.5) Field Kit

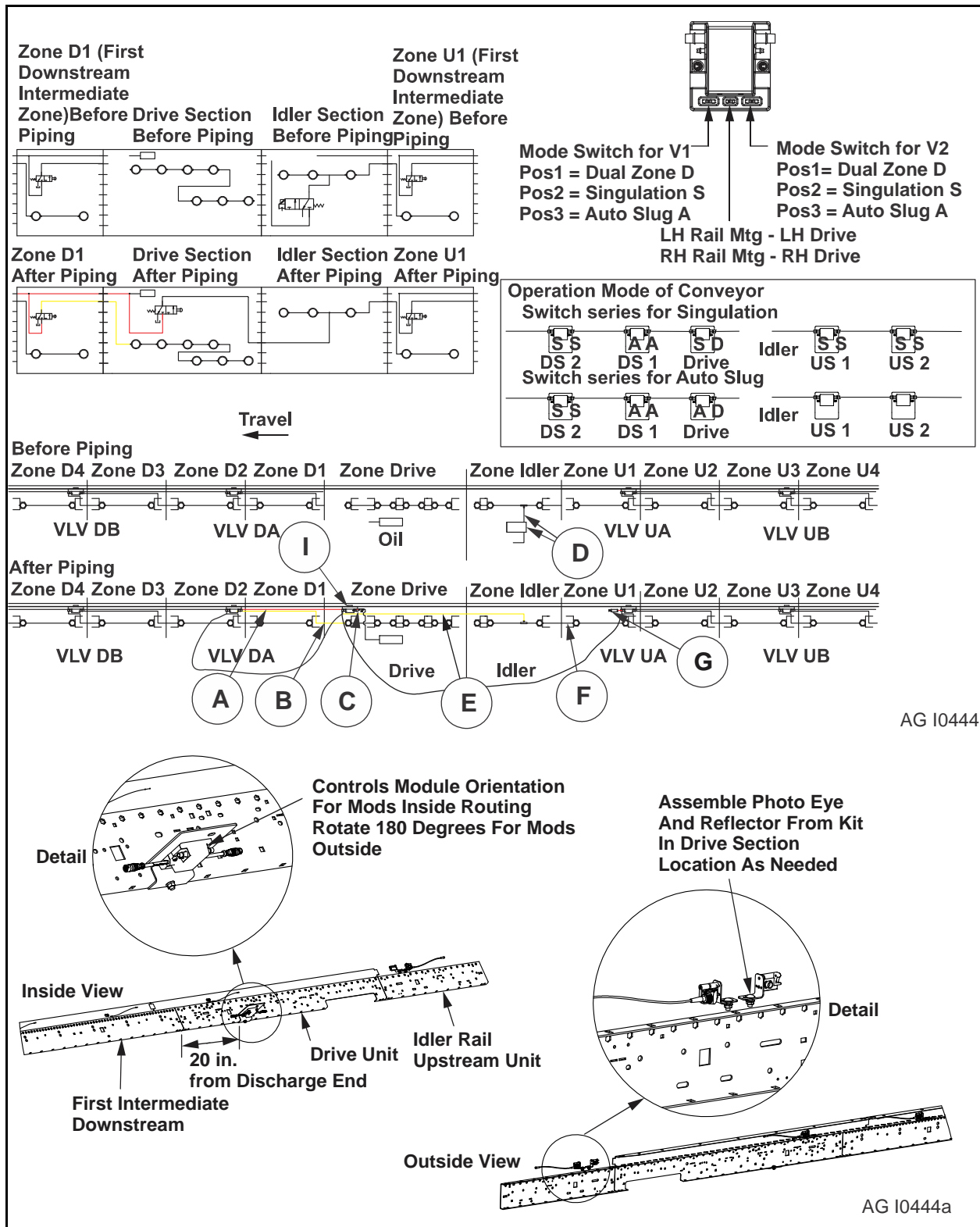


Figure 3 - 8 Interface Head-Tail (GEN 1.5) Field Kit

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Overview	The Interface Head-Tail Field Kit GEN2 provides seamless logic across two conveyors that are installed head-to-tail
Operation	The infeed and discharge idlers are piped as if: 1) they are an extension of the intermediate section, and 2) there is no interruption in the conveyor
Installation	<p>Field installation instructions.</p> <ul style="list-style-type: none"><li>• Turn off and lockout power to the system and remove all air from system before working on the conveyor.</li><li>• Install photo-eye components in the drive section. see illustration on previous page.</li><li>• Connect electrical cords to connect valve modules, using extension cords where needed.</li></ul> <p>A Install 1/2 inch red tubing from valve "DA" to valve in the drive section.</p> <p>B Connect 1/4 inch yellow tubing from output port of valve "DA" to actuators in the drive section.</p> <p>C Install a short piece of 1/2 inch red tubing to the valve in the drive section. Attach the 1/2 x 1/2 connector to 1/2 inch red tube and the 1/2 x 1/4 adapter to the connector. Connect 1/4 inch tube line from the adapter to the oiler valve. This terminates the downstream air supply line.</p> <p>D Remove the solenoid valve from the end idler section. Do not remove the tee located in the air line between the actuators in the idler section.</p> <p>E Install 1/4 inch yellow tube from the output port of the valve in the drive section to the tee located in the air line between the actuators in the idler section.</p> <p>F Connect the actuators in the idler section to the actuators in zone "U1".</p> <p>G Connect a short length of 1/2 inch red tubing to the valve "UA". Connect 1/2 x 1/2 connector to 1/2 inch red tube. Install plug into connector. This terminates the upstream air supply line.</p> <p>H Set the individual valve module switches for the operating mode desired (singulation or auto slug) as shown.</p> <p>I One port on the valve in the drive zone will not be used, as shown.</p>
Part Number	51043700

## Interface Head-Tail Field Kit GEN2

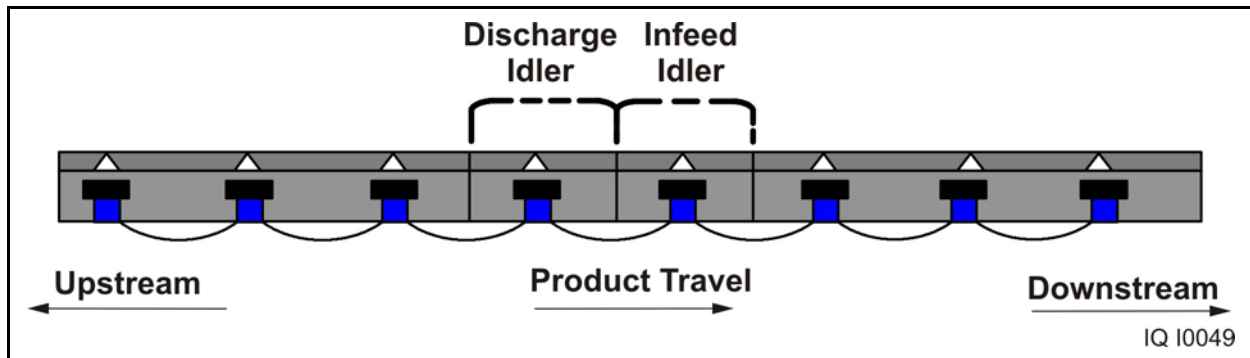
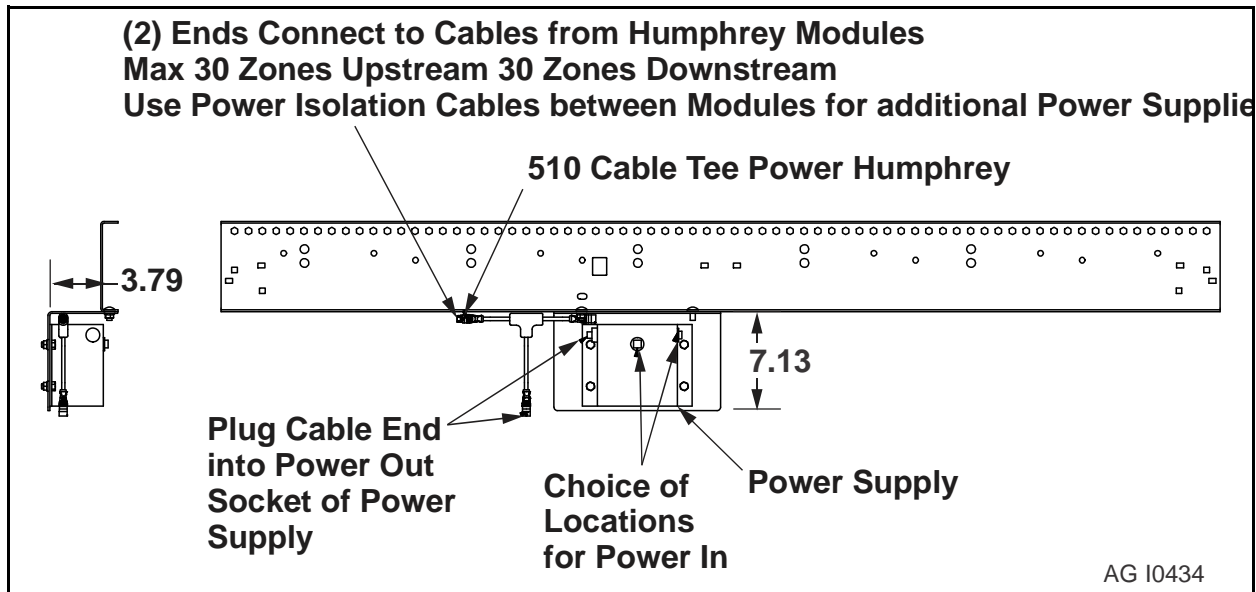


Figure 3 - 9 Interface Head-Tail Field Kit GEN2

Overview	The Interface Head-Tail Field Kit GEN2 provides seamless logic across two conveyors that are installed head-to-tail.
Operation	The infeed and discharge idlers are piped as if: 1) they are an extension of the intermediate section, and 2) there is no interruption in the conveyor.
Kit Includes	The kit consists of two logic modules and the associated mounting and pneumatic hardware.
Installation	The kit consist of a length of tubing and connector chord. The 1/2 inch red tubing is connected from the zone control module in the drive to the zone control module in the adjacent idler. The extension cable is connected between the same two control modules. Insert both the extension cable and tubing through holes in the spreader where possible. Verify that neither the tubing or extension cable is rubbing any moving parts.
Part Number	51048200



**Power Supply Kit**



*Figure 3 - 10 Power Supply*

Overview	The Power Supply Kit consists of a power supply and power tee cable that provides power for the conveyor’s communication network (photo-eyes, zone control logic, etc.).
Operation	<p>With in 6 foot zones the MAX zones would be 44 and 22 max on one side of the power supply. The standard for GEN 1.5 is max 70 zones on a power supply and 55 max on one side of the power supply. For GEN 2 in 3 foot zones the max is 60 zone and 30 max on one side of the power supply.</p> <p>For networks with multiple power supplies, a Power Isolation Cable is required for each additional power supply (ordered separate).</p>
Kit Includes	<p>Power Supply (110VAC input / 24VDC, 4 amp output) with mounting bracket, 4 foot power cord (no connectors), and 20 inches long output cable.</p> <p>Power Tee Cable - connects the Power Supply to the conveyor’s power/network cable.</p>
Installation	<p>The Power Supply/bracket assembly bolts to the bottom flange of the frame rails between two (2) zone controller modules at a point within the grouping of zones serviced.</p> <p>The Power Tee Cable connects to the conveyor’s power/network communication cable.</p> <p>The output connector of the Motor Power Supply connects to the Power Tee Cable.</p>
Part Number	23381000

## Power Isolation Cord Red

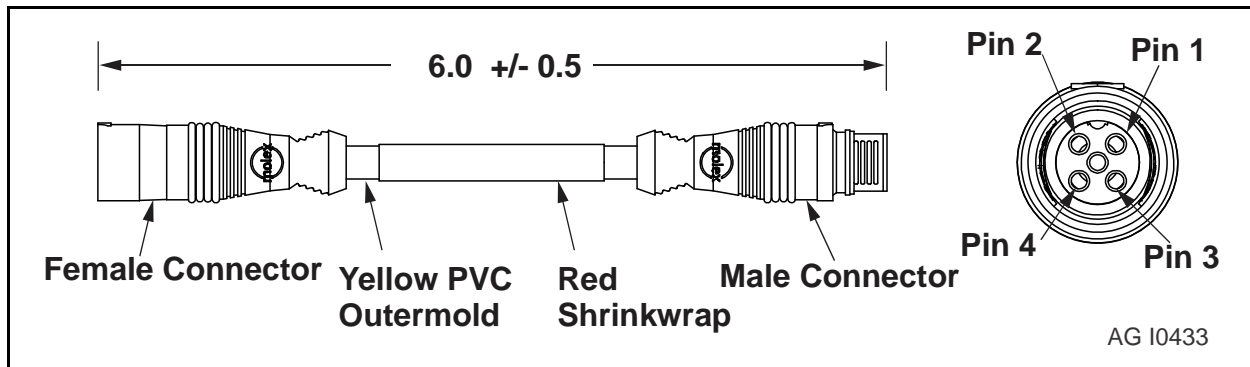
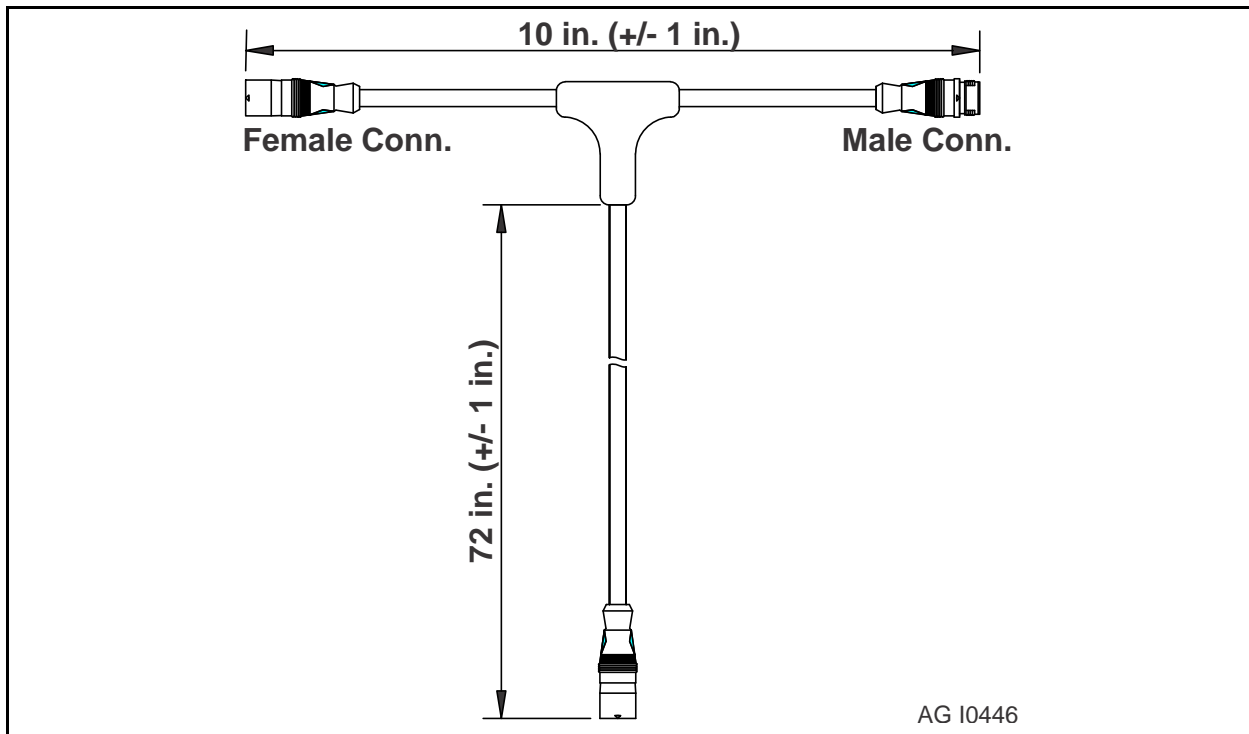


Figure 3 - 11 Power Isolation Cord

Overview	Required for isolating portions of a conveyor that receive power from separate power supplies.
Operation	Transmits all inter-zone communication signals including slug-release. Does NOT transmit the 24VDC power between two (2) adjoining Solenoid Control Modules.
Installation	One 6 inch connector cord is suitable to connect the drive module to the tail module (back-to-back) condition.
Part Number	23380502

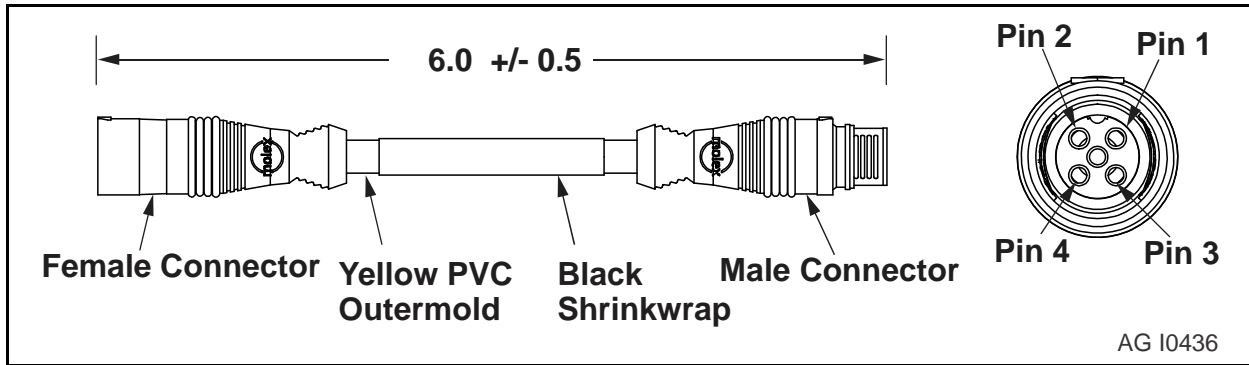
**Power Tap / Slug Module Cord (T-Cord)**



*Figure 3 - 12 Power Tap / Slug Module Cord (T-Cord)*

Overview	The T-Cord is required for connecting power-supply and/or slug module to the Intermediate Straight Section. One T-cord is provided with each power supply.
Operation	Transmits slug-release signal and/or power (24VDC) from the power supply / slug module to the power/communication cord. Transmits power and all inter-zone communication signals between the adjoining solenoid control modules (including slug-release).
Cord, Connections, Length	<p>Cord - Four (4) wire with Yellow PVC jacket.</p> <p>Connectors - 4-pin, 12mm push-to-connect Micro Connector. Long leg of the T-Cord has a female connector that attaches to the male output connector of the power supply/slug module and male/female connectors for connection to the connectors of two (2) inline solenoid control modules.</p> <p>Length - 7 inches x 10 inches (+/- 1 inch)</p>
Part Number	23381700

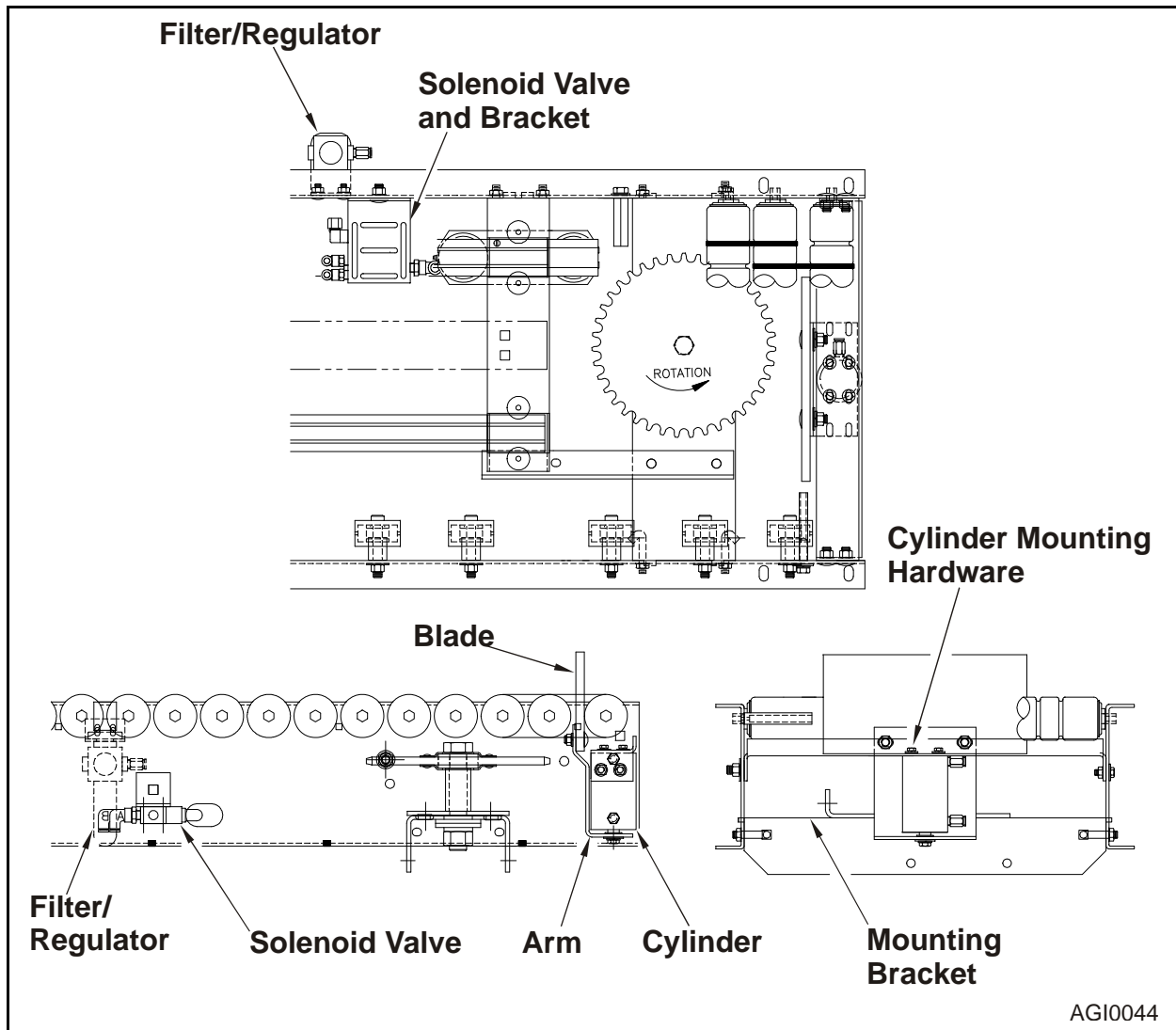
## Slug Terminator Cord 0-6 Black



*Figure 3 - 13 Slug Terminator Cord 0-6 Black*

Overview	Used to terminate the slug signal.
Includes	One slug terminator cord with black cover for quick identification
Installation	Based on the side (RH/LH) of the conveyor on which the controls are located, connect the appropriate connect between control modules where you would like the slug signal to end.
Part Number	23380501

**Blade-Stop - Idler Section**



*Figure 3 - 14 Blade-Stop (Discharge Idler Section)*

**Overview**            The Blade-Stop is an optional flow-control component for the Idler Section. The air-actuated plate-type stop is raised to block accumulated product from advancing onto the adjoining take-away conveyor and is lowered when product is discharged.

**Operation**            A maintained-signal (115VAC / 24VDC) actuates the solenoid-actuated, 4-way valve that controls the double acting air-cylinder.

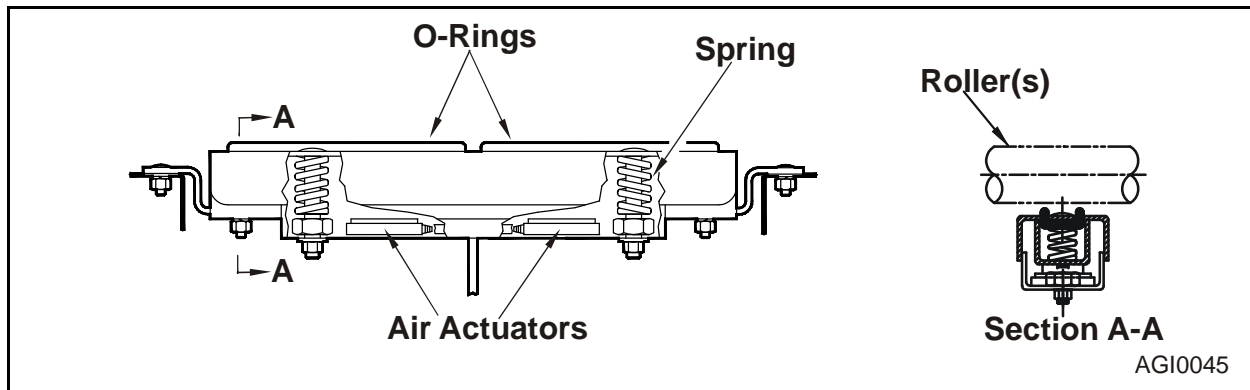
**Power Requirement** 24VDC / 115VAC.

**Air Requirement**     Filter, 60 PSI.

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Mounting	The Blade-Stop and controlling solenoid-valve are factory-assembled into the Idler Section. The unit's separate filter/regulator is strapped to the unit and must be mounted and piped at installation.
Installation	<p>The Blade Stop is factory-assembled into a Discharge Idler Section and piped to a separate 4-2ay solenoid-valve (115VAC / 24VDC) that is also installed in the section. A separate filter/regulator unit (0-100 psi is required. To install the Blade Stop:</p> <ul style="list-style-type: none"><li>• Mount the unit's separate filter/regulator near the Discharge Idler Section and pipe to the solenoid valve.</li><li>• Wire the solenoid to the control panel.</li></ul>
Part Numbers	<p>51007701-510: Case Stop Assembly, Idler W16 115V 51007702-510: Case Stop Assembly, Idler W22 115V 51007703-510: Case Stop Assembly, Idler W28 115V 51007704-510: Case Stop Assembly, Idler W34 115V 51007705-510: Case Stop Assembly, Idler W40 115V 51007706-510: Case Stop Assembly, Idler W16 24V 51007707-510: Case Stop Assembly, Idler W22 24V 51007708-510: Case Stop Assembly, Idler W28 24V 51007709-510: Case Stop Assembly, Idler W34 24V 51007710-510: Case Stop Assembly, Idler W40 24V</p>

**Brake-Module - Idler Section**



*Figure 3 - 15 Brake-Module - Idler Section*

Overview	The Brake-Module controls the “accumulation and release” process by stopping products in the conveyor’s discharge-zone and keeping them from advancing onto the adjoining downstream conveyor. Note: A Brake-Module is not a “positive” stopping device. For “positive” control, use either a Blade Stop, Brake Belt or Brake/Meter Belt Conveyor.
Operation	The spring-set, Brake-Module (2 feet long) raises and frictionally-engages the section’s Carrier Rollers when the zone’s controlling solenoid-valve is non-energized and causing the conveyor’s 6-foot-long “discharge zone” to be non-powered. When the valve is energized to release product, the same air that raises the drive chain/pad into roller engagement causes the Brake-Module to lower and disengage the rollers.
Assembly/Piping	The Brake-Module is factory-assembled into the section and its air-supply line is connected to the solenoid-valve.
Field Assembly / Piping / Wiring	No additional field-assembly, or piping is required. The discharge-zone control valve (110VAC / 24VDC) must be wired to the control panel.
Part Numbers	51007800-510: Idler Drop-In Brake Module

The optional “spring-set” Brake Module is factory-assembled into a Discharge Idler Section and its air supply line is connected into the section’s operational-zone piping. No additional wiring or piping is required.

## Brake-Module (Intermediate-Straight / Curve Sections)

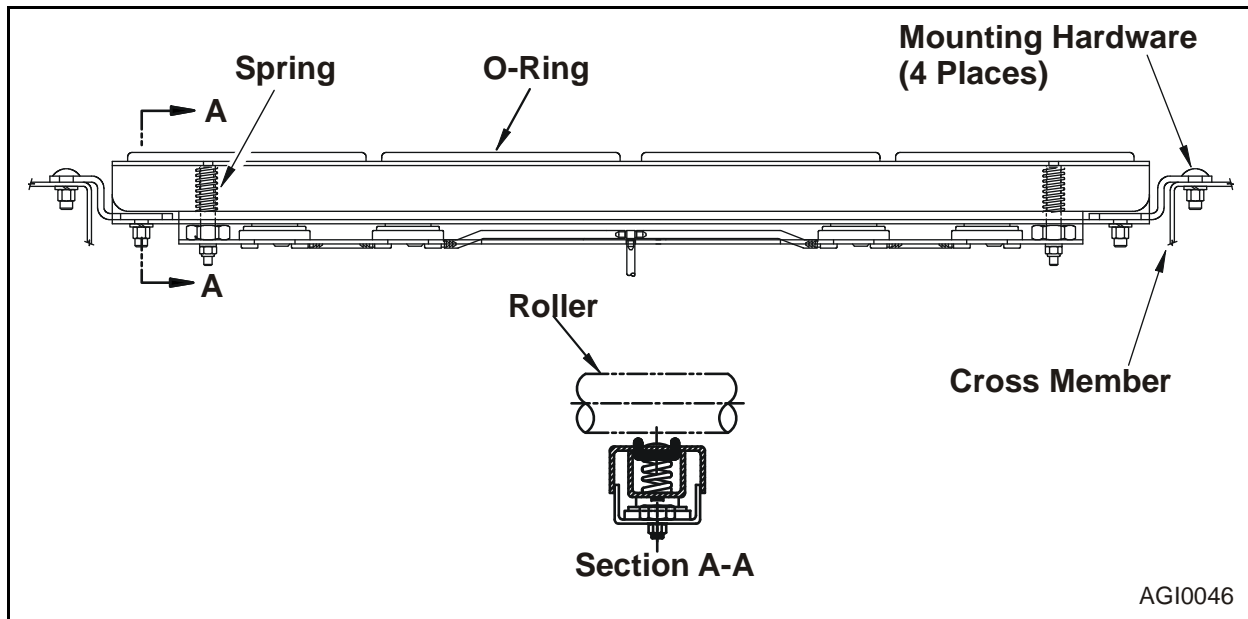


Figure 3 - 16 Brake-Module

Overview	<p>Brake-Modules control product accumulation and release in the Intermediate Straight Sections: 1) at workstations; 2) in batch assembly areas; 3) upstream of an Intermediate Merge Section; and 4) upstream of an Intermediate Curve Section.</p> <p>Kits include two (2) 3-foot-long, spring-set Brake-Modules and the necessary control components for each specific application.</p> <p>A Brake-Module is not a “positive” stopping device. For “positive” control, use a Case Stop.</p>
Operation	<p>Intermediate Straight Section Kits</p> <p>A Brake-Zone (6-foot-long) is controlled by a solenoid-valve (24VDC / 110VAC) that is actuated by an external release signal from: 1) the system’s control program; or 2) a manually actuated switch.</p>
Assembly/Piping	<p>Brake-Modules are shipped as hardware and field-installed into the appropriate zones of an Intermediate Straight Section.</p> <p>Their air supply line must be connected to air-line between a zone’s controlling valve and the air-actuators that raise the drive chain and track.</p>
Power Requirement	<p>Solenoid-controlled Brake-Modules require a maintained signal (24VDC / 110VAC) to disengage the brake and allow the zones to be powered.</p>
Part Numbers	<p>51044100-510: 3-Foot Drop-In Brake Module</p>



**Brake Module Kit**

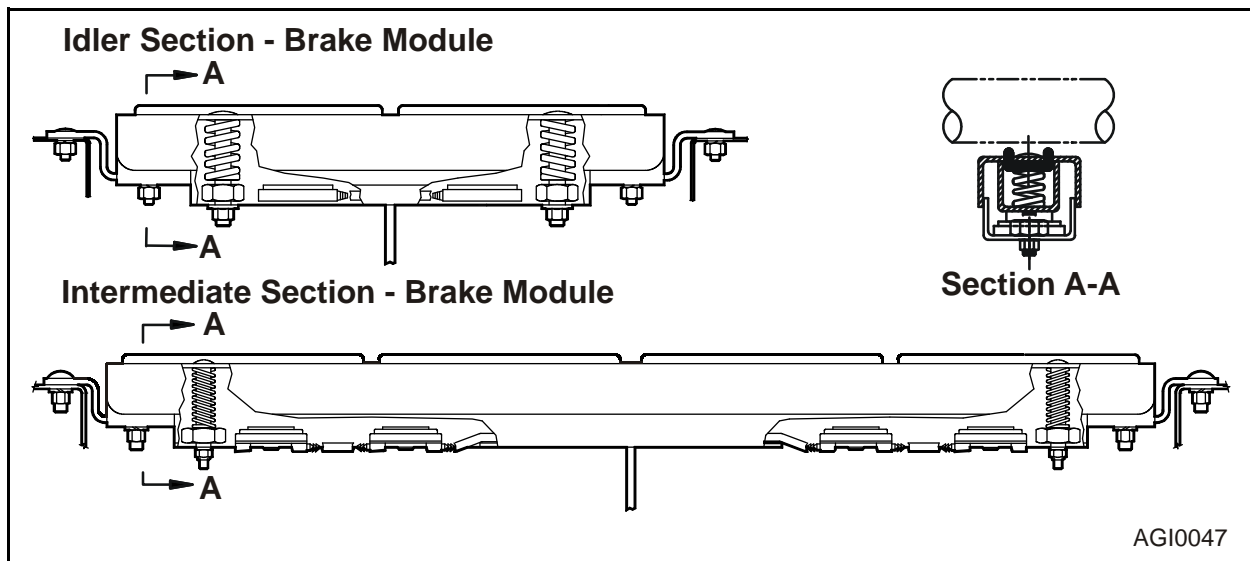


Figure 3 - 17 Brake Module Kit

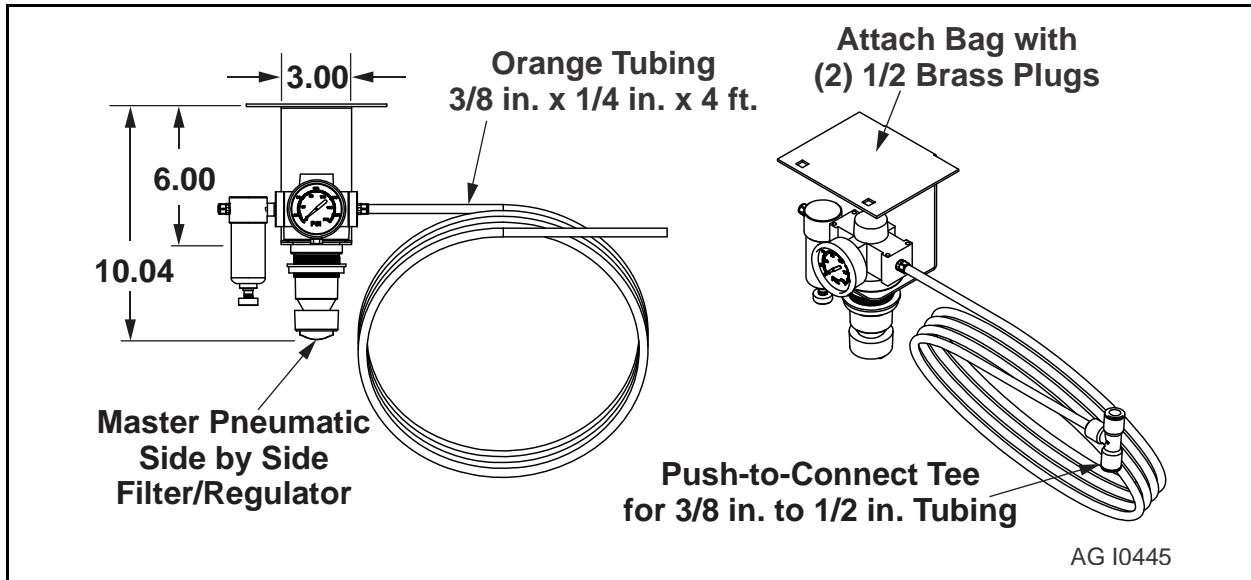
**Overview/Installation**

Install a brake module kit prior to a curve to prevent product from accumulating through the curve where rollers are continuously driven. The brake module can also be installed in straight sections that are used as a work station. Use the pneumatic controls supplied in the kit only with singulation and auto-slug release modes. An electrically controlled solenoid is also available for singulation and auto-slug release modes.

**Part Numbers**

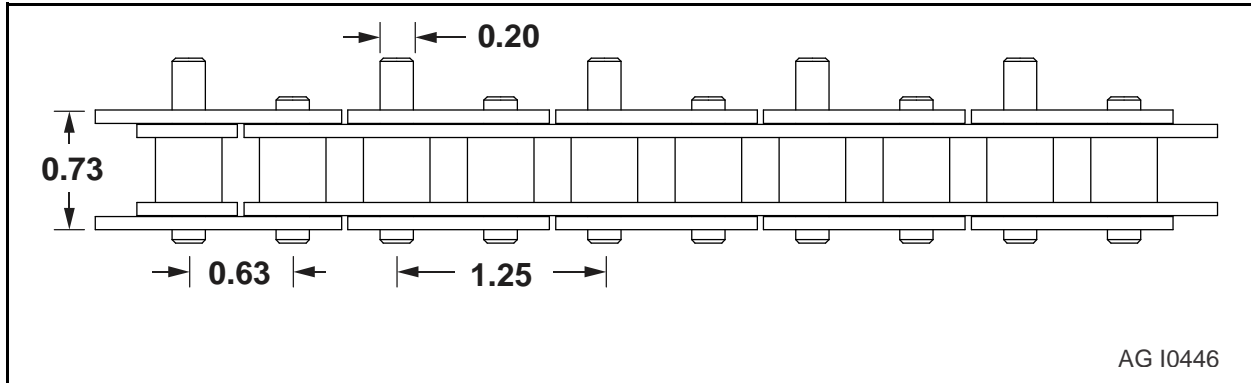
51044000-Field Kit-510: 3-Foot Brake Module

**Filter/Regulator**



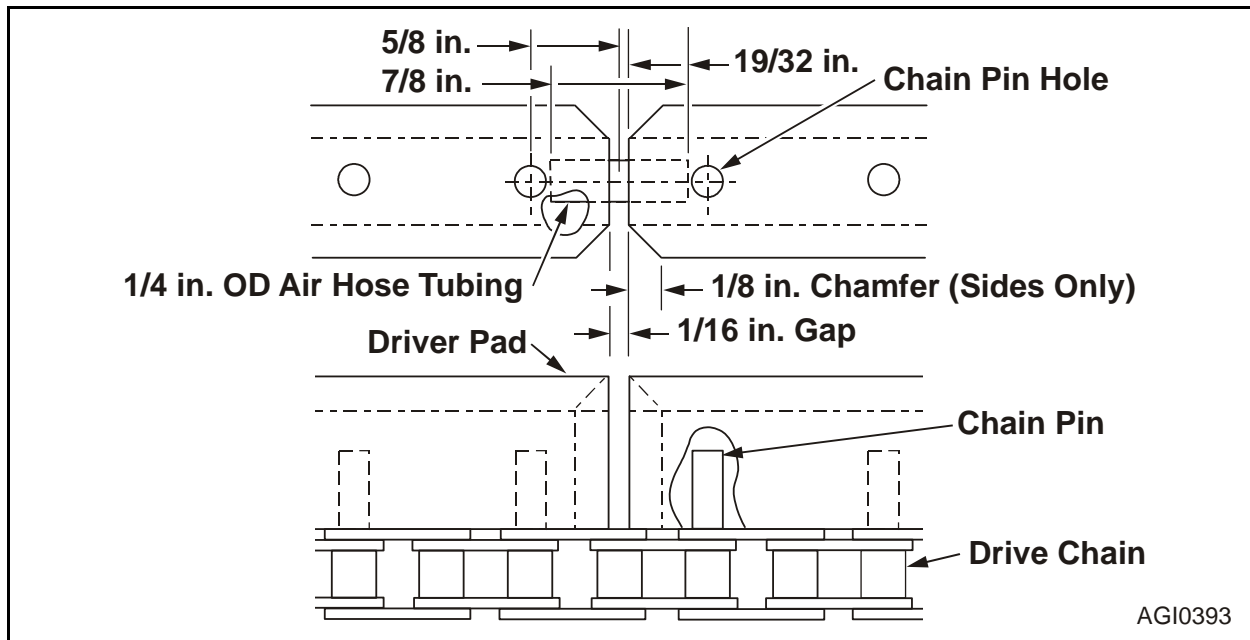
- Overview**                      A minimum of one is required for each 200 feet of conveyor.
- Installation**                Recommended initial setting of operation pressure for intermediates is 12 psi.
- Part Number**                70074200

**Chain RC50 w/ext Pin**



- Overview**                      A urethane driver pad is attached to a continuous roller chain as a drive medium. The chain is sprocket driven and rides in UHMW tracks. The UHMW tracks are pneumatically lifted with the chain and driver pad to provide drive to the rollers.
  
- Installation**                For complete installation procedures, see Installation Procedures chapter, topic Chain Installation.
  
- Part Number**                510212\_\_

## Driver Pad w/Wear Indicator



### Overview

A urethane driver pad is attached on the extended pin of a continuous roller chain as a drive medium. The moving urethane driver pad contacts the bottom surface of the roller to provide the drive force to move the product.

### Installation

For complete installation procedures, see Installation Procedures chapter, topic Driver Pad Installation.

### Part Number

510213

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## Optional Accessories

The following accessories are optional, depending upon the configuration of the conveyor:

- Straight Side Guide
- Photo Eye and Reflector Side Guides
- Skate Wheel Side Guide
- Curve Side Guide
- Merge (Sawtooth) Section Side Guide
- Bull Nose Side Guide
- Side Guide Transition
- Side Guide Transition - End
- 9.75/6.5 Transition Bracket Field Kit
- Chain Track Lubricator
- Oil Reservoir and 1 Liter Float Switch
- Air-Actuated Chain-Tension - Drive Section
- Angle End Stop
- Knee Brace Assembly
- Rollers, Fixed ABEC, Fixed High Speed, Fixed Premium and Pop-out ABEC.
- Splice Plate Kit
- Splice Angle for Curves and Drive
- Skew Kit

**Straight Side Guides**

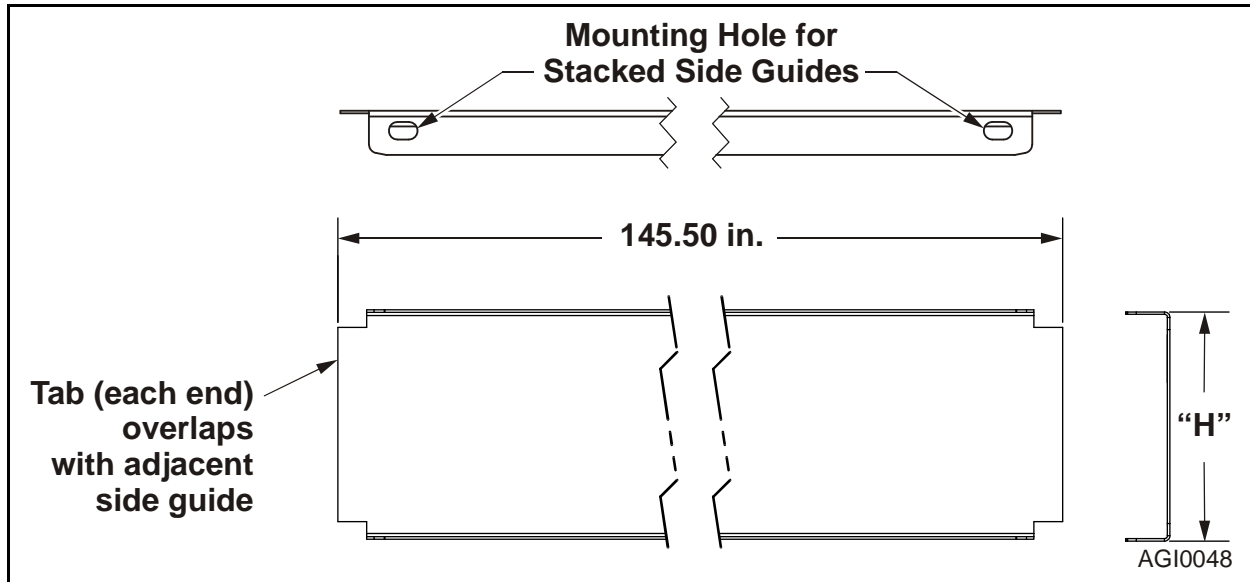


Figure 3 - 18 Straight Side Guide

**Overview** Used for all straight sections that do not require special guides.

**Specifications** Length: 12 feet, 1-1/2 inches  
 Height varies. See Part Numbers information below. If stacked on other side guides, total height limit of the stack (photo-eye and reflector side guides included) is 10 inches.

- Mounting Options**
- Direct-Mounted to the frame
  - Offset to the outside of the frame - 1 or 1.5 inches
  - Mounted to the top of the photo-eye rail.

**Mounting Hardware Kits** Provided for each mounting option. See Installation Procedures chapter for detailed mounting information.

- Available Finishes**
- Plain (powder coated)
  - Galvanized (low -friction)
  - UHMW-Faced (very low -friction)

<b>Part Numbers</b>	Part No.	"H" Height (inches)
	12000101	2.50
	12000102	6.50
	12000103	10.00 (used only in areas without PE/Reflector rails)
	12000104	7.50
	12000105	3.25
	12000106	4.00

**Photo-Eye and Reflector Side Guides**

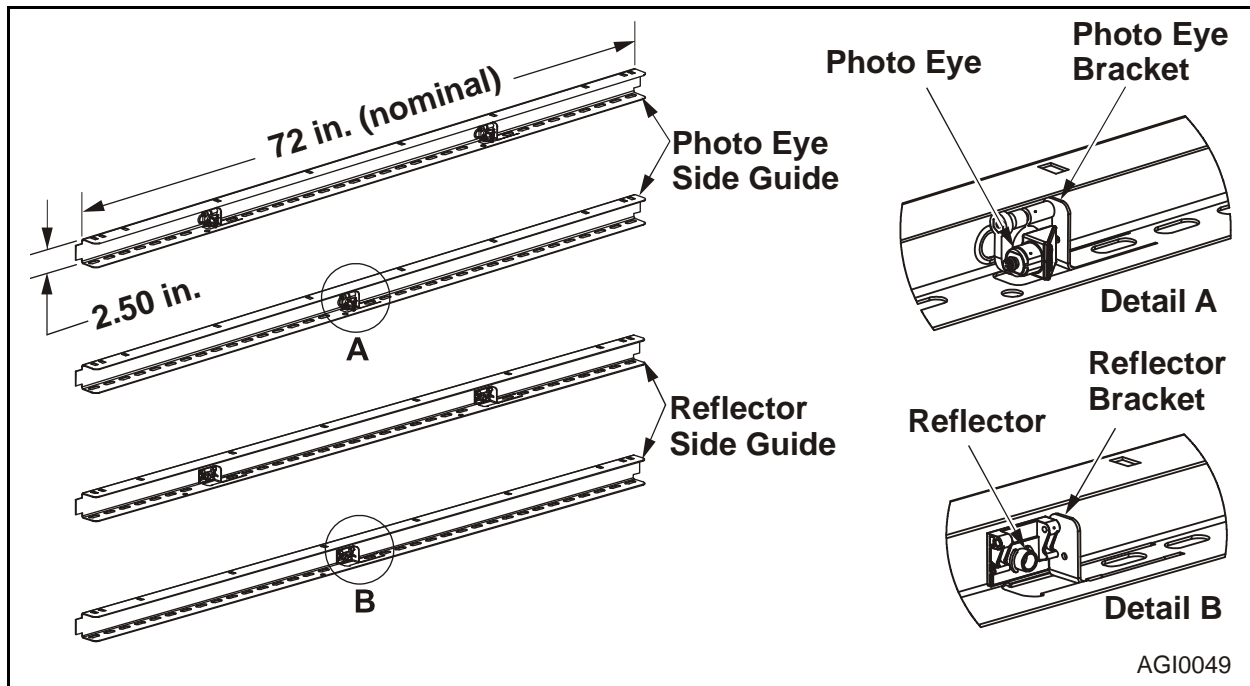


Figure 3 - 19 Photo-Eye and Reflector Side Guides

Overview	Used for mounting photo-eyes and reflectors.
Specifications	Length: 71.9 or 143.9 inches (6 or 12 feet nominal). See Part Numbers information below. Height: 2.50 inches.
Mounting Options	<ul style="list-style-type: none"> <li>• Direct-Mounted to the frame</li> <li>• For Reflector Side Guide only: Offset to the outside of the frame - 1 or 1.5 inches</li> </ul>
Mounting Hardware Kits	Provided for each mounting option. See Installation Procedures chapter for detailed mounting information.
Available Finishes	<ul style="list-style-type: none"> <li>• Plain (powder coated)</li> </ul>

## Part Numbers

**Side 2.5 inch Guide Rail PE SICK**

PE Options	Length (feet)	Height (inches)	Zone Length (feet)
12019601	6	10	3
12019602	6	10	6
12019701	12	10	3
12019702	12	10	6

**Side 10 inch Guide Rail PE SICK**

PE Options	Length (feet)	Height (inches)	Zone Length (feet)
12019801	6	10	3
12019802	6	10	6
12019901	12	10	3
12019902	12	10	6



**Skate Wheel Side Guides**

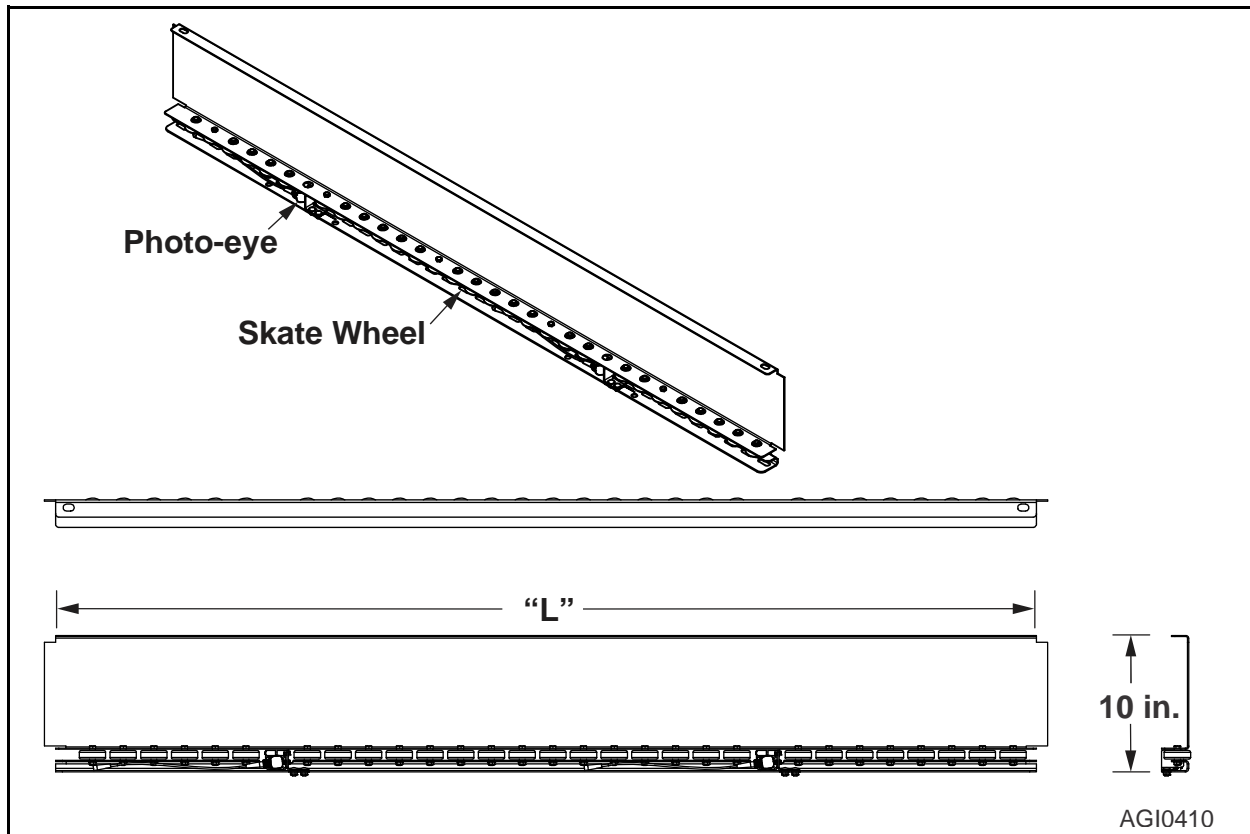


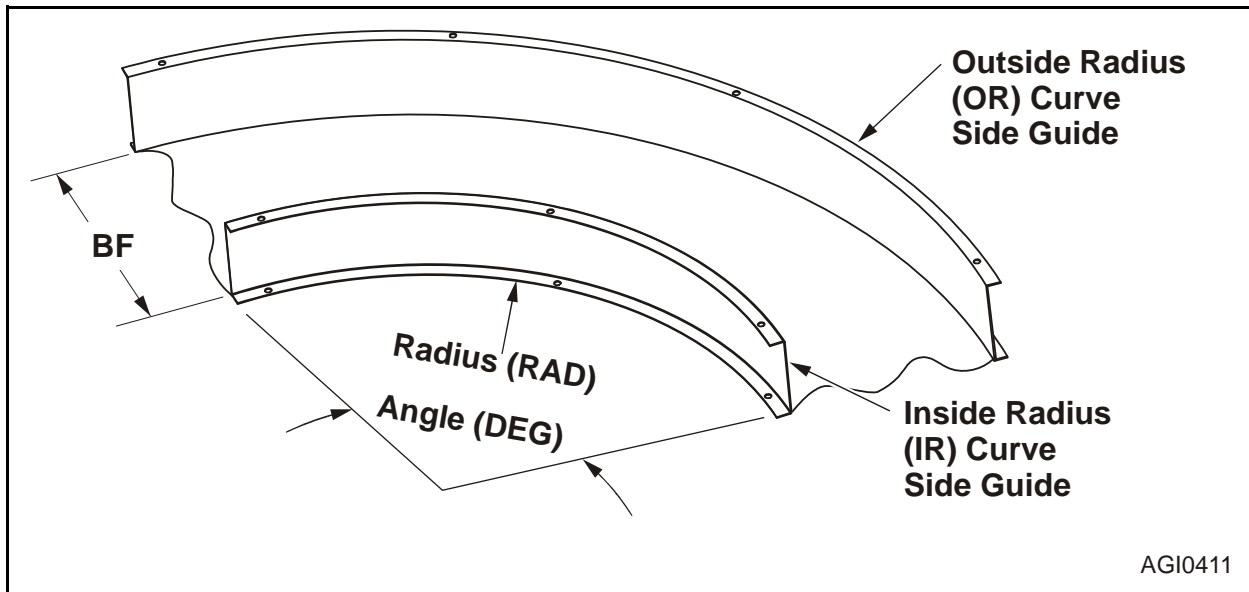
Figure 3 - 20 Skate Wheel Side Guide - 10 inch height shown

Overview	Used for all straight sections where product skewed to one side.
Specifications	Length: 6 and 12 foot lengths Height varies. See Part Numbers information below. Distance from the top of roller to the center of the skate wheel is 1 inch, and 11/16 inch to the bottom edge of the wheel . Equipped with SICK photo-eyes and reflectors.
Mounting Options	Direct-Mounted to the frame.
Mounting Hardware Kits	Provided for direct mounting. See Installation Procedures chapter for detailed mounting information.
Available Finishes	Plain (powder coated)

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Part Numbers	Photo-Eye Part No.	Reflector Part No.	Length (feet)	Height (inches)	Zone Length (feet)
	12017901	12018401	6	2.50	3
	12017902	12018402	6	2.50	6
	12018001	12018501	12	2.50	3
	12018002	12018502	12	2.50	6
	12018101	12018601	6	6.50	3
	12018102	12018602	6	6.50	6
	12018201	12018701	12	6.50	3
	12018202	12018702	12	6.50	6
	12018301	12018801	6	10.00	3
	12018302	1208802	6	10.00	6
	12019501	12018901	12	10.00	3
	12019502	12018902	12	10.00	6

**Curve Side Guides**



*Figure 3 - 21 Curve Side Guide*

Overview	Used for all curve sections.
Specifications	Arc - 30°, 45°, 60°, 90° and 180° (180° comprised of two 90°s) Inside Radius - 30, 40, 50, or 60 inches Outside Radius - 46, 62, 78, 94, or 100 inches Height - 2.5, 6.5, or 10 inches. See Part Numbers information below. If stacked on other side guides, total height limit of the stack is 10 inches.
Mounting Options	Direct-Mounted to the frame
Mounting Hardware Kits	Provided for each mounting option. See Installation Procedures chapter for detailed mounting information.
Available Finishes	Plain (powder coated)
Part Numbers	Refer to Table 3 - 1 through Table 3 - 4 for part number information.

Table 3 - 1 30° Curve Side Guide Part Numbers

BF	Part Number	Description	Part Number	Description
16	12002401	SG 30DEG IR CRV 30" RAD 2-1/2" H	12002501	SG 30DEG OR CRV 46" RAD 2-1/2" H
16	12002402	SG 30DEG IR CRV 30" RAD 6-1/2" H	12002502	SG 30DEG OR CRV 46" RAD 6-1/2" H
16	12002403	SG 30DEG IR CRV 30" RAD 10" H	12002503	SG 30DEG OR CRV 46" RAD 10" H
22	12002404	SG 30DEG IR CRV 40" RAD 2-1/2" H	12002516	SG 30DEG OR CRV 62" RAD 2-1/2" H
22	12002405	SG 30DEG IR CRV 40" RAD 6-1/2" H	12002517	SG 30DEG OR CRV 62" RAD 6-1/2" H
22	12002406	SG 30DEG IR CRV 40" RAD 10" H	12002518	SG 30DEG OR CRV 62" RAD 10" H
28	12002407	SG 30DEG IR CRV 50" RAD 2-1/2" H	12002519	SG 30DEG OR CRV 78" RAD 2-1/2" H
28	12002408	SG 30DEG IR CRV 50" RAD 6-1/2" H	12002520	SG 30DEG OR CRV 78" RAD 6-1/2" H
28	12002409	SG 30DEG IR CRV 50" RAD 10" H	12002521	SG 30DEG OR CRV 78" RAD 10" H
34	12002410	SG 30DEG IR CRV 60" RAD 2-1/2" H	12002522	SG 30DEG OR CRV 94" RAD 2-1/2" H
34	12002411	SG 30DEG IR CRV 60" RAD 6-1/2" H	12002523	SG 30DEG OR CRV 94" RAD 6-1/2" H
34	12002412	SG 30DEG IR CRV 60" RAD 10" H	12002524	SG 30DEG OR CRV 94" RAD 10" H
40	12002410	SG 30DEG IR CRV 60" RAD 2-1/2" H	12002525	SG 30DEG OR CRV 100" RAD 2-1/2" H
40	12002411	SG 30DEG IR CRV 60" RAD 6-1/2" H	12002526	SG 30DEG OR CRV 100" RAD 6-1/2" H
40	12002412	SG 30DEG IR CRV 60" RAD 10" H	12002527	SG 30DEG OR CRV 100" RAD 10" H

**Table 3 - 2 45° Curve Side Guide Part Numbers**

BF	Part Number	Description	Part Number	Description
16	12002601	SG 45DEG IR CRV 30" RAD 2-1/2" H	12002701	SG 45DEG OR CRV 46" RAD 2-1/2" H
16	12002602	SG 45DEG IR CRV 30" RAD 6-1/2" H	12002702	SG 45DEG OR CRV 46" RAD 6-1/2" H
16	12002603	SG 45DEG IR CRV 30" RAD 10" H	12002703	SG 45DEG OR CRV 46" RAD 10" H
22	12002604	SG 45DEG IR CRV 40" RAD 2-1/2" H	12002716	SG 45DEG OR CRV 62" RAD 2-1/2" H
22	12002605	SG 45DEG IR CRV 40" RAD 6-1/2" H	12002717	SG 45DEG OR CRV 62" RAD 6-1/2" H
22	12002606	SG 45DEG IR CRV 40" RAD 10" H	12002718	SG 45DEG OR CRV 62" RAD 10" H
28	12002607	SG 45DEG IR CRV 50" RAD 2-1/2" H	12002719	SG 45DEG OR CRV 78" RAD 2-1/2" H
28	12002608	SG 45DEG IR CRV 50" RAD 6-1/2" H	12002720	SG 45DEG OR CRV 78" RAD 6-1/2" H
28	12002609	SG 45DEG IR CRV 50" RAD 10" H	12002721	SG 45DEG OR CRV 78" RAD 10" H
34	12002610	SG 45DEG IR CRV 60" RAD 2-1/2" H	12002722	SG 45DEG OR CRV 94" RAD 2-1/2" H
34	12002611	SG 45DEG IR CRV 60" RAD 6-1/2" H	12002723	SG 45DEG OR CRV 94" RAD 6-1/2" H
34	12002612	SG 45DEG IR CRV 60" RAD 10" H	12002724	SG 45DEG OR CRV 94" RAD 10" H
40	12002610	SG 45DEG IR CRV 60" RAD 2-1/2" H	12002725	SG 45DEG OR CRV 100" RAD 2-1/2" H
40	12002611	SG 45DEG IR CRV 60" RAD 6-1/2" H	12002726	SG 45DEG OR CRV 100" RAD 6-1/2" H
40	12002612	SG 45DEG IR CRV 60" RAD 10" H	12002727	SG 45DEG OR CRV 100" RAD 10" H

Table 3 - 3 60° Curve Side Guide Part Numbers

BF	Part Number	Description	Part Number	Description
16	12002801	SG 60DEG IR CRV 30" RAD 2-1/2" H	12002901	SG 60DEG OR CRV 46" RAD 2-1/2" H
16	12002802	SG 60DEG IR CRV 30" RAD 6-1/2" H	12002902	SG 60DEG OR CRV 46" RAD 6-1/2" H
16	12002803	SG 60DEG IR CRV 30" RAD 10" H	12002903	SG 60DEG OR CRV 46" RAD 10" H
22	12002804	SG 60DEG IR CRV 40" RAD 2-1/2" H	12002916	SG 60DEG OR CRV 62" RAD 2-1/2" H
22	12002805	SG 60DEG IR CRV 40" RAD 6-1/2" H	12002917	SG 60DEG OR CRV 62" RAD 6-1/2" H
22	12002806	SG 60DEG IR CRV 40" RAD 10" H	12002918	SG 60DEG OR CRV 62" RAD 10" H
28	12002807	SG 60DEG IR CRV 50" RAD 2-1/2" H	12002919	SG 60DEG OR CRV 78" RAD 2-1/2" H
28	12002808	SG 60DEG IR CRV 50" RAD 6-1/2" H	12002920	SG 60DEG OR CRV 78" RAD 6-1/2" H
28	12002809	SG 60DEG IR CRV 50" RAD 10" H	12002921	SG 60DEG OR CRV 78" RAD 10" H
34	12002810	SG 60DEG IR CRV 60" RAD 2-1/2" H	12002922	SG 60DEG OR CRV 94" RAD 2-1/2" H
34	12002811	SG 60DEG IR CRV 60" RAD 6-1/2" H	12002923	SG 60DEG OR CRV 94" RAD 6 1/2" H
34	12002812	SG 60DEG IR CRV 60" RAD 10" H	12002924	SG 60DEG OR CRV 94" RAD 10" H
40	12002810	SG 60DEG IR CRV 60" RAD 2-1/2" H	12002925	SG 60DEG OR CRV 100" RAD 2-1/2" H
40	12002811	SG 60DEG IR CRV 60" RAD 6-1/2" H	12002926	SG 60DEG OR CRV 100" RAD 6-1/2" H
40	12002812	SG 60DEG IR CRV 60" RAD 10" H	12002927	SG 60DEG OR CRV 100" RAD 10" H

**Table 3 - 4 90° and 180° Curve Side Guide Part Numbers**

BF	Part Number	Description	Part Number	Description
16	12003201	SG 90DEG IR CRV 30" RAD 2-1/2" H	12003301	SG 90DEG OR CRV 46" RAD 2-1/2" H
16	12003202	SG 90DEG IR CRV 30" RAD 6-1/2" H	12003302	SG 90DEG OR CRV 46" RAD 6-1/2" H
16	12003203	SG 90DEG IR CRV 30" RAD 10" H	12003303	SG 90DEG OR CRV 46" RAD 10" H
22	12003204	SG 90DEG IR CRV 40" RAD 2-1/2" H	12003316	SG 90DEG OR CRV 62" RAD 2-1/2" H
22	12003205	SG 90DEG IR CRV 40" RAD 6-1/2" H	12003317	SG 90DEG OR CRV 62" RAD 6-1/2" H
22	12003206	SG 90DEG IR CRV 40" RAD 10" H	12003318	SG 90DEG OR CRV 62" RAD 10" H
28	12003207	SG 90DEG IR CRV 50" RAD 2-1/2" H	12003319	SG 90DEG OR CRV 78" RAD 2-1/2" H
28	12003208	SG 90DEG IR CRV 50" RAD 6-1/2" H	12003320	SG 90DEG OR CRV 78" RAD 6-1/2" H
28	12003209	SG 90DEG IR CRV 50" RAD 10" H	12003321	SG 90DEG OR CRV 78" RAD 10" H
34	12003210	SG 90DEG IR CRV 60" RAD 2-1/2" H	12002722	SG 45DEG OR CRV 94" RAD 2-1/2" H - QTY (2)
34	12003211	SG 90DEG IR CRV 60" RAD 6-1/2" H	12002723	SG 45DEG OR CRV 94" RAD 6-1/2" H - QTY (2)
34	12003212	SG 90DEG IR CRV 60" RAD 10" H	12002724	SG 45DEG OR CRV 94" RAD 10" H - QTY (2)
40	12003210	SG 90DEG IR CRV 60" RAD 2-1/2" H	12002425	SG 45DEG OR CRV 100" RAD 2-1/2" H - QTY (2)
40	12003211	SG 90DEG IR CRV 60" RAD 6-1/2" H	12002726	SG 45DEG OR CRV 100" RAD 6-1/2" H - QTY (2)
40	12003212	SG 90DEG IR CRV 60" RAD 10" H	12002727	SG 45DEG OR CRV 100" RAD 10" H - QTY (2)

## Merge (Sawtooth) Section Side Guides

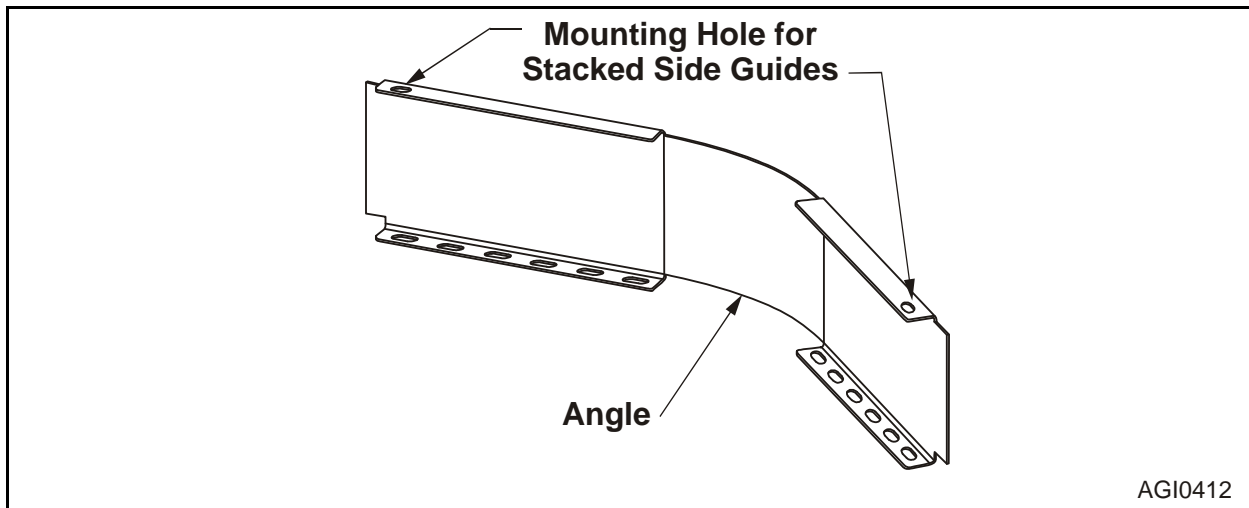


Figure 3 - 22 Merge (Sawtooth) Side Guide

**Overview** Used for all merge (sawtooth) sections.

**Specifications** Length - varies  
 Height - 2.5, 6.5, or 10 inches. See Part Numbers information below.  
 If stacked on other side guides, total height limit of the stack is 10 inches.  
 Angle - 20°, 30°, or 45°

**Mounting Options** • Direct-Mounted to the frame

**Mounting Hardware Kits** Provided for each mounting option. See Installation Procedures chapter for detailed mounting information.

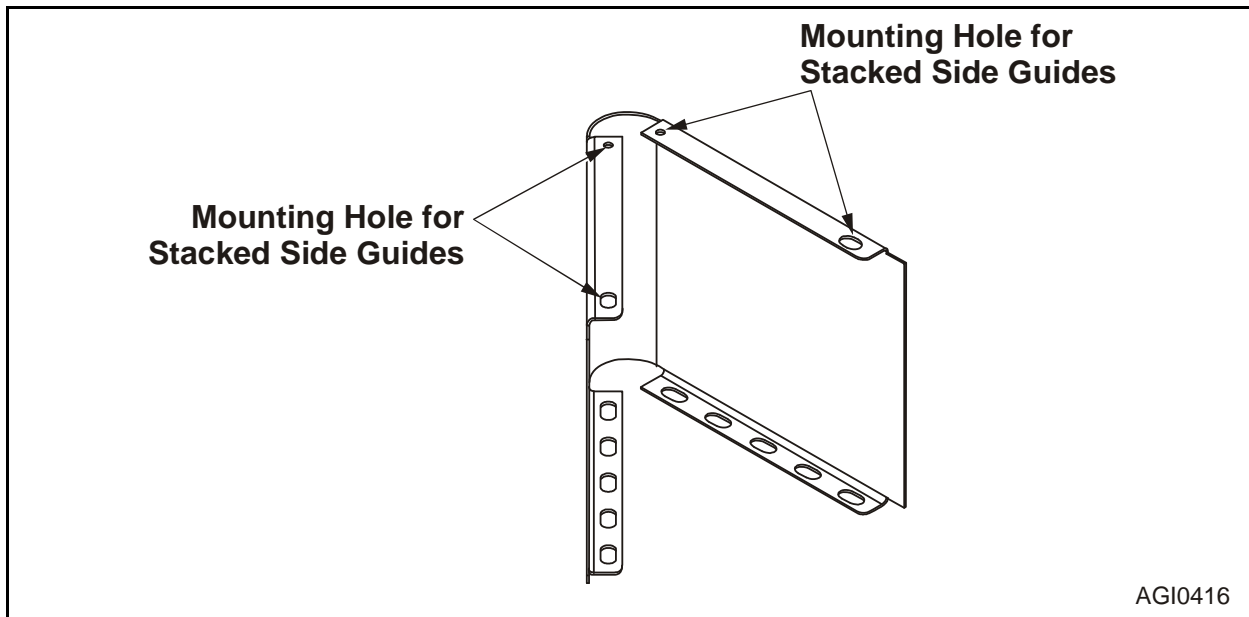
**Available Finishes** • Plain (powder coated)

Part Numbers	Part No.	Height	Angle	Part No.	Height	Angle
		(inches)			(inches)	
	12012601	2.50	20°	12012606	6.50	45°
	12012602	2.50	30°	12012607	10.00*	20°
	12012603	2.50	45°	12012608	10.00*	30°
	12012604	6.50	20°	12012609	10.00*	45°
	12012605	6.50	30°			

\*Used only in areas without PE/Reflector guard rails.



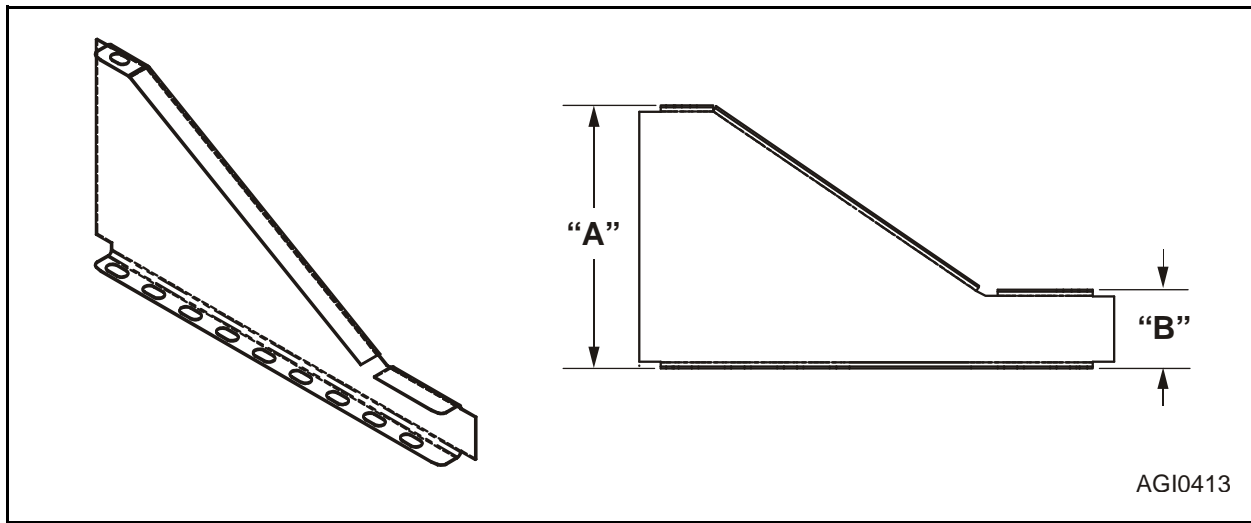
**Bull Nose Side Guides**



*Figure 3 - 23 Bull Nose Side Guide*

Overview	Used on all merge (sawtooth) sections for the acute angle between the Accuglide and the connecting conveyor.								
Specifications	Length - varies Height - 2.5, 6.5, or 10 inches. See Part Numbers information below. If stacked on other side guides, total height limit of the stack is 10 inches.								
Mounting Options	<ul style="list-style-type: none"> <li>• Direct-Mounted to the frame</li> </ul>								
Mounting Hardware Kits	Provided for each mounting option. See Installation Procedures chapter for detailed mounting information.								
Available Finishes	<ul style="list-style-type: none"> <li>• Plain (powder coated)</li> </ul>								
Part Numbers	<table border="0" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: left;">Part No.</th> <th style="text-align: left;">Height (inches)</th> </tr> </thead> <tbody> <tr> <td>12012501</td> <td>2.50</td> </tr> <tr> <td>12012502</td> <td>6.50</td> </tr> <tr> <td>12012503</td> <td>10</td> </tr> </tbody> </table>	Part No.	Height (inches)	12012501	2.50	12012502	6.50	12012503	10
Part No.	Height (inches)								
12012501	2.50								
12012502	6.50								
12012503	10								

**Transition Side Guides**



*Figure 3 - 24 Transition Side Guide*

**Overview** The Side Guide Transition with both ends larger than 0 inches is used when the side guide changes height.

**Specifications** Left-Hand and Right-Hand designations.  
 Length - varies  
 Height, Short Side of Transition - 2.50 and 6.5 inches  
 Height, Long Side of Transition - 6.50 and 10 inches  
 See Part Numbers information below.

**Mounting Options**

- Direct-Mounted to the frame
- Offset to the outside of the frame - 1 or 1.5 inches

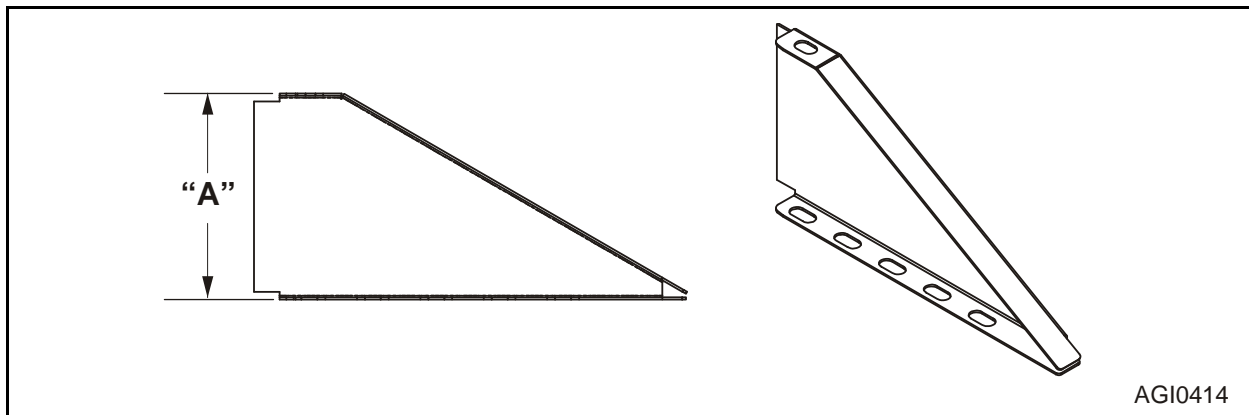
**Mounting Hardware Kits** Provided for each mounting option. See Installation Procedures chapter for detailed mounting information.

**Available Finishes**

- Plain (powder coated)
- Galvanized (low -friction)
- UHMW-Faced (very low -friction)

Part Numbers	"A"	"B"	
Part No.	(inches)	(inches)	Designation
12013201	10	2.50	RH
12013202	6.50	2.50	RH
12013203	10	6.50	RH
12013204	10	2.50	LH
12013205	6.50	2.50	LH
12013206	10	6.50	LH

**Transition - End Side Guides**



*Figure 3 - 25 Transition - End Side Guide*

**Overview** The Side Guide Transition with one end at 0 inches is used to end a side guide at the end of a conveyor line, or to transition from a conveyor section with side guides to a section without side guides.

**Specifications** Left-Hand and Right-Hand designations.  
 Length - varies  
 Height, Short Side of Transition - 0 inches  
 Height, Long Side of Transition - 2.50, 6.50, 7.50, and 10 inches  
 See Part Numbers information below.

**Mounting Options**

- Direct-Mounted to the frame
- Offset to the outside of the frame - 1 or 1.5 inches

**Mounting Hardware Kits** Provided for each mounting option. See Installation Procedures chapter for detailed mounting information.

**Available Finishes**

- Plain (powder coated)
- Galvanized (low -friction)
- UHMW-Faced (very low -friction)

Part Numbers	"A"	
Part No.	(inches)	Designation
12012001	2.50	RH
12012002	6.50	RH
12012003	10	RH
12012007	7.50	RH
12012101	2.50	LH
12012102	6.50	LH
12012103	10	LH
12012107	7.50	LH

## 9.75/6.5 Transition Bracket Field Kit

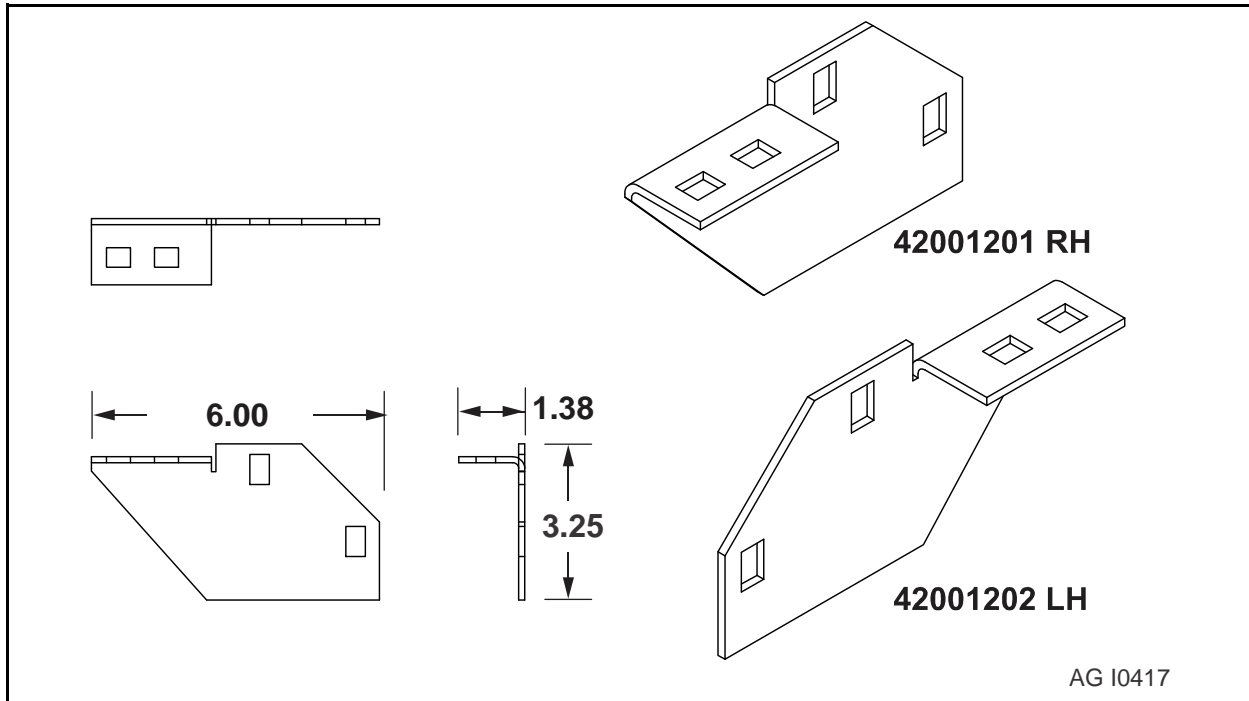


Figure 3 - 26 9.75/6.5 Transition Bracket Field Kit

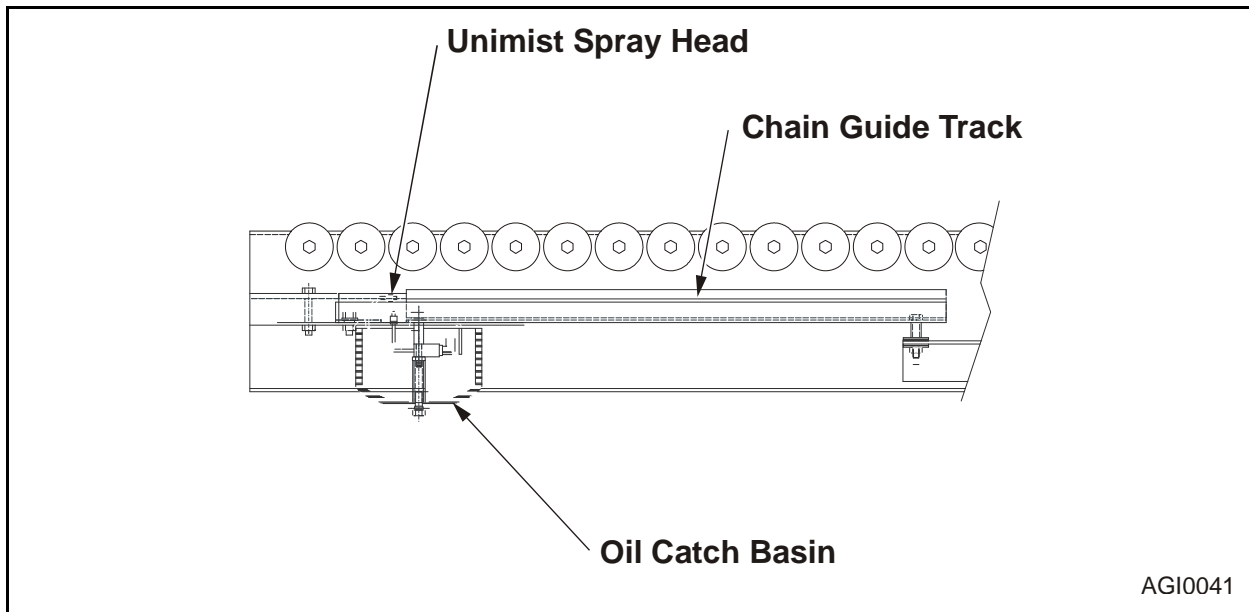
**Overview** The Brackets can be ordered to reinforce the coupling of a 6.5 inch or a 9.75 inch frame conveyor.

Note: Any changes in frame height, in a single conveyor line, the brackets will be included at the factory.

For example, this accessory can be ordered when transitioning from a 6.5 inch conveyor frame to a 9.75 inch conveyor frame.

**Part Numbers** 42001201 - Right Hand  
42001202 - Left Hand

**Chain Track Lubricator - Solenoid-Controlled (Drive Section)**



*Figure 3 - 27 Chain Track Lubricator - Solenoid-Controlled*

Overview	The solenoid-controlled Chain-Track Lubricator is an alternate for the standard, Magnetic-type Track Lubricator that sprays lubricant onto the drive chain track in response to a programmed external signal.
Operation	A maintained external signal (24VDC / 110VQAC) actuates and opens the solenoid-valve (2-way, normally-closed) to pressurize the lubricant-reservoir and spray nozzle.
Air Requirement	The solenoid-valve is connected to the conveyor's main-air supply line. No additional air-supply.
Mounting	The solenoid-valve, chain-track, and spray nozzle are factory-assembled into the Infeed Drive Section. The oil reservoir is piped to the solenoid-valve and the spray nozzle. The oil reservoir with its mounting bracket is strapped to the underside of the drive section.
Installation	The oil reservoir assembly must be bolted to the bottom flange of the side rail. No additional piping is required.
Field Wiring	The solenoid-valve (110VAC / 240VDC) must be wired to the control panel.
Part Numbers	51023501-510: Track Solenoid-Oil AC115V 51023502-510: Track Solenoid-Oil 24V 51020300-510: Magnetic Sensor Chain Lubricator Assembly

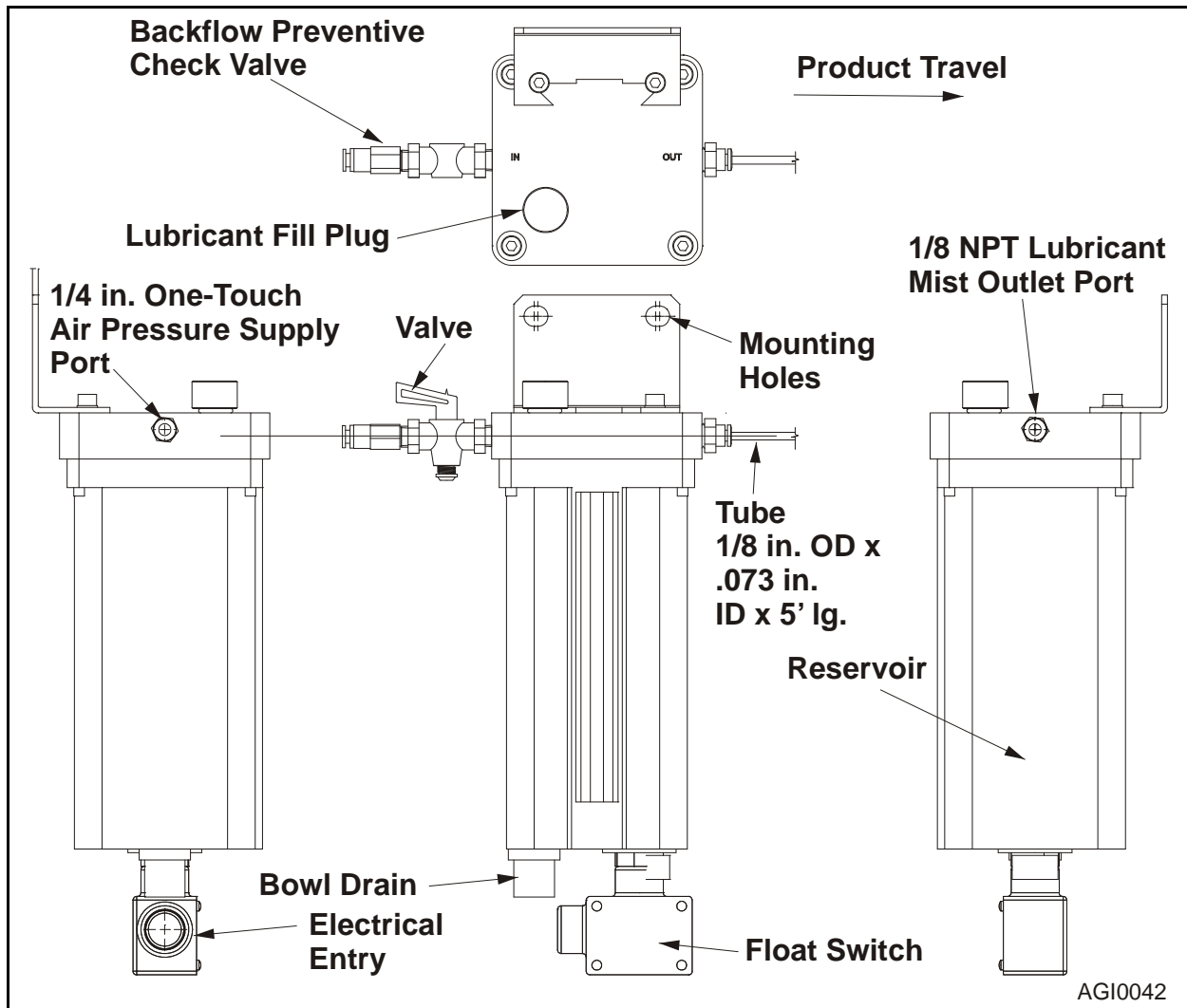
**Oil Reservoir One (1) Liter - Float Switch**

Figure 3 - 28 Oil Reservoir - One (1) Liter - Float Switch

Overview	The Oil Reservoir with float switch is an alternate for the standard, without switch type. It uses SMC Reservoir AL-DUM00277
Operation	An external signal is sent when the oil is below 2 fluid ounces. Switching condition is switched off with float down.

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Installation	<p>The chain lubricator is factory assembled into the drive section. The oil reservoir is shipped separate and must be assembled at the time of installation.</p> <p>The illustration shows the oil reservoir mounting location on the drive section's frame and the air and oil lines that must be connected.</p> <ul style="list-style-type: none"><li>• Attach the oil reservoir and its mounting bracket to the bottom flange of the drive section's frame rail.</li><li>• Connect the air and oil as shown in Figure 3 - 28.</li><li>• Fill the oil reservoir with SAE 10 weight non-detergent motor oil.</li></ul>
Part Numbers	<p>51023300-510: Oil Reservoir Assembly 1 Liter 51023400-510: Oil Reservoir Assembly 1 Liter with Float Switch</p>

## Air-Actuated, Chain-Tensioner (Drive Section)

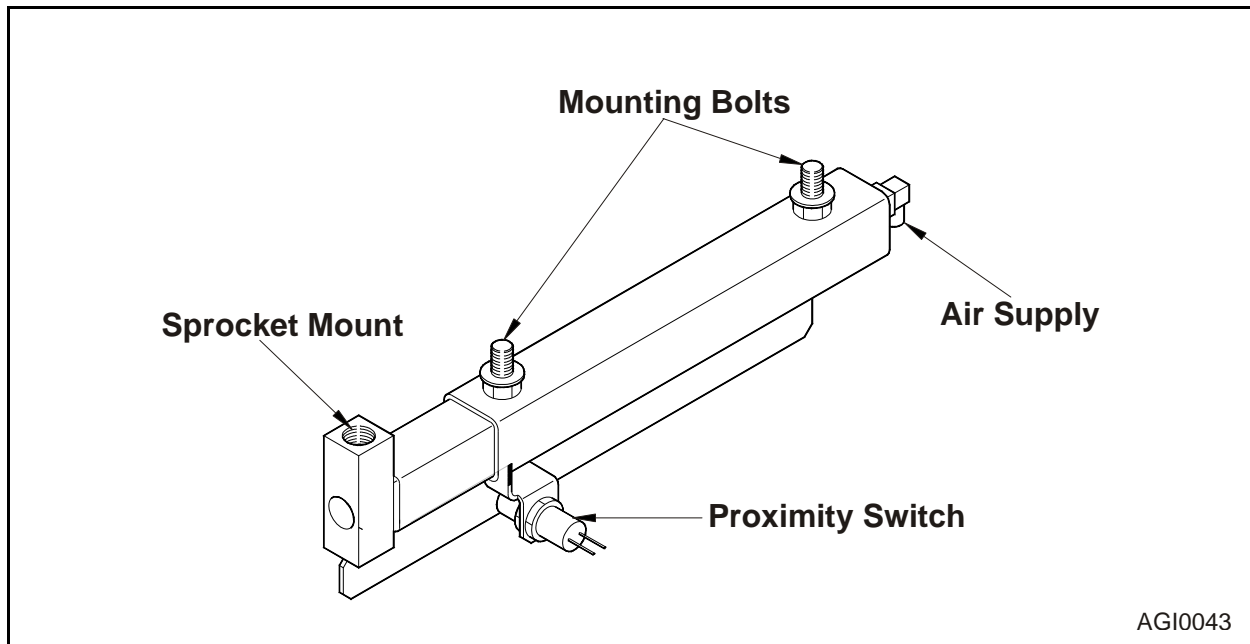
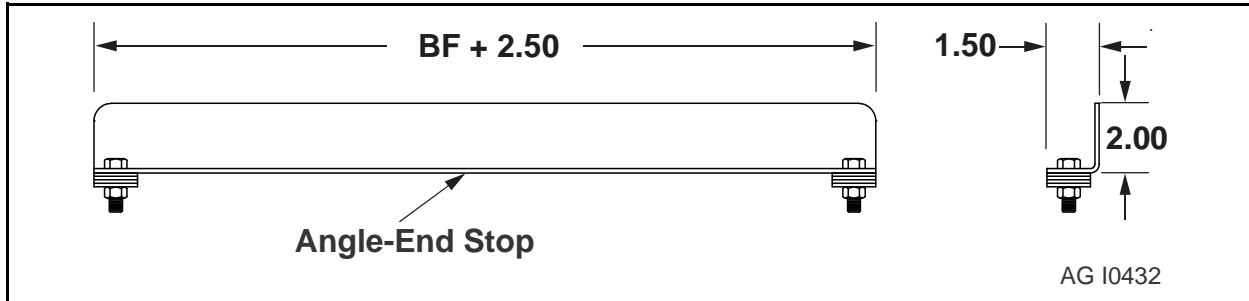


Figure 3 - 29 Air-Actuated, Chain-Tensioner

Overview	The air-actuated Chain-Tensioner is an alternate for the standard, spring-type chain tensioner that provides constant tension to the drive chain.
Operation	The tensioner extends 10 inches to provide constant tension to the drive chain. A proximity switch (110VAC / 24VDC) senses the amount of extension and signals when it is necessary to shorten the drive chain/pad length.
Air Requirement	A separate high-pressure air-supply (80 psi) is required. Note: The tensioners of several conveyors can utilize a common filter/regulator unit.
Mounting	The air-tensioner is factory-assembled into the Infeed Drive Section.
Field Assembly	The chain-tensioner is fully-assembled into the section from the factory. No field assembly is required.
Field Piping	The chain-tensioner's air-supply port must be connected to the filter/regulator.
Part Numbers	5102200-HD: Spring Tensioner 5102300-510: Cylinder Tensioner 51025700-Switch Assembly 24024200-High Pressure Regulator



**Angle End Stop**



*Figure 3 - 30 Angle End Stop*

Overview	Bolts across top flange to keep product from running off the end.
Mounting	Washers are stacked above rollers.
Installation	The flat washers are installed between the side rail and the angle stops to clear the rollers.
Part Number	6-09723-016 6-09723-022 6-09723-028 6-09723-034 6-09723-040

## Knee Brace Assembly

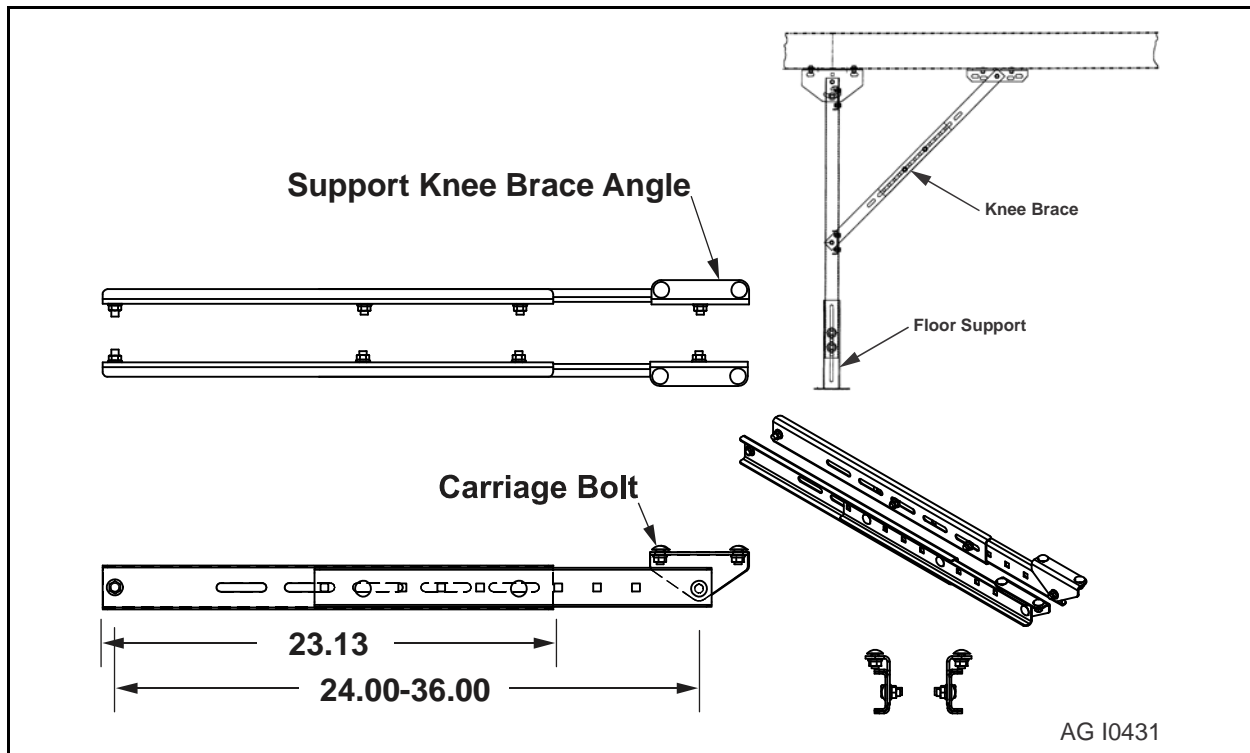
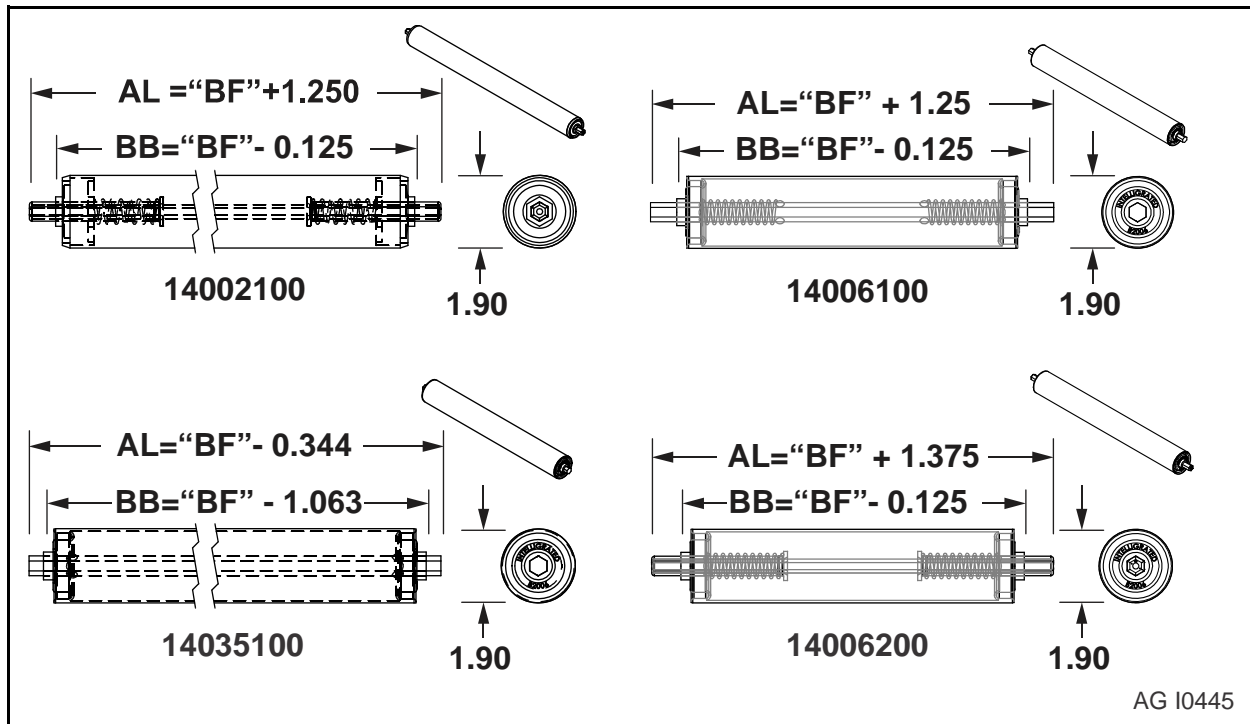


Figure 3 - 31 Knee Brace Assembly

Overview	The knee braces add longitudinal stability. The knee brace eliminates stress caused by flow direction, stops, and starts. Every support does not require bracing.
Operation	Use knee braces: at the ends of straight runs, before case stops, near the drive, and approximately every 50 feet on a long straight run.
Installation	<p>Locate the knee braces on the downstream side of the supports, putting them in tension. However, starting the conveyor stresses the legs in the opposite direction. To resist these stresses, install braces near to, and upstream from the drive.</p> <p>For best results, keep the strap-to-frame angle between 30° and 45°. On shorts supports, where a small angle results, shorten the brace strap - this is optional.</p>
Part Number	10005900

**Rollers - ABEC, High Speed, Premium High Speed and Pop-Out**



AG I0445

**Rollers, Fixed, ABEC**

- Tubing** 1.9 in. dia. x 16 ga. galvanized
- Bearing** Intelligrated B2006 - ABEC-1 rated
- Lubrication** Grease packed and sealed (no re-lubrications necessary)
- Axle:** 7/16 in. nylon sleeve over 5/16 in. steel core (steel core is thru shaft)
- Roller Capacity** 100 lbs
- Environment** -20°F to 150°F
- Application Notes** Intelligrated standard. Use up to 300 fpm
- Part Number** 140061\_\_\*

\*The last 3 digits of roller part numbers are the conveyor width in 1/8 in. increments.

### Rollers, Fixed, High Speed

<b>Tubing</b>	1.9 in. dia. x 16 ga. galvanized
<b>Bearing</b>	Intelligrated B2006 - ABEC-1 rated
<b>Lubrication</b>	Grease packed and sealed (no re-lubrications necessary)
<b>Axle:</b>	7/16 in. nylong sleeve over 5/16 in. steel core. (steel core is thru shaft)
<b>Roller Capacity</b>	100 lbs
<b>Environment</b>	-20°F to 150°F
<b>Application Notes</b>	Low noise and eliminates frame wear. Standard for speeds 300 fpm and above
<b>Part Number</b>	140062__*

\*The last 3 digits of roller part numbers are the conveyor width in 1/8 in. increments.

### Rollers, Fixed, Premium

<b>Tubing</b>	1.9 in. dia. x 16 ga. galvanized
<b>Bearing</b>	SST RC190 6203 - ABEC-1 rated
<b>Lubrication</b>	Grease packed and sealed. (no re-lubrication necessary)
<b>Axle:</b>	7/16 in. nylon sleeve over 5/16 in. steel core (steel core is thru shaft)
<b>Roller Capacity</b>	100 lbs
<b>Environment</b>	-20°F to 150°F
<b>Application Notes</b>	Nominal noise and aesthetic improvement over standard High Speed
<b>Part Number</b>	140021__*

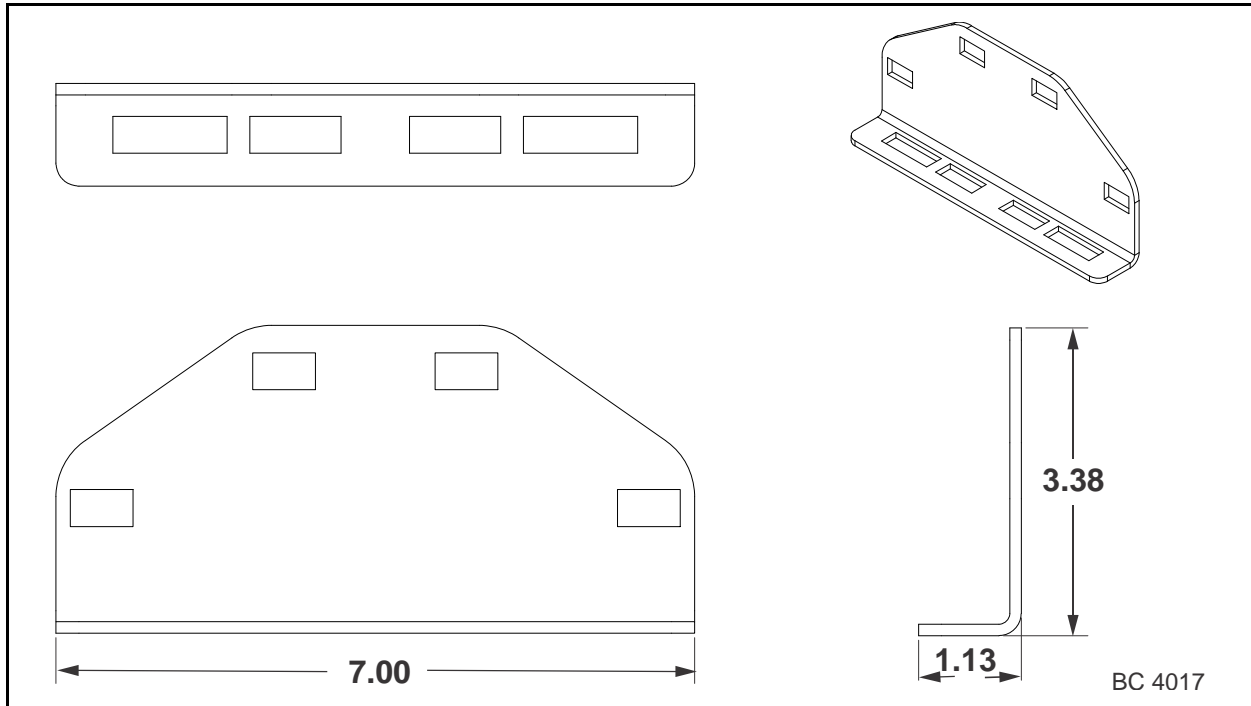
\*The last 3 digits of roller part numbers are the conveyor width in 1/8 in. increments.

### Rollers, Fixed, Pop-Out

<b>Tubing</b>	1.9 in. dia. x 16 ga. galvanized
<b>Bearing</b>	SST RC190 6203 - ABEC-1 rated
<b>Lubrication</b>	Grease packed and sealed. (no re-lubrication necessary)
<b>Axle:</b>	non-spring loaded 7/16 in. hex axle, no sleeve for the pop-out rollers.
<b>Roller Capacity</b>	100 lbs
<b>Environment</b>	-20°F to 150°F
<b>Application Notes</b>	Nominal noise and aesthetic improvement over standard High Speed
<b>Part Number</b>	140351__* Pop-out rollers are not recommended for over 6 ft. elevation.

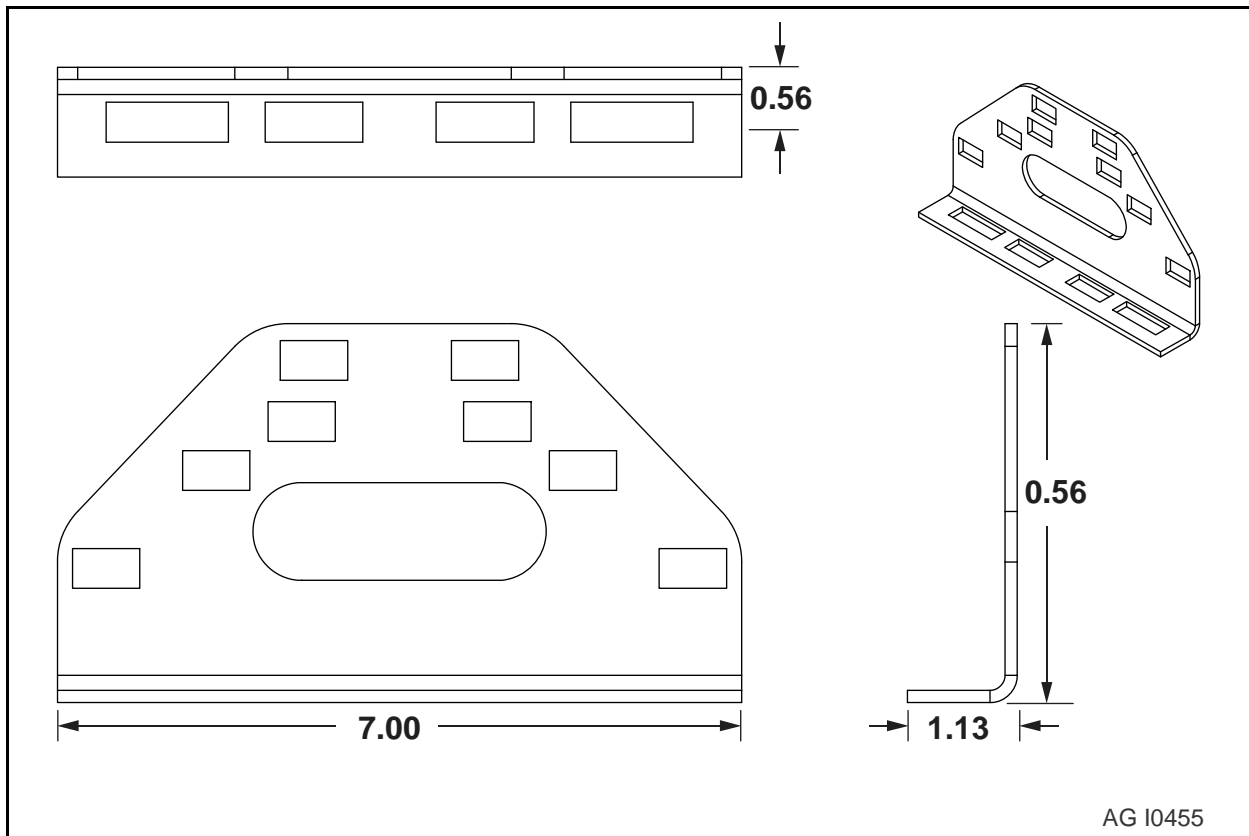
\*The last 3 digits of roller part numbers are the conveyor width in 1/8 in. increments.

**Splice Plate Kit**



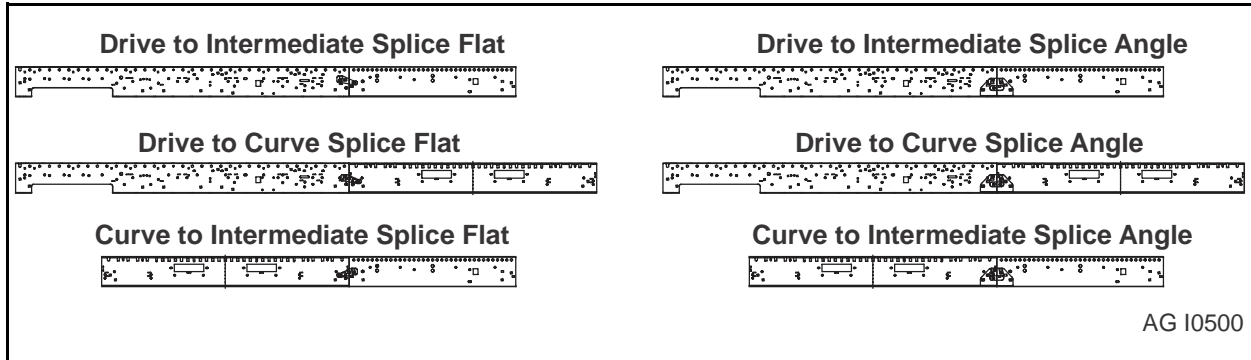
Overview	Standard plate for splicing sections together.
Installation	Use the splice plate to connect adjacent conveyor beds together.
Part Number	FK410241 (Kit) - 18000800 (plate only)

## Splice Angle for Curves and Drive



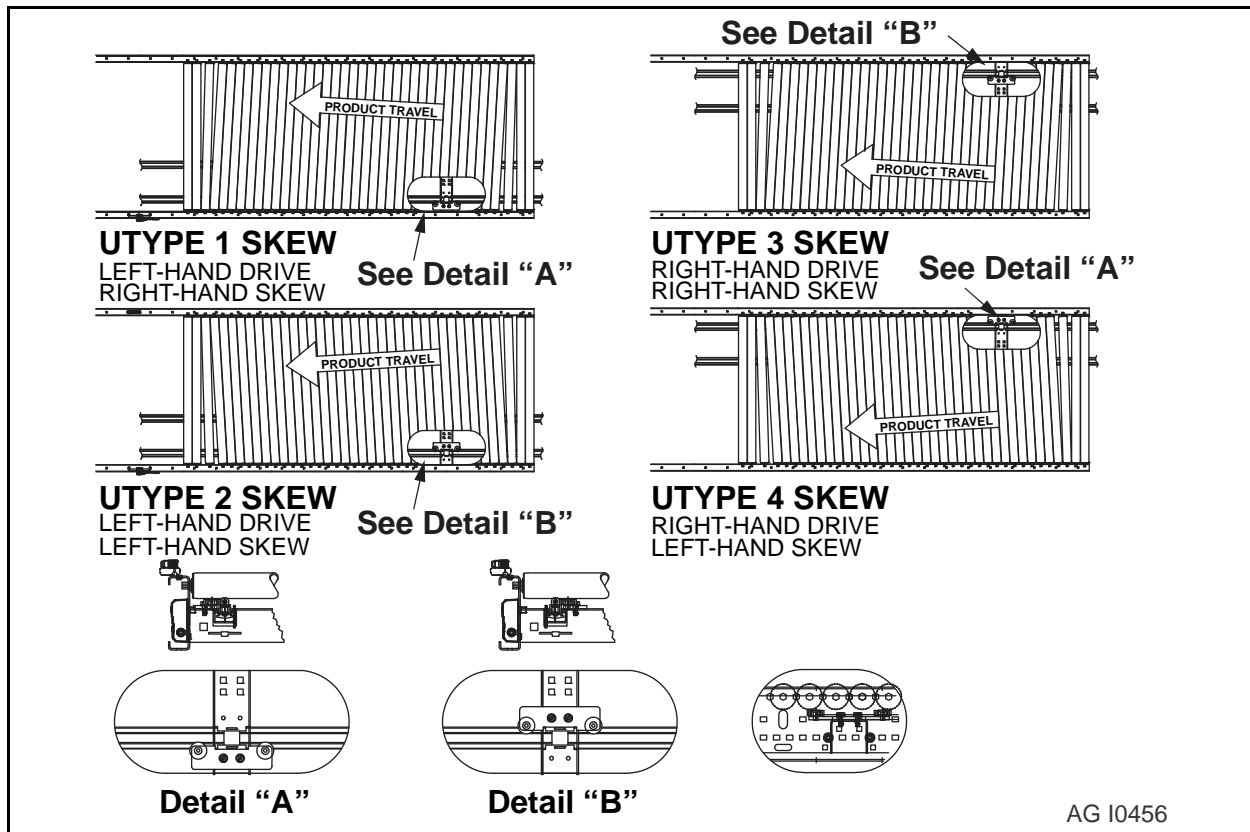
Overview	The splice angle is used between a curve and intermediate, curve and drive, or a drive and intermediate when a support cannot be used directly under the joint of two sections.
Installation	For complete installation procedures, see Installation Procedures chapter.
Part Number	FK510384

**Splice Flat for Curves and Drives**



Overview	The splice flat is used between a curve and intermediate, curve and drive, or a drive and intermediate when a support is used directly under the joint of two sections.
Installation	For complete installation procedures, see Installation Procedures chapter.
Part Number	51038500

**Skew Kit**



Overview	Moving packages in a more uniform pattern.
Installation	<p>If a roller sits directly over a bearing, check clearance between roller and screw when chan and driver are in lowest position.</p> <p>If a roller hits screw when turned, switch it with a more concentric roller from the same conveyor.</p> <p>When skewing rollers more than proper amount, it may create a pinch point between the roller and the urethane driver.</p> <p>Maximum length of skew is based on moving the narrowest carton from one side of the conveyor to the other side. Maximum length of the skew is required only when cartons enter the conveyor randomly positioned.</p>
Part Number	51045100



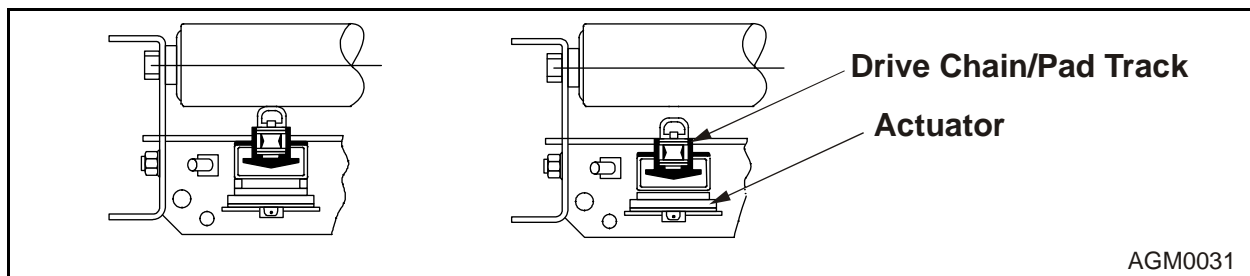
## 4 Controls

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This chapter contains descriptions of the control components, how they work, and how to maintain and replace them.

### Operational-Zone Control

Accuglide Intermediate Straight Sections consist of a series of air-actuated, operational-zones. Each Local Operational-Zone (LZ) has low-pressure (10-12 psi) air-actuators that raise/lower the drive chain/pad and track to effect its powered (transportation) / non-powered (accumulation) state, see Figure 4 - 1.



*Figure 4 - 1 Drive Chain/Pad and Track - Raised (left), Lowered (right)*

### Sequential-Zone Control (SZC)

Sequential-Zone Control is the standard for 3-foot Intermediate Straight Section zones. The powered / non-powered state of each operational zone (Local Zone) (Figure 4 - 2) is controlled by the downstream sensor (DS1).

When sensor DS1 detects product, the actuators in the Local Zone lower the drive chain/pad out of roller engagement.

When sensor DS1 no longer senses product, the actuators raise the drive chain/pad into roller engagement in the Local Zone.

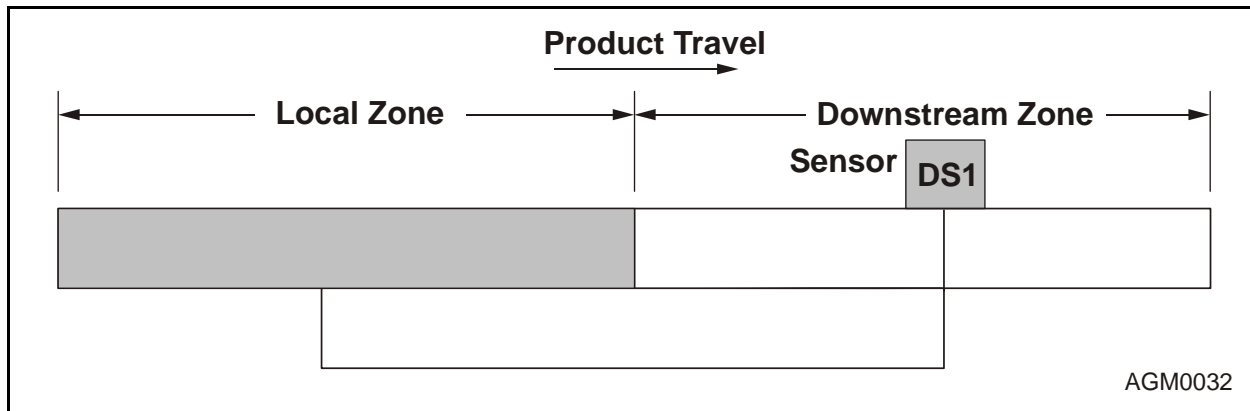


Figure 4 - 2 Sequential-Zone Control

### Local-Zone Control (LZC)

Local Zone Control is the standard for 6-foot Intermediate Straight Section zones. The powered / non-powered state of each operational zone (Local Zone) (Figure 4 - 3) is controlled by the sensor (LS1) located in the same zone that it controls.

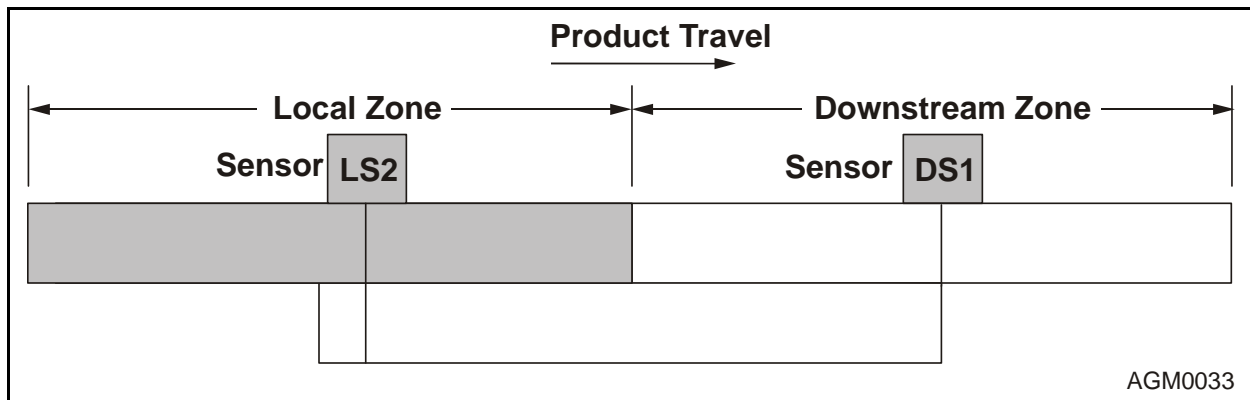


Figure 4 - 3 Local Zone Control

## Operational Mode

An operational mode can be primary or secondary. The primary mode is the default operational mode. It can be temporarily overridden for specific operations by the secondary mode. The secondary operational mode is activated by a signal from the control panel. It is commonly used for slug mode in ordebr to achieve higher product release rates.

### Operational Mode - Singulation

Singulation is a primary operational-mode in which a Local-Zone's powered / non-powered state is controlled by its associated Downstream Sensor (DS). Accumulated product releases and transports with a nominal zone-length gap between products. See to Figure 4 - 4.

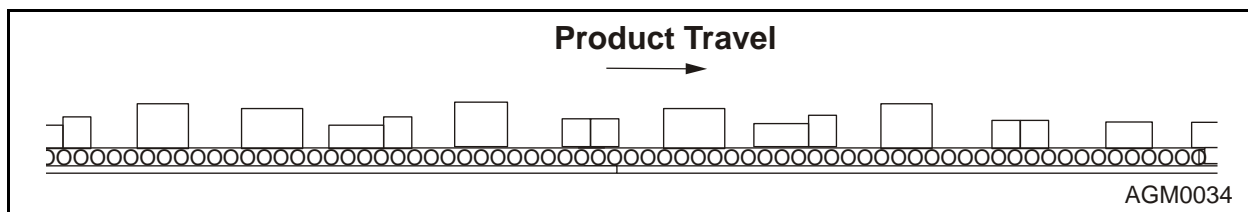


Figure 4 - 4 Singulation Operational Mode

### Operational Mode - Auto Slug

Auto-Slug is a primary operational-mode in which a Local-Zone's powered / non-powered state is controlled by: 1) its associated downstream sensor (DS); and 2) the powered / non-powered state-of the next Downstream-Zone (DZ).

An extended-length auto-slug grouping of accumulated product will release and transport with a zone-length (nominal 3-foot) gap between groups.

The extended auto-slug group length can be any desired length, up to the full length of the conveyor. See to Figure 4 - 5.

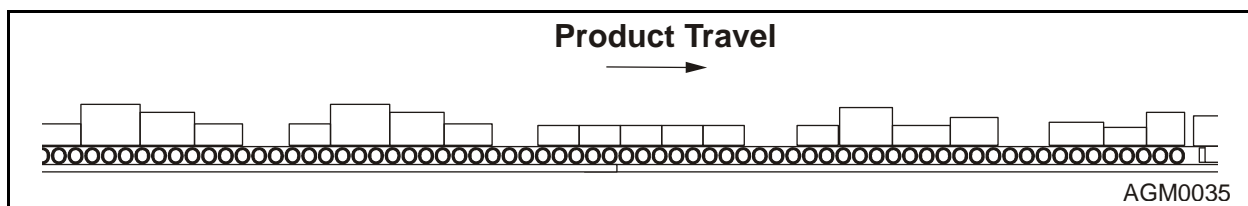
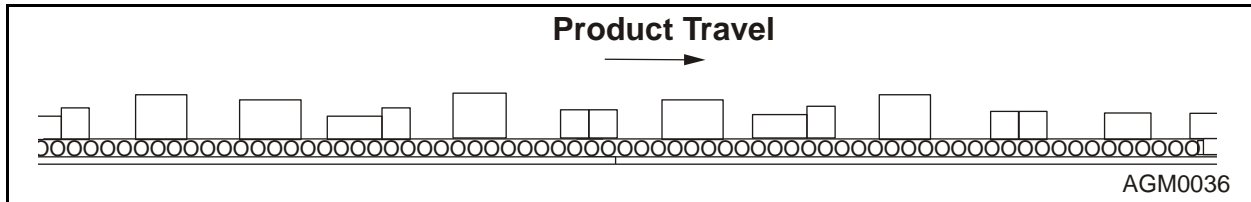


Figure 4 - 5 Auto-Slug Operational Mode

### **Operational Mode - Dual-Zone**

Dual-Zone is a primary operational-mode in which a Local-Zone's powered / non-powered state is controlled by: 1) its associated Downstream-Sensor (DS1) mounted in the first Downstream-Zone; and 2) the second Downstream-Sensor (DS2) mounted in the second Downstream-Zone.

Accumulated product will release and transport with a zone-length (nominal 3 feet long) zero gap between product groupings (nominal 6 feet long). See to Figure 4 - 6.



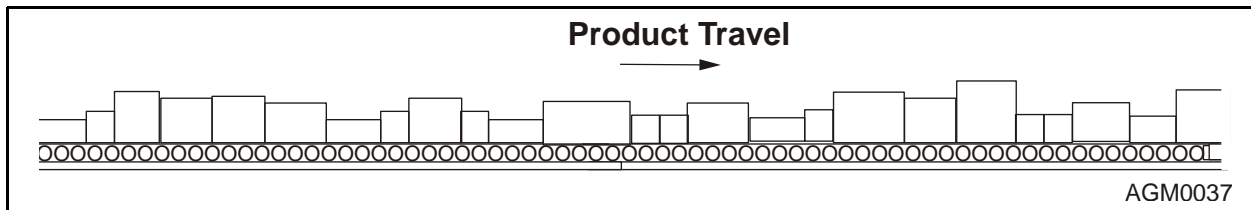
*Figure 4 - 6 Dual-Zone Operational Mode*

### **Operational Mode - Slug**

Slug is an operational-mode in which the primary operational-mode is over-ridden by an external slug-release signal.

In slug operational-mode, all zones operate in the powered state.

“Slug” is a “secondary” operational mode that can be used with any of the primary operational-modes. Any portion of an Accuglide Conveyor can operate in the slug operational-mode. See to Figure 4 - 7.



*Figure 4 - 7 Slug Operational Mode*

# Functional Mode

## Functional Mode - Accumulation

All primary operational modes allow product to accumulate in the same manner. A first product transports downstream until it reaches the discharge-end of the conveyor. As it coasts to a stop in the 1st non-powered zone, it actuates the zone's sensor and signals the 2nd upstream zone to become non-powered and ready to accept the next product. This process repeats as succeeding products continue to advance and accumulate.

A brake-type device ensures that accumulated product(s) in the 1st zone are not nudged by trailing product onto the take-away conveyor. A Brake-Module, or Blade Stop can be installed in the Discharge Idler Section or a separate Brake Belt Conveyor can be located downstream of the conveyor. See to Figure 4 - 8.

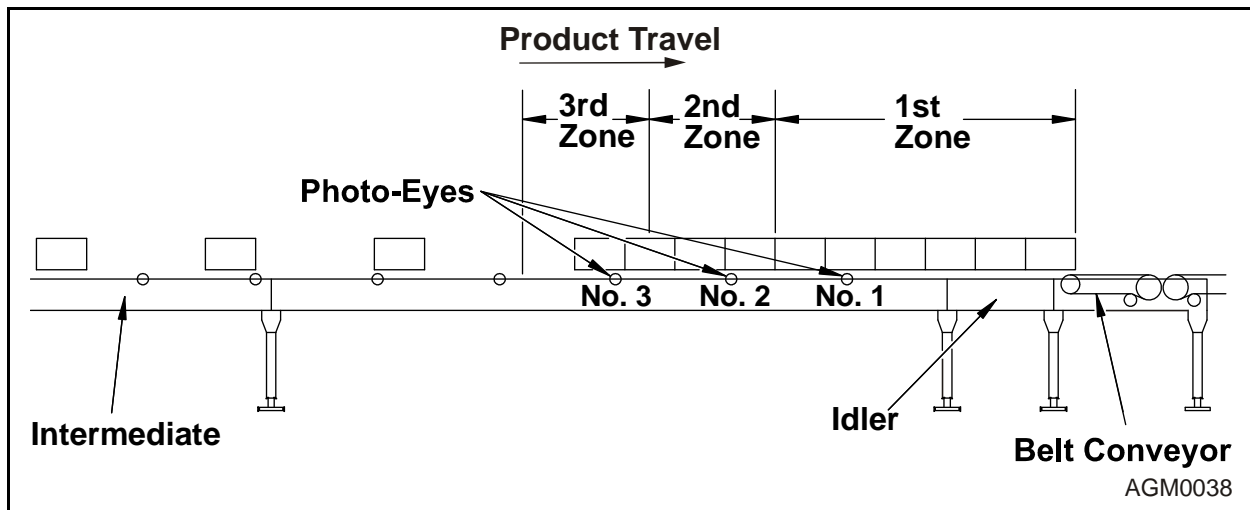


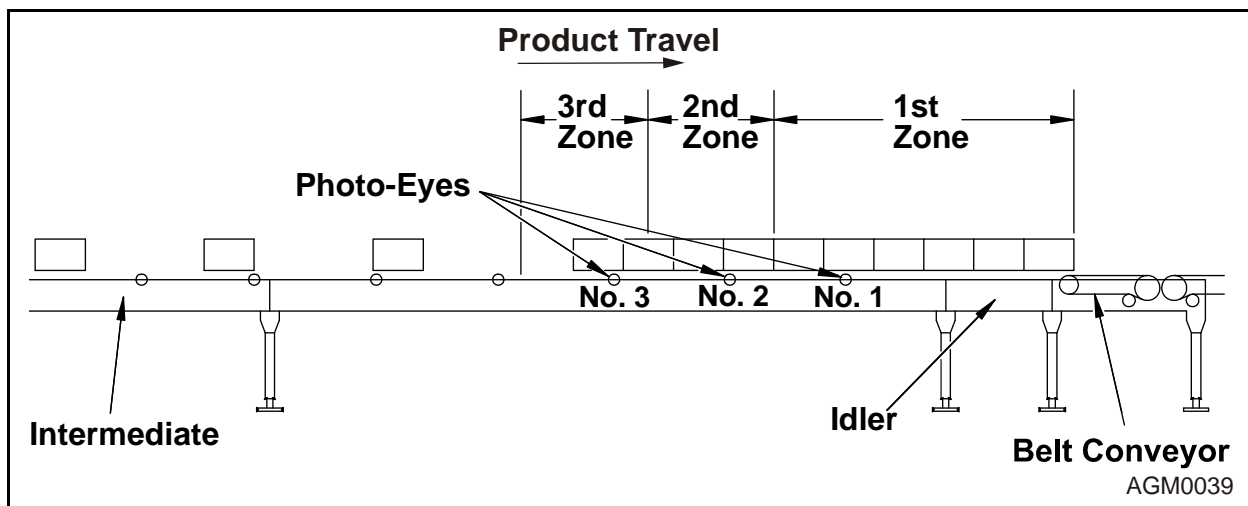
Figure 4 - 8 Accumulation of Product

### **Accumulation Control - End of Conveyor**

Initiating product-accumulation in the conveyor's first Discharge-Zone (Idler) is accomplished by de-activating (closing) the zone's solenoid-type control valve and changing its operational state from powered to non-powered and allowing product to coast to a stop.

Restraining means should be provided to keep accumulated product from being nudged forward onto the downstream take-away conveyor.

A brake-type Belt Conveyor is commonly used as the restraining means. The conveyor and the Discharge-Zone's control means are electrically-linked. When accumulation is required, the Belt Conveyor stops and the Discharge-Zone becomes non-powered; when product release is required, the Belt Conveyor starts and the Discharge-Zone becomes powered. The belt speed will determine the amount of product released. A brake/meter type Belt Conveyor will generate a gap that allows for individual products to be counted and/or released. See to Figure 4 - 9.



*Figure 4 - 9 Accumulation Control - Brake/Meter-Type Belt Conveyor*

Brake-Modules are other means for controlling the accumulation of product at the conveyor's discharge-end.

A Brake-Module raises to frictionally-brake and stop the rotation of the Carrier Rollers in the Discharge-Zone. The unit is controlled by the zone's solenoid-type control valve. No other air-supply or control device is required. The Brake-Module is not a positive-type holding device.

### **Accumulation Control - Intermediate**

An application may require the accumulation of product at various points along the conveyor's length. Such applications might include work stations, inspection stations, product batch separation, and traffic-control ahead of Intermediate Curve Sections and/or Intermediate Merge Sections.

**NOTE:** Brake Modules are used for this type of accumulation control. See Accessories chapter for information about Brake Modules.

### **Accumulation Control - Curves**

Intermediate Curve Sections are Transportation-type and have continuously-powered Carrier Rollers. A Brake Module (Figure 4 - 10) is required to stop upstream product from entering the curve when operational zones downstream of curve are filled with accumulated product. Upstream product is stopped when product accumulates to a full-line sensor (typically 12 feet downstream of curve to allow product to clear the curve and accumulate. (See topic "Accumulation Control - End of Conveyor" in this chapter.

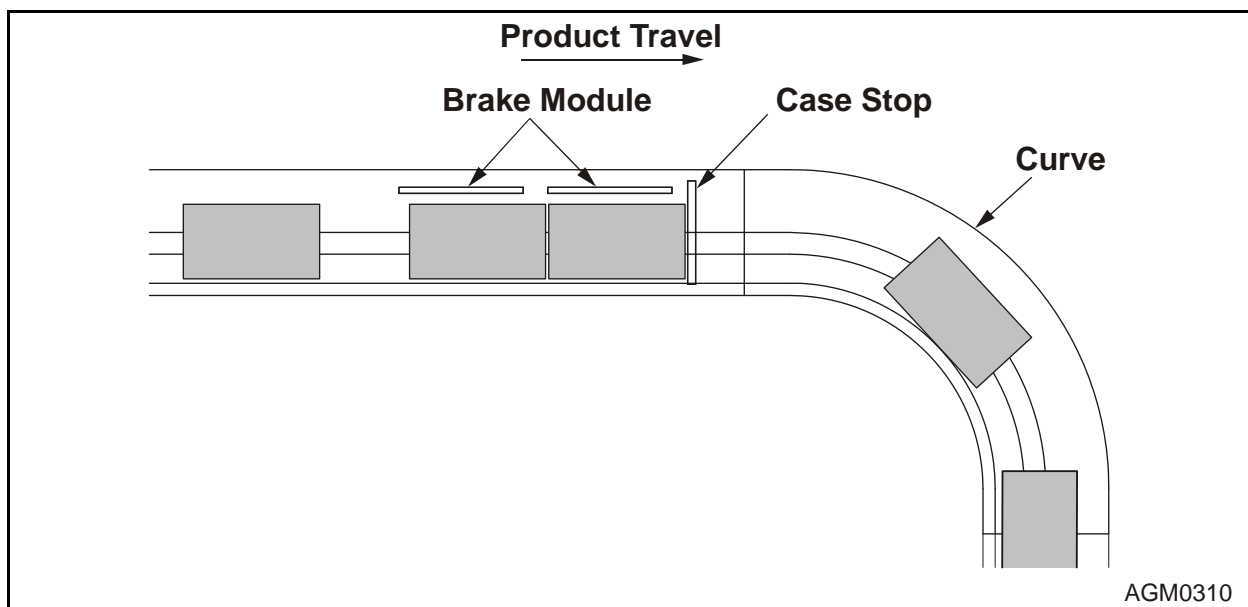


Figure 4 - 10 Accumulation Control - Curves

## **Functional Mode - Product Release**

Initiating product release from the conveyor is accomplished by supplying a release-signal to the Discharge-Zone's solenoid-type control valve and changing its operational state from non-powered to powered, causing product in the zone to resume forward movement.

### **Product Release Control - Primary Operational Mode**

The primary mode is the default operational mode. It can be overridden in places by the secondary mode. Intermediate Sections are shipped from the factory programmed to function in the standard primary operational-mode (Singulation). If required, they may be field-programmed to function in one of the other primary operational-modes (Dual-Zone, or Auto-Slug).

### **Product Release Control - Secondary Operational Mode**

The secondary operational mode is activated by a signal from the control panel. It temporarily overrides the primary operational mode for specific operations. It is commonly used for slug mode in order to achieve higher product release rates. The slug mode causes the rollers to be powered continuously.

### **Solenoid Valve for Operational Zone Control**

The powered / non-powered state of the conveyor's Discharge Zone is controlled by a solenoid-valve (24VDC/115VAC, 3-way, normally-closed). The valve is factory-piped to the air-actuators of the operational-zone in the Idler Section (Figure 4 - 11). One end of a short length of (yellow, 1/4-inch OD) tubing is attached to the second port of the "rear" actuator. To replace/reinstall of the solenoid valve:

1. Connect the "other" end of the yellow tubing to the first air-actuator in the adjoining upstream intermediate section. This creates the first 6-foot discharge zone.
2. Wire the solenoid valve to the system control panel.
3. Connect the air supply line (yellow, 1/4-inch OD) of the zone-controlling solenoid-valve to the upstream intermediate section's main air-supply line (red).

**NOTE:** The Intermediate Section requires a brass 1/2-inch to 1/4-inch push-to-connect reducer and a 1/2-inch push-to-connect type fitting.



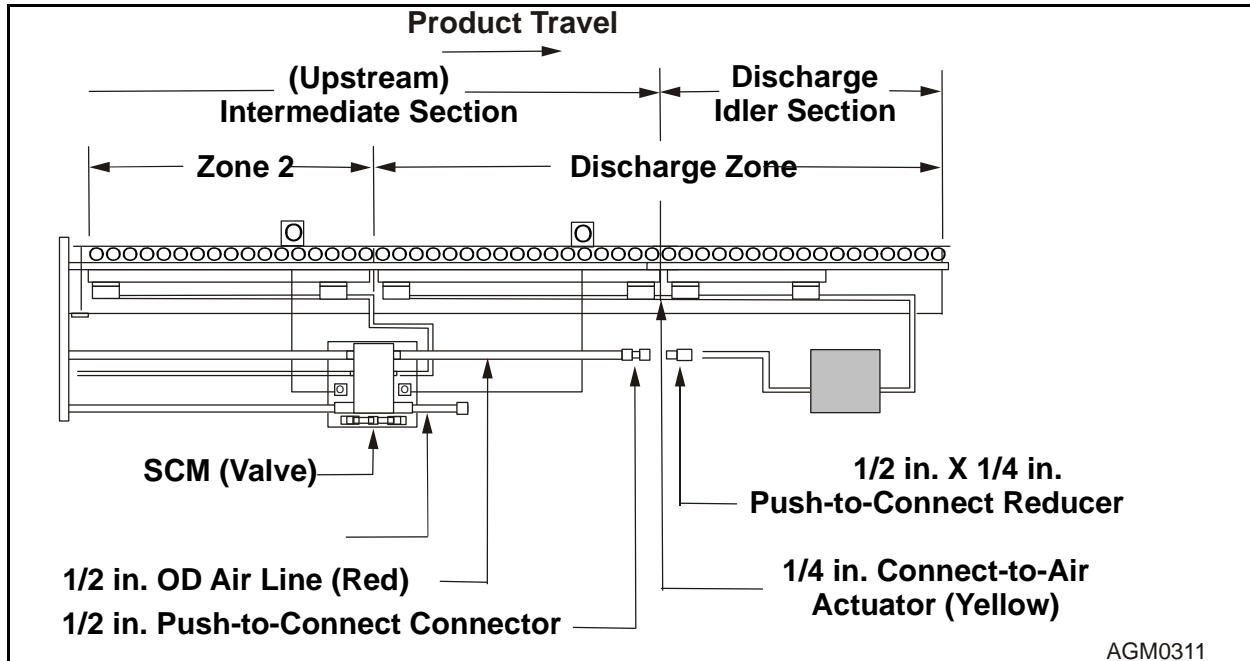


Figure 4 - 11 Operational Zone Control-Solenoid Valve Piping

A Solenoid Control Module (SCM) (Figure 4 - 12) incorporates two (2) 24VDC solenoid valves and the associated logic for controlling two (2) independent operational zones.

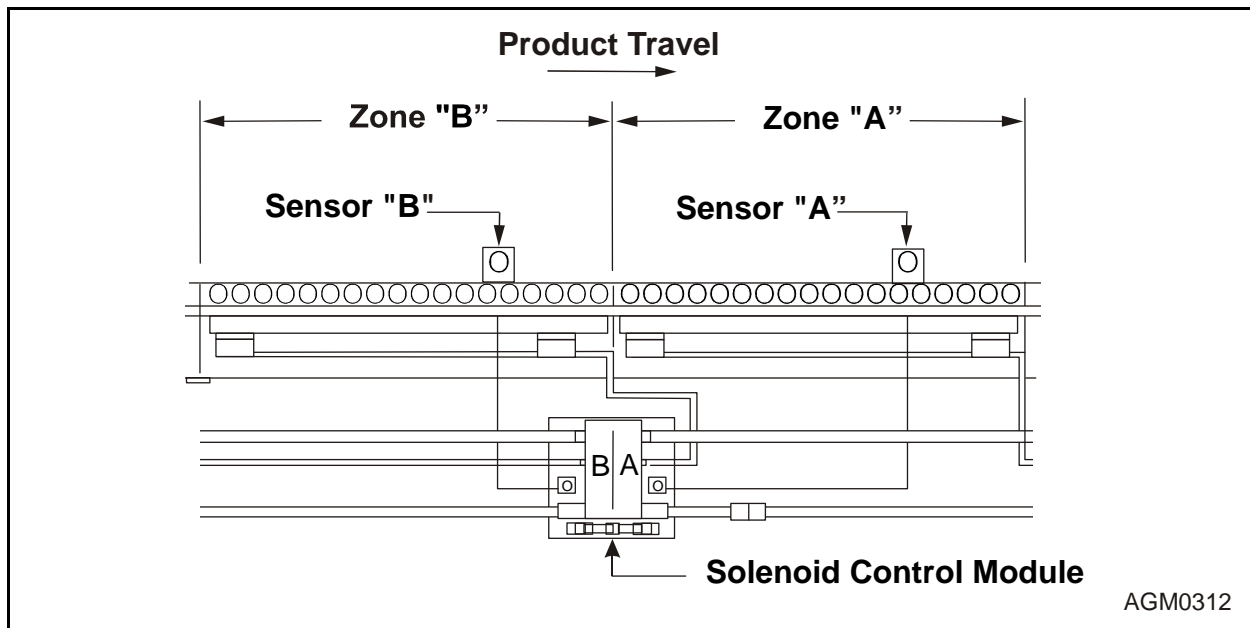


Figure 4 - 12 Solenoid Control Module - Controls Two Operational Zones

The primary operational-mode (Singulation, Dual-Zone, or Auto Slug) of a Local Zone (LZ) is determined by its controlling solenoid valve, whose logic is programmed by the setting of the next downstream valve's Operational Mode Switch (OMS).

For this example (Figure 4 - 13), set the operation mode at OMS "a" to signal valve "b" which controls Local Zone "a". See Figure 4 - 14 and Table 4 - 1 for Operational Mode Switch Position information.

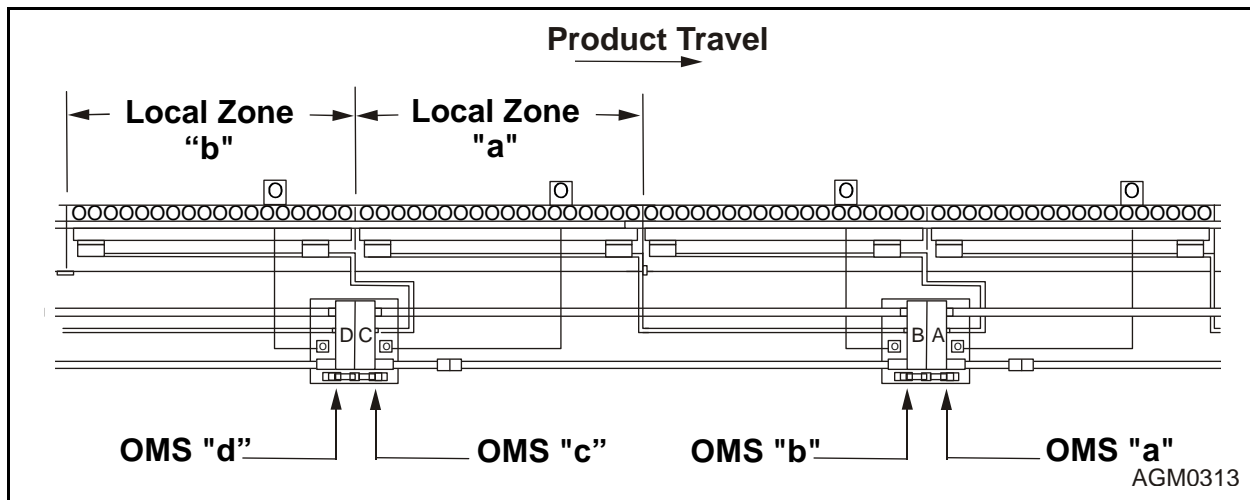


Figure 4 - 13 Local Zone Control-Setting Solenoid Valve Zone Control

**Solenoid Control Module Switch Functions**

Each SCM (Figure 4 - 14) has three (3) slide switches: one centrally-located, 2-position "direction of travel" slide switch; and two 3-position primary "operational-mode" slide switches. See to Table 4 - 1 for a description of the switch functions.

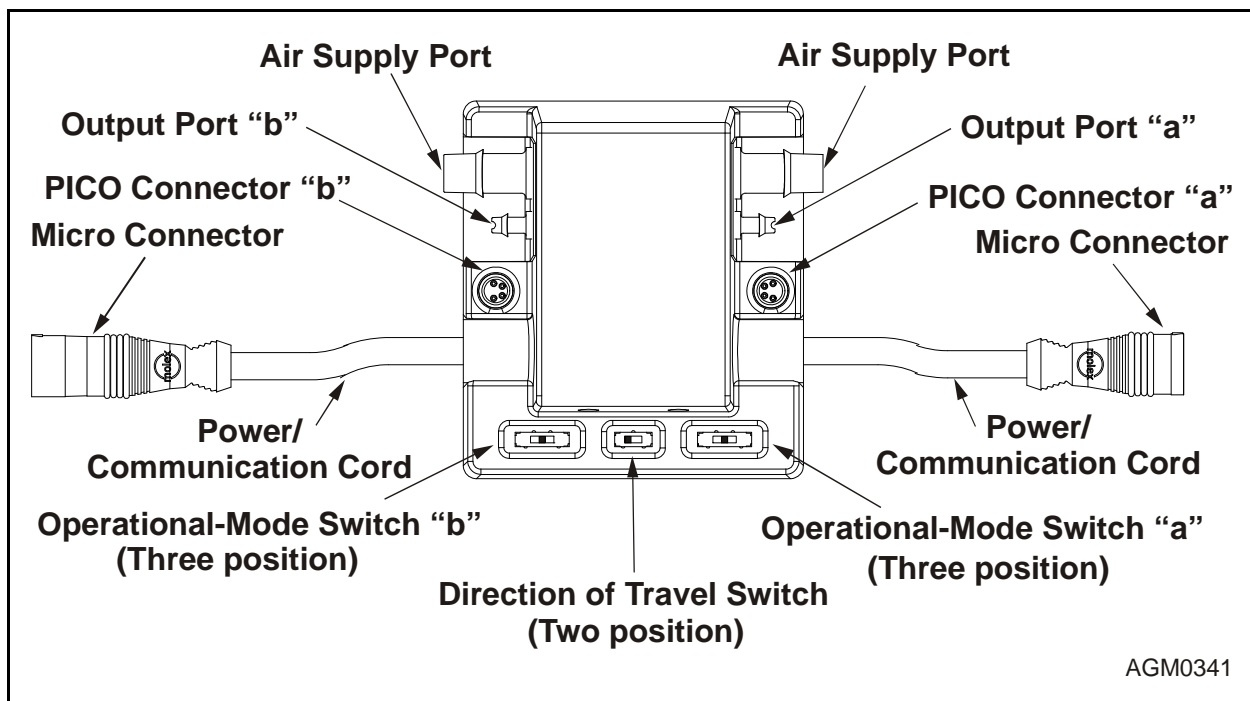


Figure 4 - 14 Solenoid Control Module (SCM) Switch Locations

Table 4 - 1 Solenoid Control Module (SCM) Switch Descriptions

Switch Description	Switch Position		
	Left	Center	Right
Operational-Mode Switch “b”	Dual Zone	Singulation	Auto-Slug
Direction of Travel (DOT) Switch	for “Right-Hand (RH)” sections <sup>a</sup>	N/A	for “Left-Hand (LH)” sections <sup>b</sup>
Operational-Mode Switch “a”	Dual Zone	Singulation	Auto-Slug

- a. For RH sections, mount the SCM on the right-side frame rail, when looking in the direction of travel. Shift the DOT switch to the left-towards the discharge end of the conveyor.
- b. For LH sections, mount the SCM on the left-side frame rail, when looking in the direction of travel. Shift the DOT switch to the right-towards the discharge end of the conveyor.

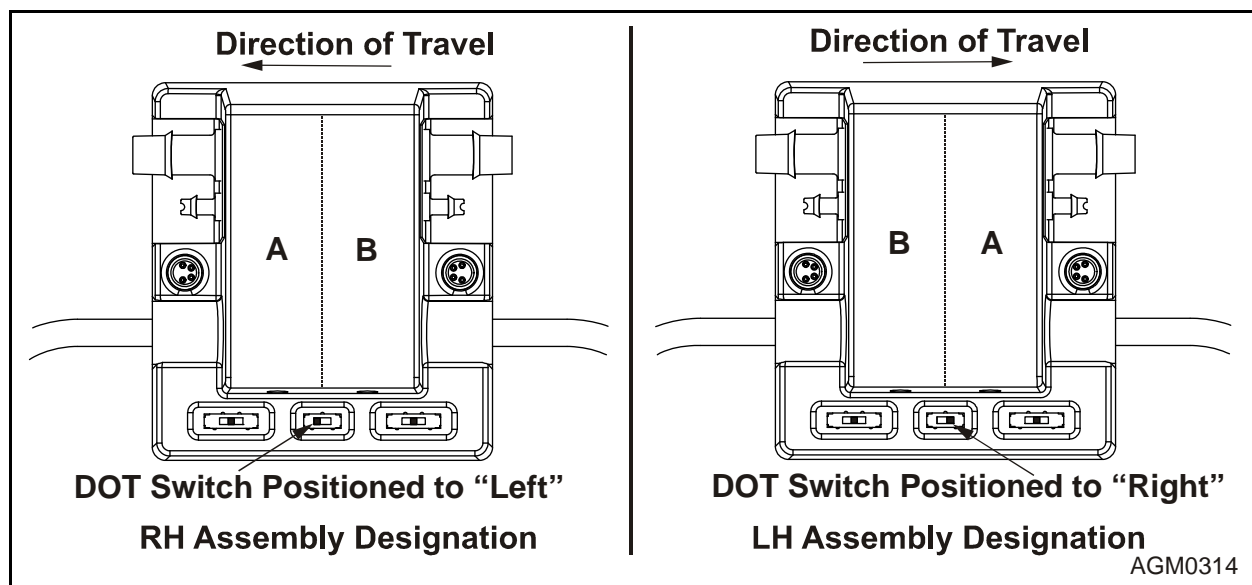


Figure 4 - 15 SCM Switch Settings for Direction of Travel (RH and LH)

**NOTE:** For conveyors requiring Auto-Slug Operational Mode, identify the Auto-Slug Zone length (number of individual zones). Set the first operational mode switch in each Auto-Slug grouping to Singulation.

# Infeed/Release Modes - Connections

## Product Release - Primary Mode

To install product-release for a conveyor functioning in one of the primary operational-modes (Singulation, Dual-Zone, or Auto-Slug) connect the remote release signal to the Discharge Zone's Solenoid Control Valve (Figure 4 - 16 and Figure 4 - 17).

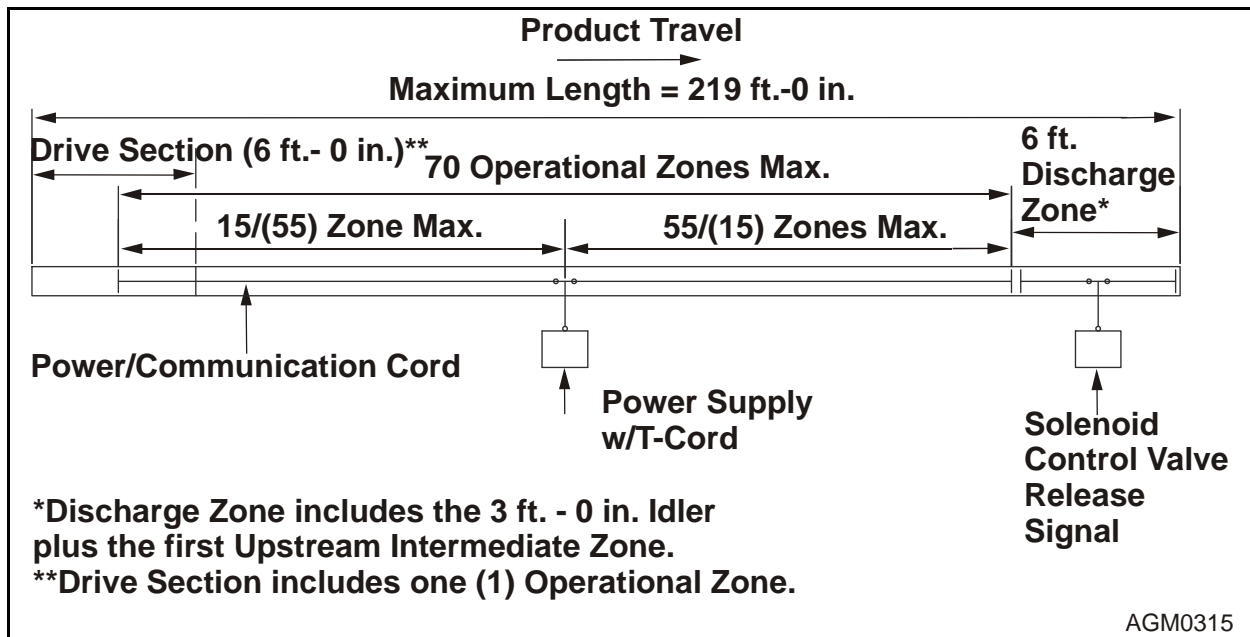


Figure 4 - 16 Primary Operational-Mode Release - Single Power Supply

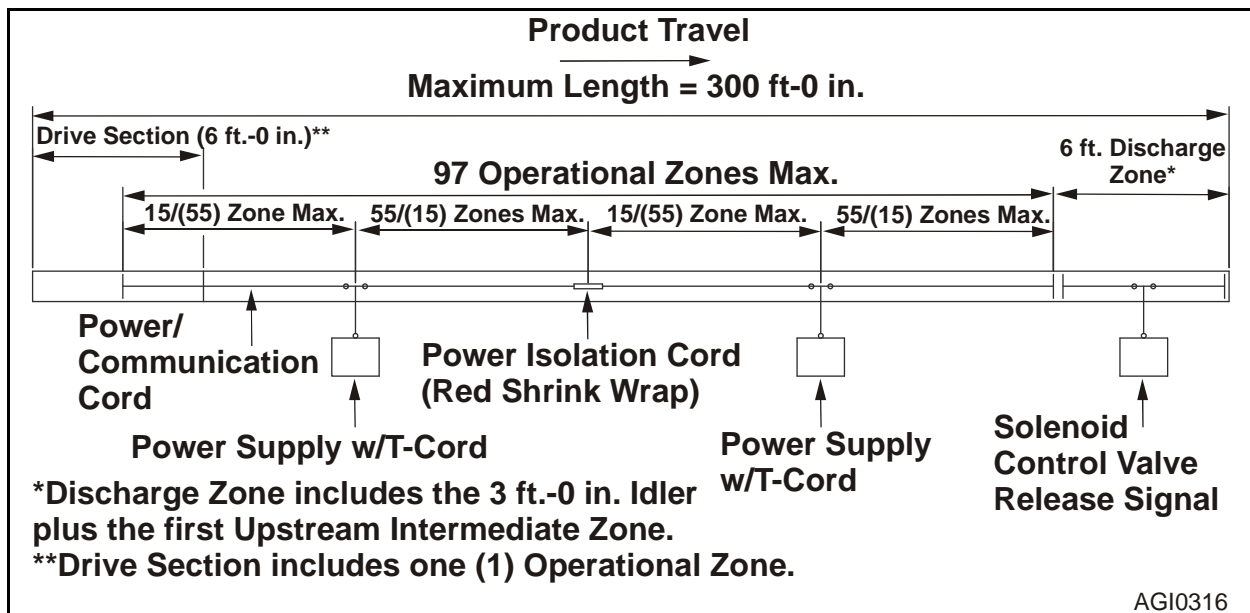


Figure 4 - 17 Primary Operational-Mode Release - Dual Power Supplies

**Product Release - Secondary Mode**

**Full-Length Slug Release**

Initiating slug-release of accumulated product requires an external release signal that overrides the primary operational logic of all Solenoid Control Modules within a defined slug-release area.

**Full-Length Slug Release - 70 Zones or Less**

For full-length slug-release conveyors consisting of seventy (70) Operational-Zones or less, the external release-signal is connected to: 1) the conveyor's Power Supply which sends the signal through the T-Cord to the Power Communication cord; and 2) to the Discharge-Zone's (solenoid-type) control valve. See to Figure 4 - 18.

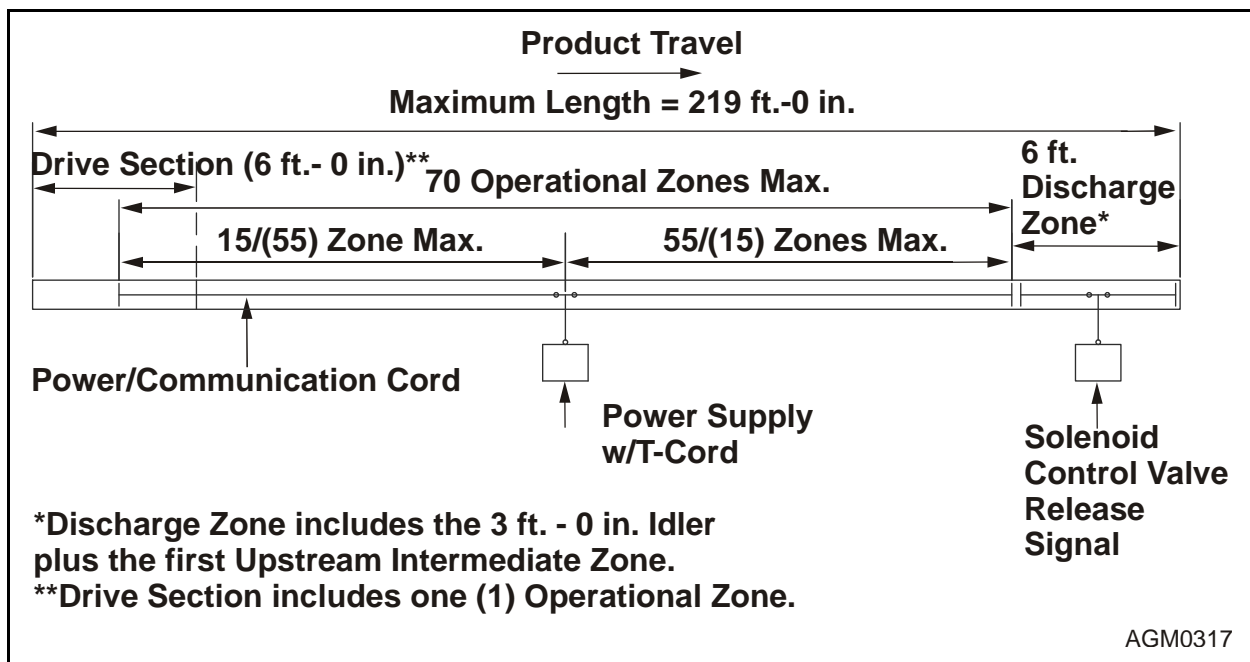


Figure 4 - 18 Full-Length Slug-Release - Single Power Supply

***Full-Length Slug Release - 140 Zones or Less***

For full-length slug-release conveyors consisting of one-hundred forty (140) Operational-Zones or less, two (2) Power Supplies are required with a Power Isolation Cord separating the two power sources. The external slug-release signal is connected to: 1) either Power Supply; and 2) to the Discharge-Zone's (solenoid-type) control valve. See to Figure 4 - 19.

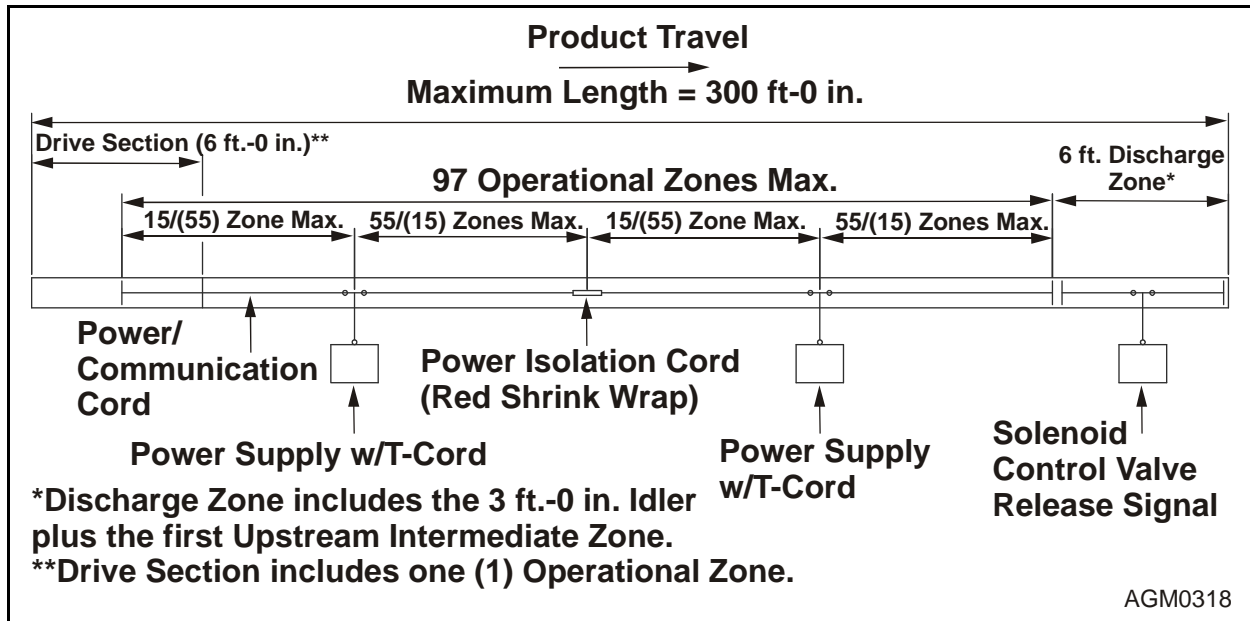


Figure 4 - 19 Full-Length Slug-Release - Dual Power Supplies

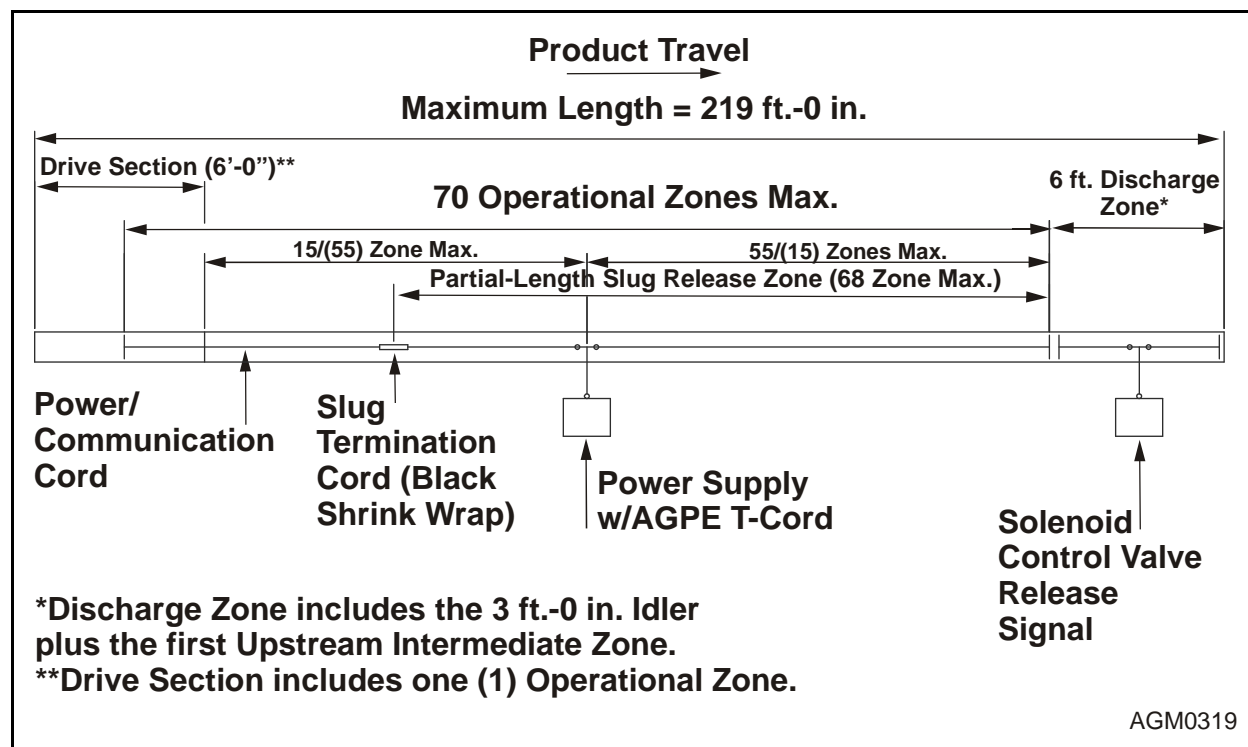
***Partial-Length Slug Release***

A conveyor may require that only a portion of its length operate in the secondary slug-release operational mode (with the partial-length slug-zone beginning at the discharge-end of the conveyor).

The external slug-release signal must be connected to a Power Supply within the slug-release zone. A Slug Termination Cord is required to terminate the slug-release signal at the upstream end of the slug-release zone.

**Cord Connected Upstream from Single Power Supply**

A single Power Supply conveyor (70 Operational Zones max.) can have a partial-length slug-release that requires the Slug Termination Cord to be connected upstream of the Power Supply. The external release signal is connected to: 1) the Power Supply; and 2) the Discharge-Zone's (solenoid-type) control valve. See to Figure 4 - 20.



*Figure 4 - 20 Partial-Length Slug-Release: Single Pwr Supply (Cord Upstream)*

### Cord Connected Downstream from Single Power Supply

A single Power Supply conveyor (70 Operational Zones max.) can have a partial-length slug-release that requires the Slug Termination Cord to be connected downstream of the Power Supply. The external release signal is connected to: 1) a Slug Module\*; and 2) to the Discharge-Zone's (solenoid-type) control valve. See to Figure 4 - 21.

(\*) A Slug-Module is a standard Power Supply that is NOT connected to the 110VAC power source.

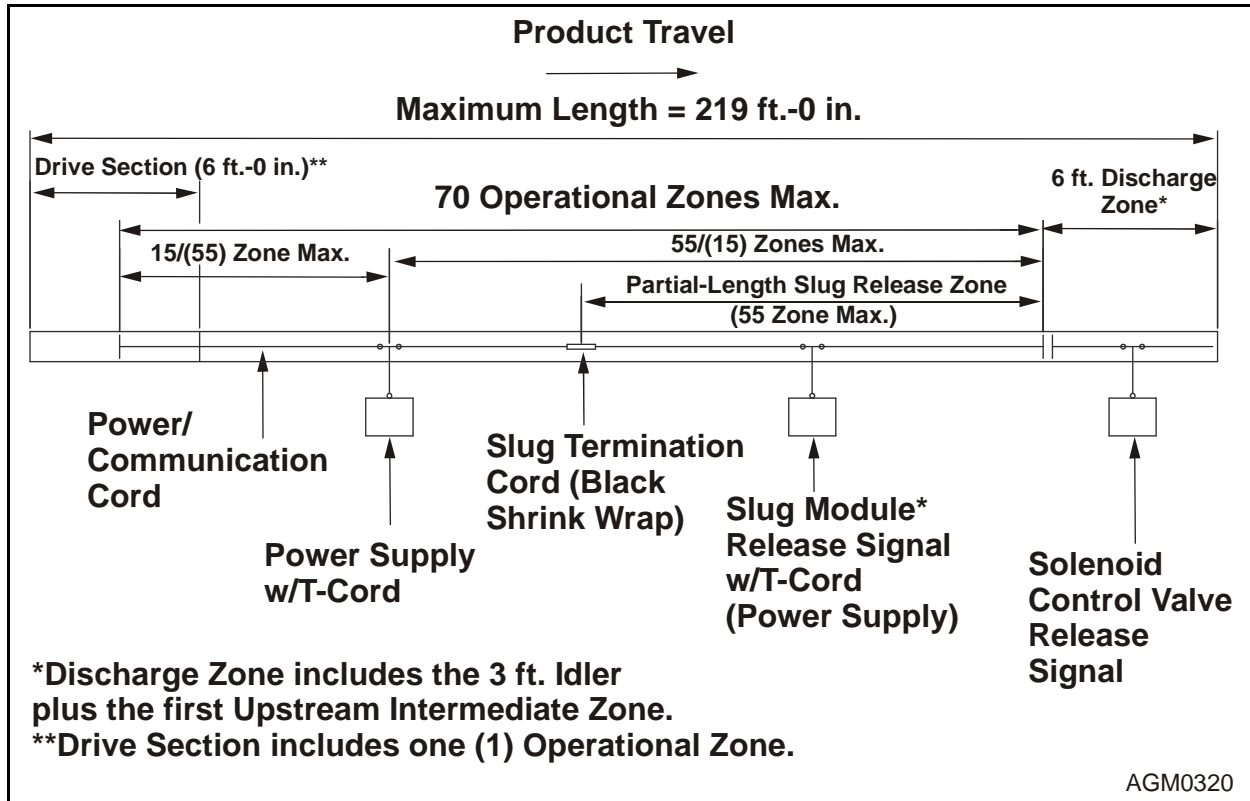


Figure 4 - 21 Partial-Length Slug-Release: Single Pwr Supply (Cord Downstream)



**Cord Connected Between Dual Power Supplies**

For dual Power Supply conveyors (140 Operational Zones max.) with a partial-length slug-zone that requires the Slug Termination Cord be connected between the Power Supplies, the external release-signal must be connected to: 1) the downstream Power Supply and 2) to the Discharge-Zone's (solenoid-type) control valve. See to Figure 4 - 22.

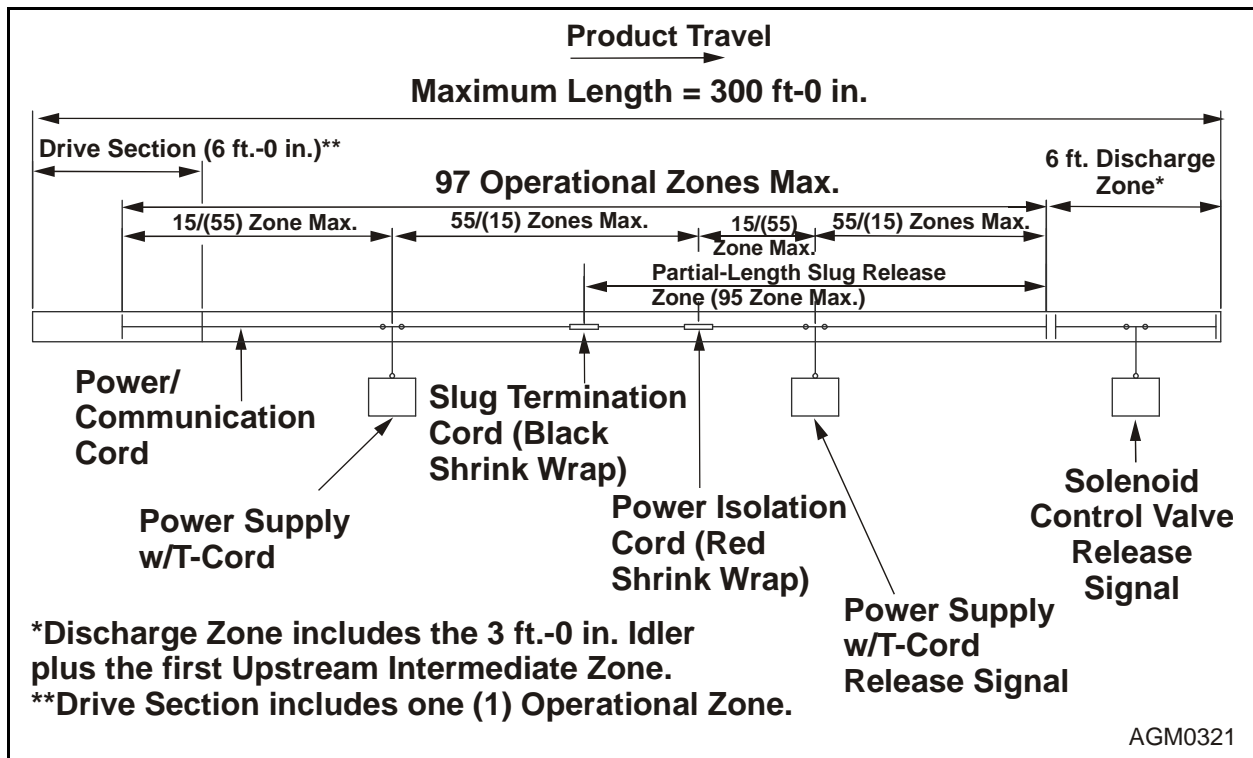


Figure 4 - 22 Partial-Length Slug-Release: Dual Pwr Supplies (Cord Inbetween)

### Cord Connected Upstream from Dual Power Supplies

For dual Power Supply conveyors (140 Operational Zones max) with a partial-length slug-zone that requires the Slug Termination Cord be connected upstream of the upstream Power Supply, the external release-signal may be connect to: 1) either Power Supply; and 2) to the Discharge-Zone's (solenoid-type) control valve. See to Figure 4 - 23.

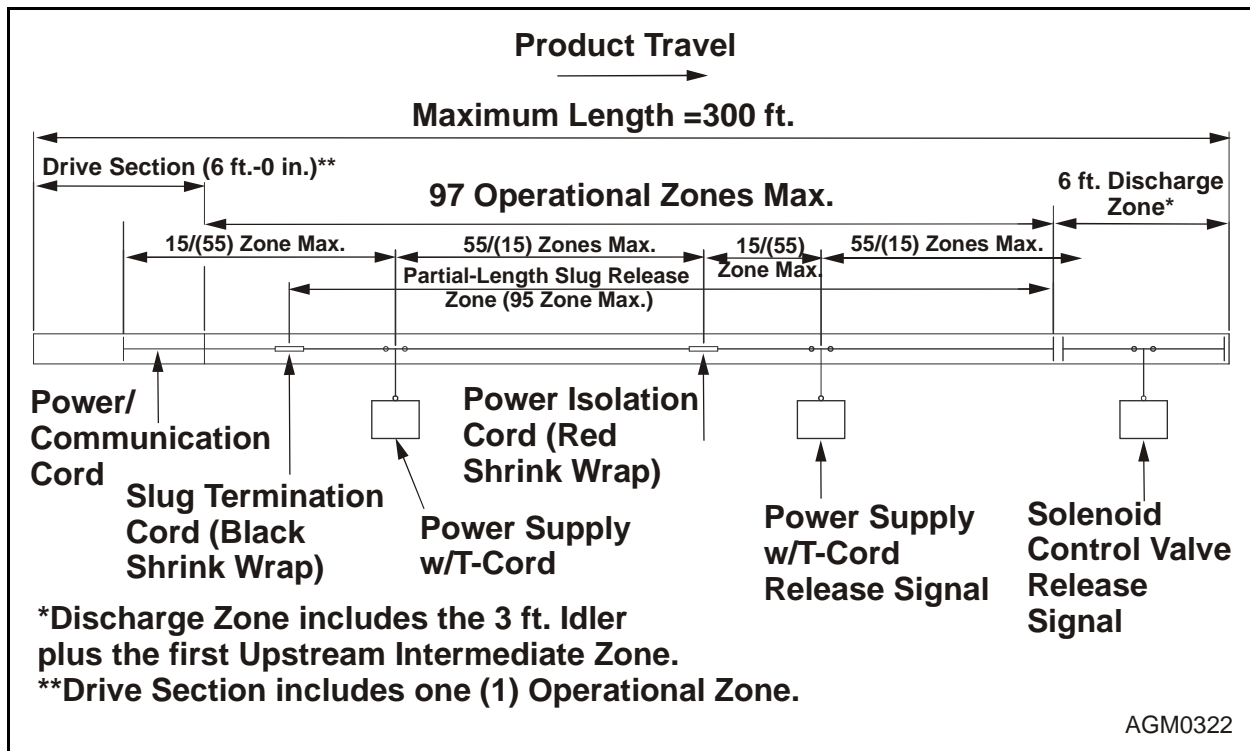


Figure 4 - 23 Partial-Length Slug-Release: Dual Pwr Supplies (Cord Upstream)

**Infeed-Secondary (Slug) Mode / Release-Primary Mode**

An Accuglide Conveyor operating in one of the three primary operational-modes (Singulation, Auto-Slug, Dual-Zone) may require an upstream portion of its length (beginning at the infeed end of the conveyor) to operate in the secondary slug operational mode.

When the infeed-slug mode is no longer required, the slug-infeed zone returns to its primary operational-mode.

Initiating the infeed-slug requires that an external (slug) signal be supplied to a Power Supply (or Slug-Module) within the defined “slug-infeed zone”. A Slug Termination Cord is required downstream of the Power Supply/Slug-Module.

Initiation of the primary release mode (Singulation, Auto-Slug, or Dual-Zone) requires a remote release signal be connected to the Discharge-Zone's (solenoid-type) control valve. See to Figure 4 - 24 and Figure 4 - 25.

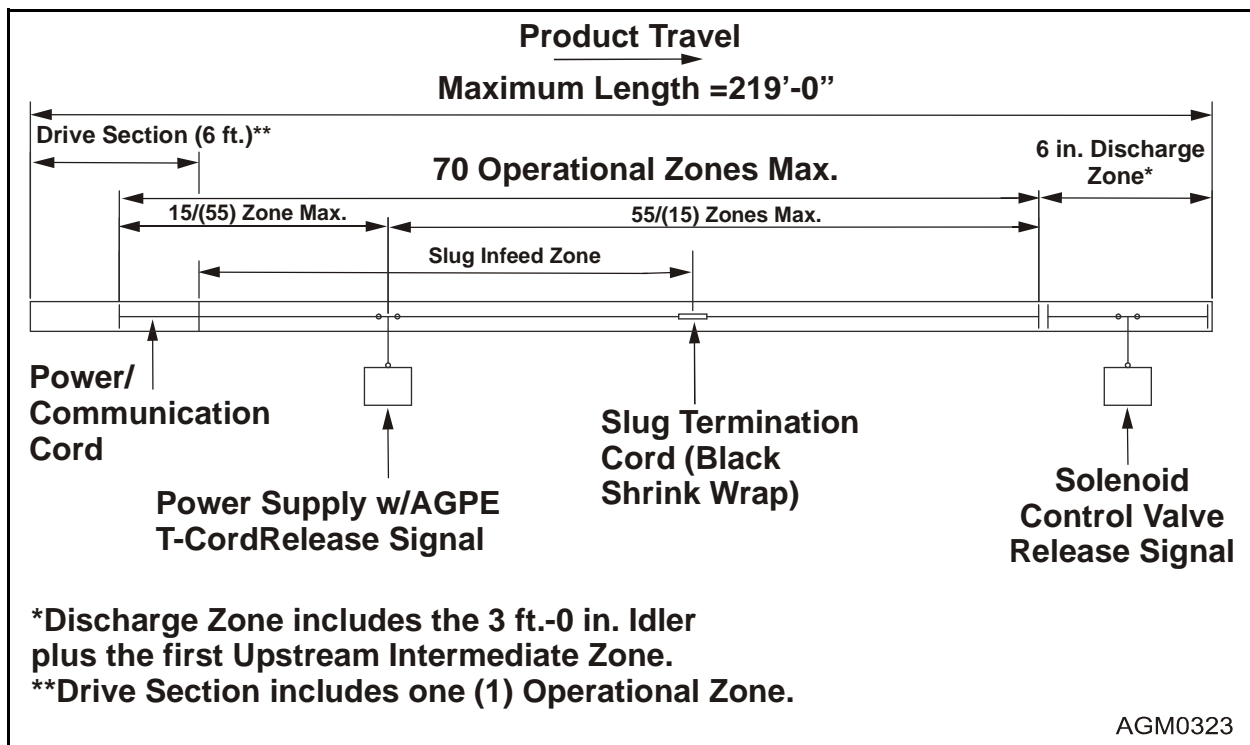


Figure 4 - 24 Slug-Infeed / Primary Mode Release (Single Power Supply)

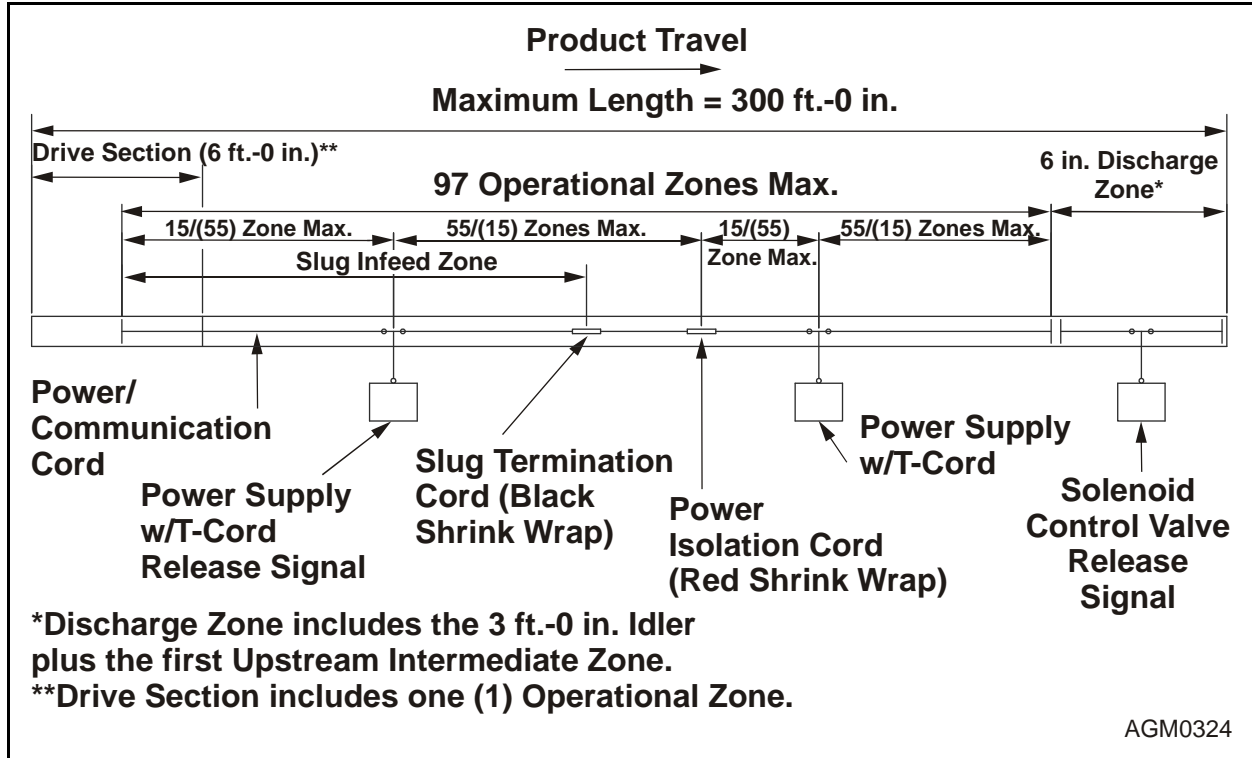


Figure 4 - 25 Slug-Mode / Primary Mode Release (Multiple Power Supplies)

**Product Infeed and Release - Secondary (Slug) Mode**

An Accuglide Conveyor with an infeed-slug zone may require either full or partial-length slug-release of accumulated product.

Initiating infeed-slug requires an external, infeed-slug signal be supplied to a Power Supply or Slug-Module located within the defined “infeed-slug” zone. A Slug Termination Cord is required to terminate the infeed-slug zone at the zone's downstream end.

**Slug Release - Full Length**

Initiating slug-release (full-length) (Figure 4 - 26) requires an external slug-release signal to be connected to: 1) all Slug-Modules and/or Power Supplies, and 2) the Discharge-Zone's (solenoid-type) control valve.

(\*) A Slug-Module is a standard Power Supply that is NOT connected to the 110VAC power source.

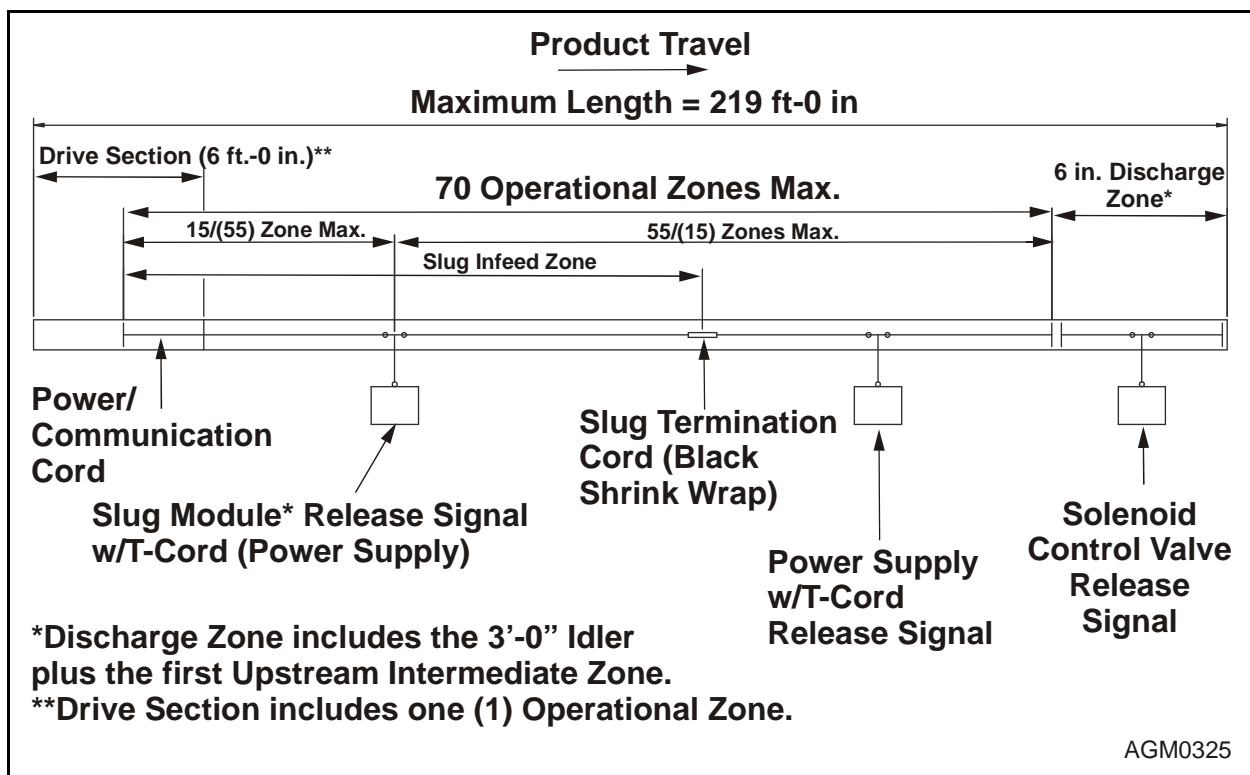


Figure 4 - 26 Slug-Infeed/Full-Length Slug-Release

***Slug Release - Partial Length***

Initiating slug-release (partial-length) (Figure 4 - 27) requires an external slug-release signal be connected to: 1) all Slug-Module(s) and/or Power Supply(s) within the partial slug-release zone; and 2) the Discharge-Zone's (solenoid-type) control valve.

(\*) A Slug-Module is a standard AGPE Power Supply that is NOT connected to the 110VAC power source.

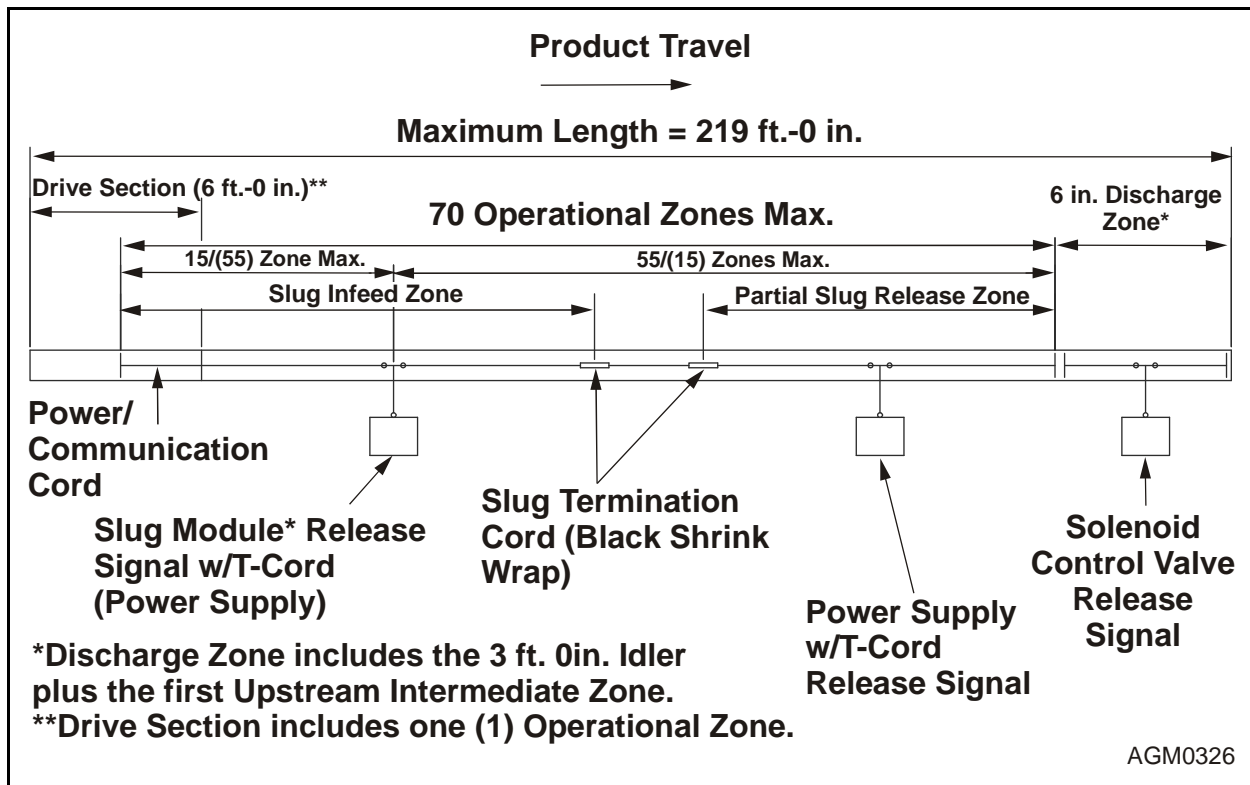


Figure 4 - 27 Slug-Infeed/Partial-Length Slug-Release

**Slug Infeed Overlapping Partial Length Slug Release**

An Accuglide Conveyor may have an infeed-slug zone that overlaps the conveyor's partial-length slug-release zone.

An additional Power Supply/Slug-Module is required to control the overlapping common area.

Two (2) Slug-Termination Cords are required. One (1) at the discharge-end of the infeed-slug zone, and one (1) at the upstream-end of the slug-release zone.

Initiating infeed-slug requires that a release-signal be connected to the Slug-Module/Power Supplies within: 1) the infeed-slug zone; and 2) the common zone.

Initiating slug-release requires that a release-signal be connected to: 1) the Slug-Module/Power Supplies within: a) the common zone; and b) the slug-release zone; and 2) the Discharge-Zone's (solenoid type) control valve.

(\*) A Slug-Module is a standard AGPE Power Supply that is NOT connected to the 110VAC power source.

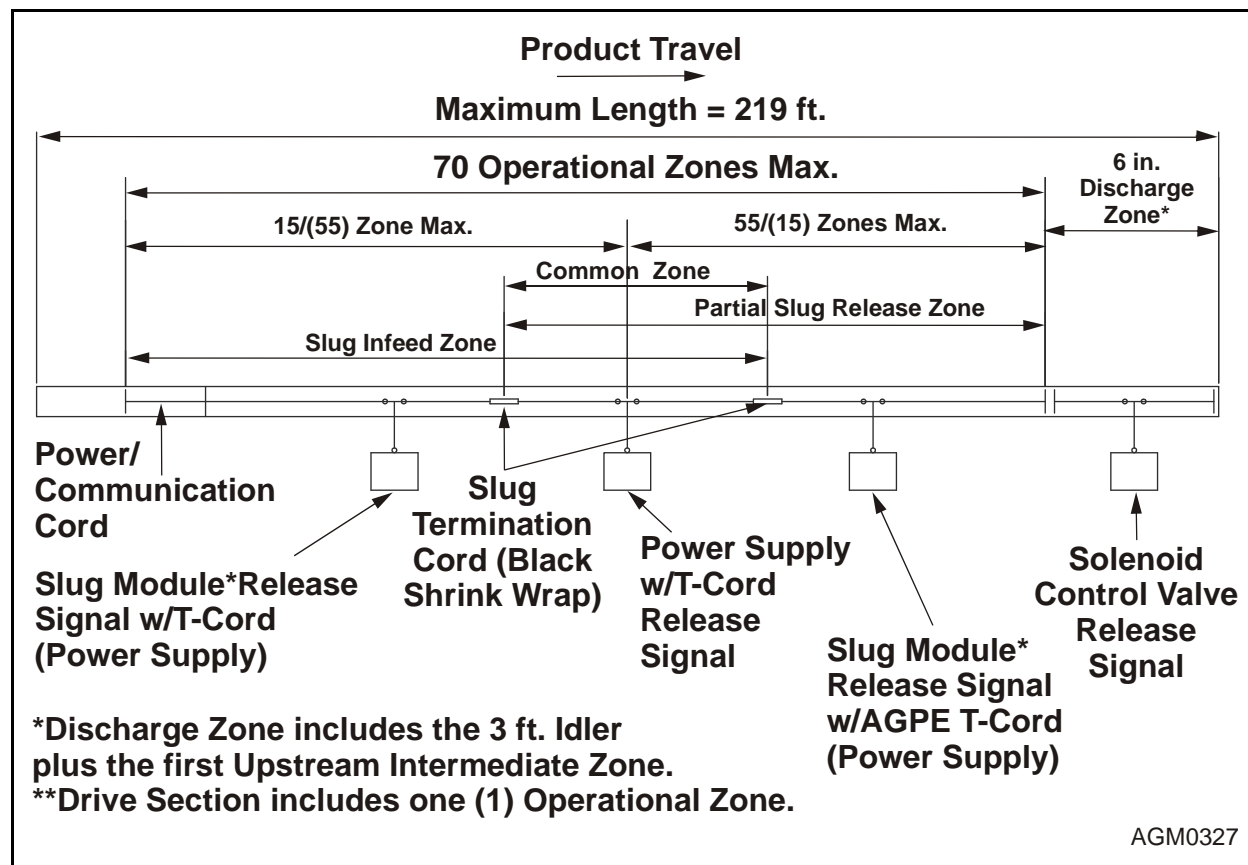


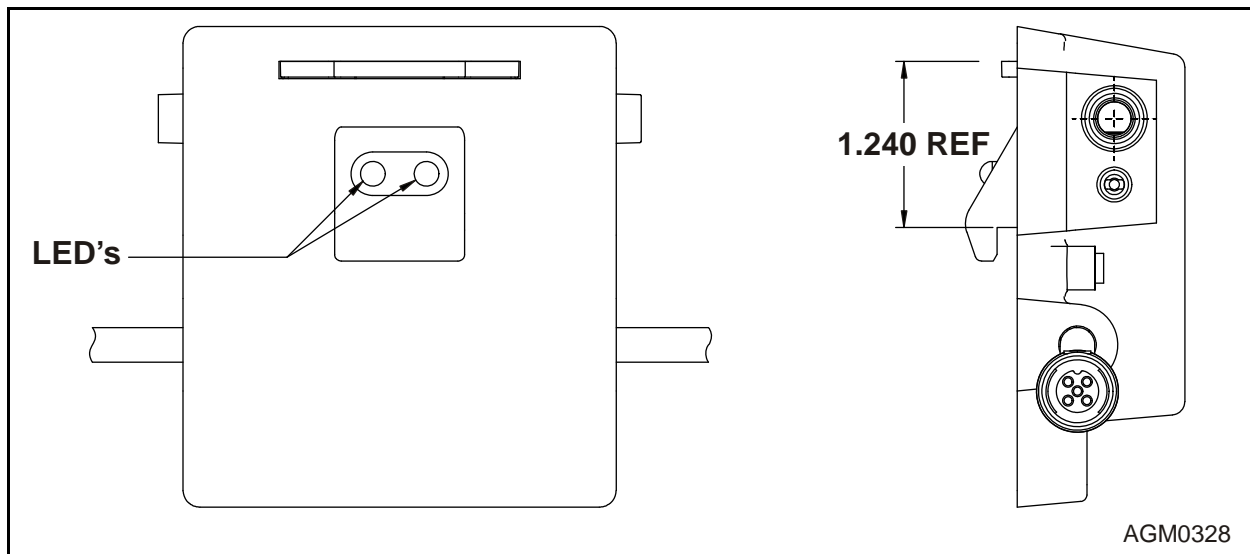
Figure 4 - 28 Slug-Mode Infeed Overlapping Partial-Length Slug-Mode Release

## Checking Zone Control Components

### Checking the Solenoid Control Module

Each Solenoid control Module has two (2) dual-color LED indicators that show the status of the modules two (2) solenoid valves.

1. Check the color of each indicator.  
An amber LED indicates that all Power/Communication cords between the module and the Power Supply are properly connected and the module is receiving power (24VDC) from the power supply; a green LED indicates that its associated solenoid-valve is actuated and its associated operational zone is in the powered state.



*Figure 4 - 29 LED Indicators (As seen from outside of Conveyor)*

### Checking the Photo-eye Sensor

Each Photo-eye Sensor has one or more LEDs that indicate the sensor's current operational condition and status. Depending on the model/brand of photo-eye supplied, the color(s) of the LEDs may vary from those described in the following step.

1. Check each photo-eye's LED indicators.  
A green LED indicates that the photo-eye is properly connected to the Solenoid Control Module and receiving power; a yellow LED indicates that the photo-eye is properly aimed and receiving a reflective beam back from its reflector.



## Checking Transportation Function

Make sure product conveys positively and smoothly along the full length of the conveyor.

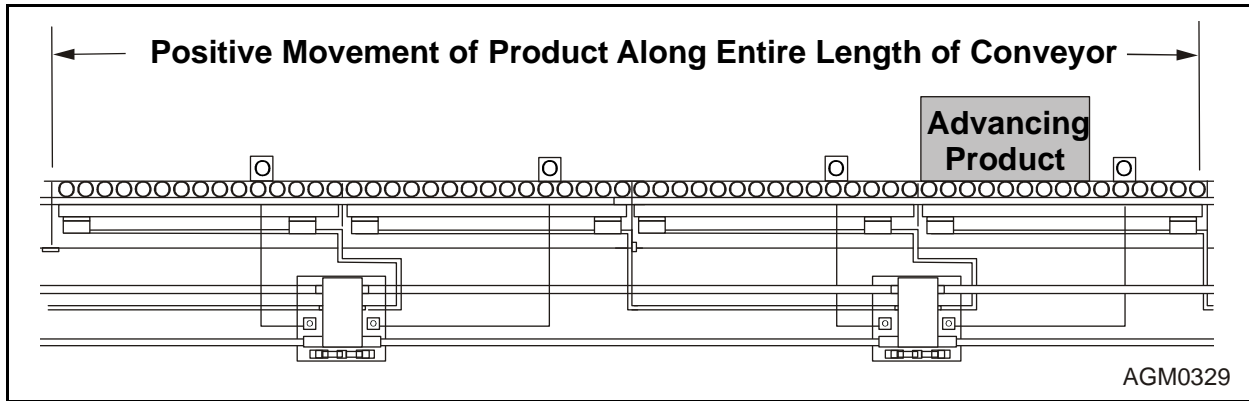


Figure 4 - 30 Checking Transportation Function

## Checking Accumulation Function

### Checking Accumulation Function - Straight Sections

Make sure the first product coasts to a stop in the first operational-zone at the conveyor's discharge-end and that trailing products accumulate rearward without a buildup of line pressure.

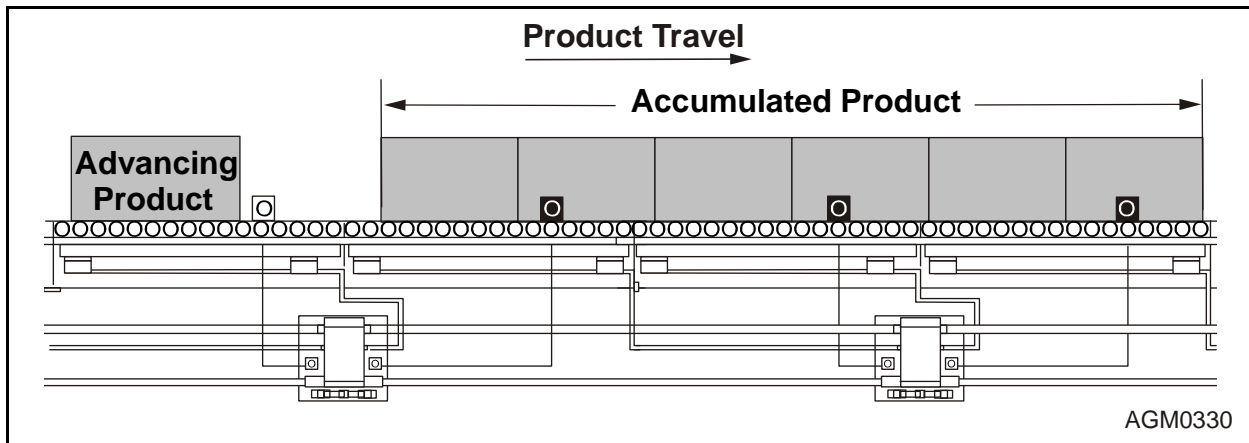


Figure 4 - 31 Checking Product Accumulation Function - Straight Sections

## Checking Accumulation Function - Single Operational-Zone

1. Confirm that product stops in operational-zone CZ1 (Figure 4 - 32) when: 1) sensor DS1 is blocked by accumulated product; and 2) sensor CS1 is blocked by advancing product.
2. Confirm that operational-zone UZ1 (not shown in Figure 4 - 32) becomes non-powered when operational-zone CZ1 stops.

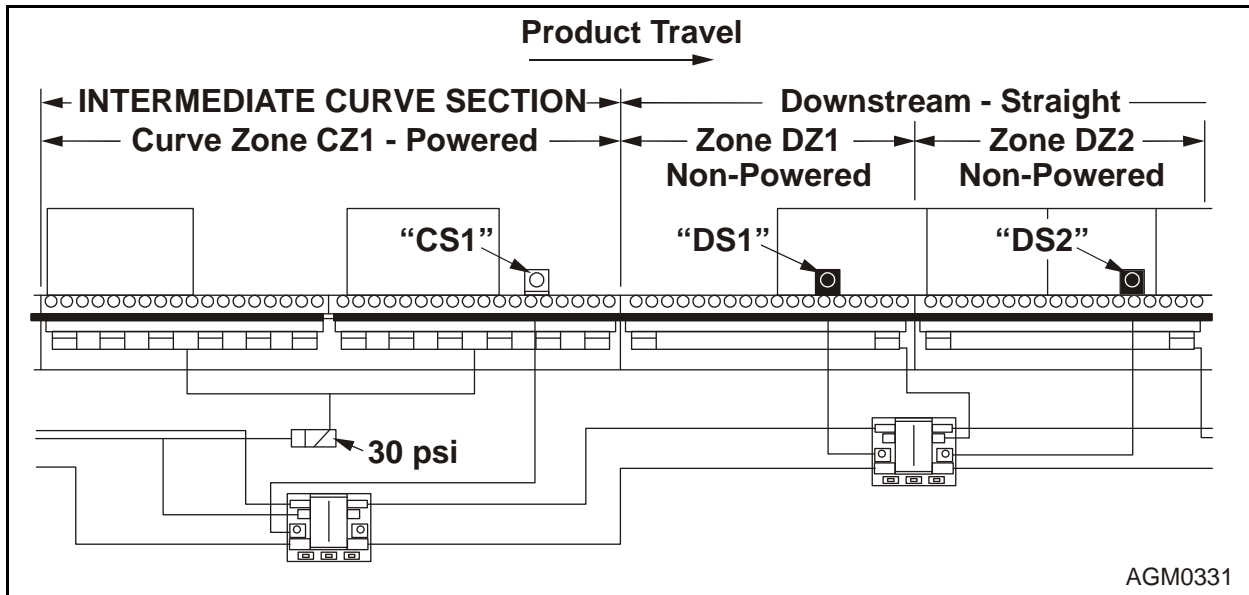


Figure 4 - 32 Intermediate Curve Section - Single Zone Accumulation

**Checking Accumulation Function - Dual Operational-Zones**

1. Confirm that product stops in operational-zone CZ1 (Figure 4 - 33) when: 1) sensor DS1 is blocked by accumulated product; and 2) sensor CS1 is blocked by advancing product.
2. Confirm that trailing product stop in operational-zone CZ2 when sensor CS2 is blocked.
3. Confirm that operational-zone UZ1 (not shown in Figure 4 - 33) becomes non-powered when the operational-zone CZ2 stops.

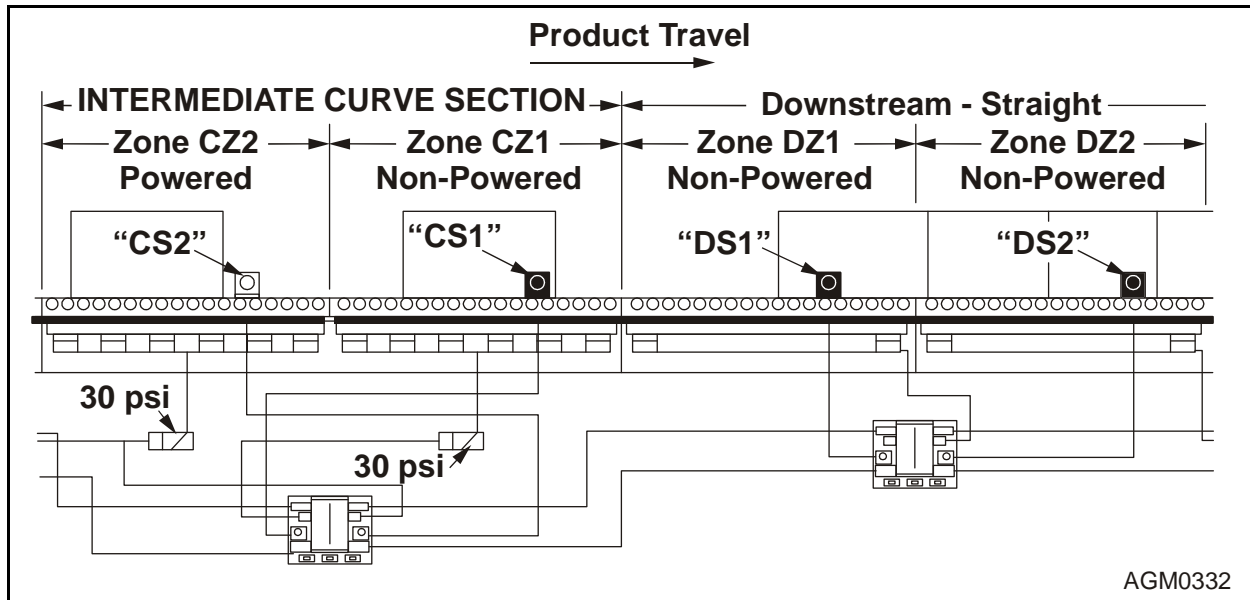


Figure 4 - 33 Intermediate Curve Section - Dual-Zone Accumulation

## Checking Operational Mode

### Checking Operational Mode - Singulation

#### *Singulation Mode Description*

A Solenoid-Control Module (SCM) that is set for the singulation operational-mode responds to its associated photo-eye sensor mounted in the next downstream zone.

Example - Solenoid Valve "A" actuates (raises and powers L2B) when photo-eye sensor "a" (Figure 4 - 34) is unblocked; Solenoid Valve "B" actuates in response to photo-eye sensor "b".

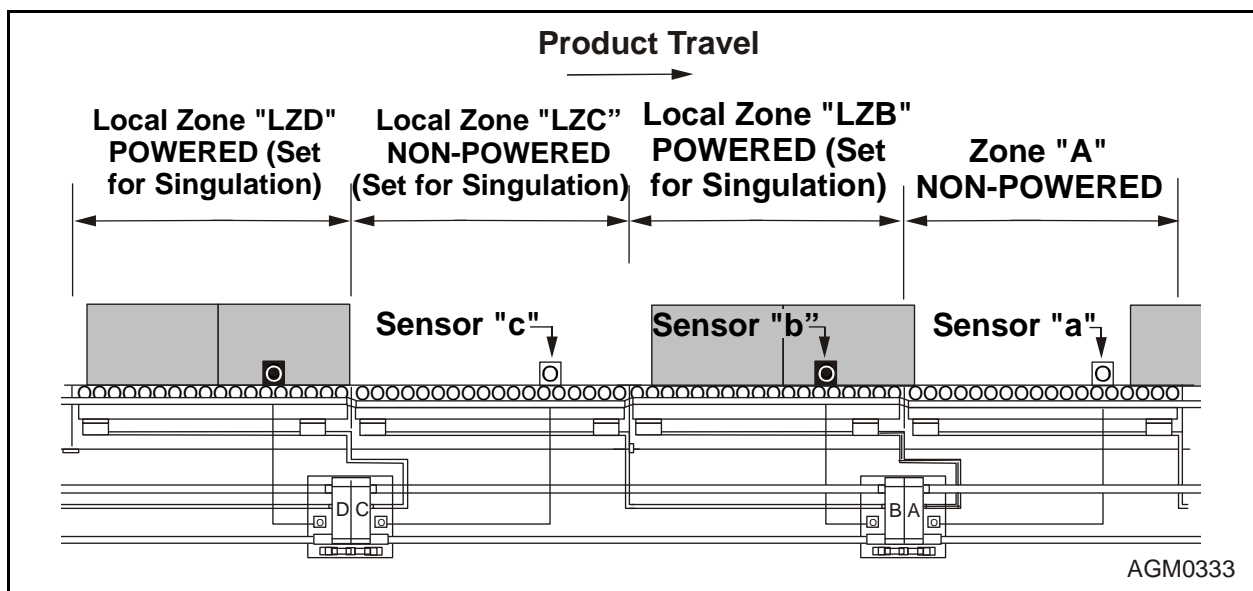


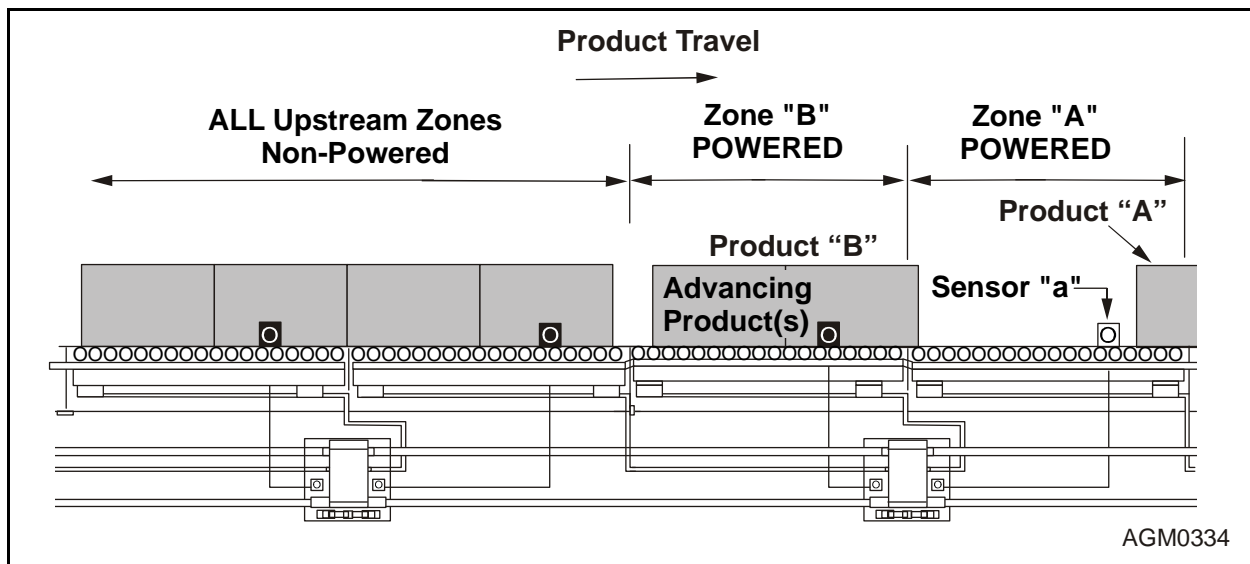
Figure 4 - 34 Singulation Operational Mode

**Checking Singulation Mode Operation**

To make sure the singulation mode is operating properly:

1. Product Acceptance: Make sure the volume of product being fed onto the conveyor properly advances on the conveyor with gaps (approximately 3 feet long) between each product (or groups of smaller products).
2. Product Release: Provide a release signal to the SCM and confirm that:
  - a. accumulated product "A" (sitting in the first operational zone "A") (Figure 4 - 35) advances; and
  - b. accumulated product "B" (sitting in the second operating zone "B") advances when the first zone's photo-eye sensor "a" is cleared by product "A".

Confirm that this process continues rearward until all product is moving forward with approximately 3-foot-long gaps between products.



*Figure 4 - 35 Singulation Release*

## Checking Operational Mode - Auto-Slug

### Auto-Slug Mode Description

A conveyor may consist of one or more Auto-Slug Zone(s). Each Auto-Slug Zone consisting of a first-zone set for singulation operational-mode followed by any desired number of zones set auto-slug operational-mode. An Auto-Slug Zone may extend the entire length of a conveyor.

A Solenoid Control Module Valve that is set for the auto-slug operational-mode responds to either:

- a. Its associated photo-eye sensor (in next downstream zone); and
- b. The operational state of the next downstream zone.

Example - when Sensor "c" (Figure 4 - 36) is unblocked, Solenoid Valve "A" actuates (raises and powers LZB); Solenoid Valve "B" will actuate (raises and powers LZC) due to the powered state of LZB.

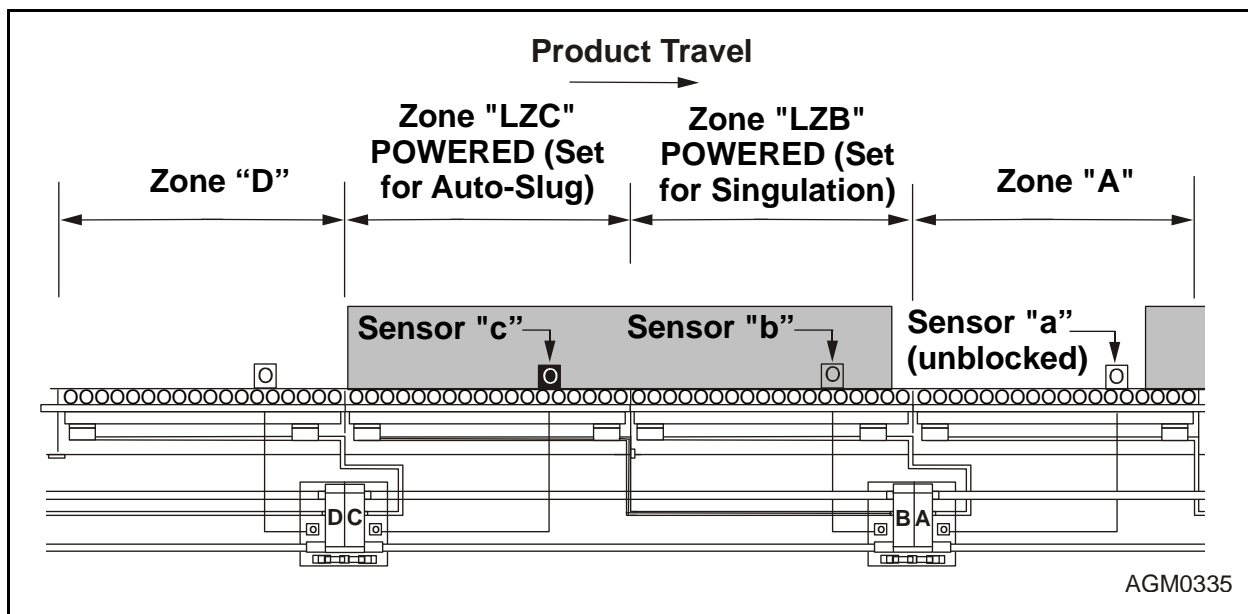


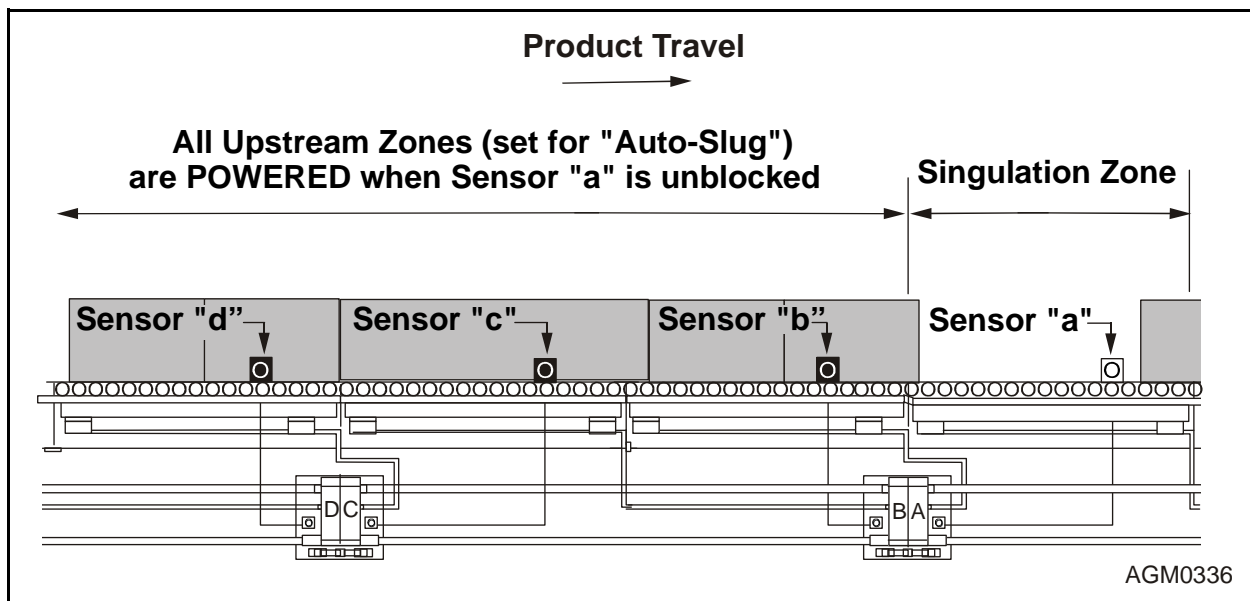
Figure 4 - 36 Auto-Slug Operational Mode

***Checking Auto-Slug Mode Operation***

1. Check Product Acceptance: Make sure the volume of product being fed onto the conveyor advances with no change in the spacing between product as long as the first-zone's sensor is clean (non blocked).
2. Check Product Release: Provide a release signal to the first operational-zone and confirm that:
  - a. The first accumulated product in the downstream singulation zone advances; and
  - b. All trailing product in zones, set for auto-slug operating mode, advance as a group when the sensor in the first-zone is cleared by the first product.

Example - Solenoid Valve "A" actuates (raises and powers the first Auto-Slug zone) when Sensor "a" (Figure 4 - 37) is unblocked. Solenoid Valve "B" actuates (raises and powers the next upstream Auto-Slug zone) when Sensor "b" is unblocked or Solenoid Valve "A" is actuated.

This process repeats upstream until all product advances as a group with a gap approximately 3-feet long between groupings.



*Figure 4 - 37 Checking Auto-Slug Operational Mode*

## Checking Operational Mode - Dual-Zone

### Dual-Zone Mode Description

A Solenoid Control Module that is set for the dual-zone operational-mode responds to either:

- a. Its associated photo-eye sensor in the first downstream zone; or
- b. The photo-eye sensor in second downstream zone.

Example - Solenoid Valve "B" actuates (raises and powers LZC) when either photo-eye Sensors "b" or "a" are unblocked (Figure 4 - 38).

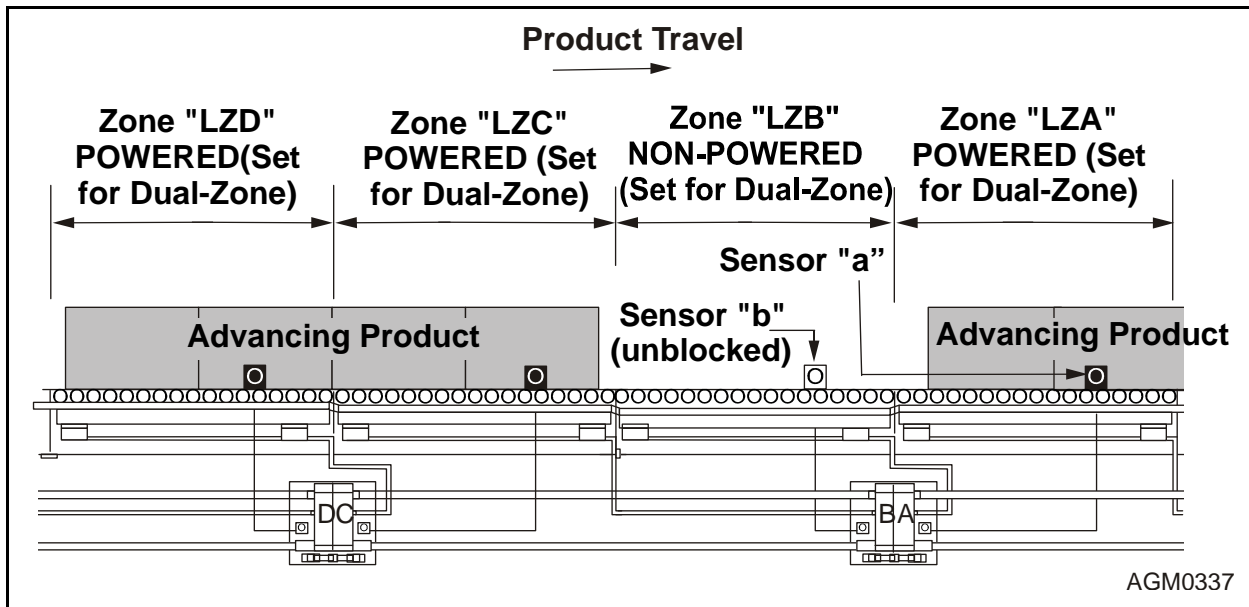


Figure 4 - 38 Dual-Zone Release Diagram



**Checking Dual-Zone Mode Operation**

1. Product Acceptance: Check that the volume of product being fed onto the conveyor properly advances on the conveyor in groups (approximately 6 feet long) with gaps (approximately 3 feet long) between each group.
2. Product Release: Provide a Zone-Release signal to the first operational-zone and confirm that:
  - a. A group of accumulated product (6 feet long) advances from the first and second downstream operational zones; and
  - b. Trailing product in zones 3 & 4 advance as a 6-foot long group when first zone's sensor is cleared by the first product.

Example - Solenoid Valve "A" actuates (raises and powers Zone "B") (Figure 4 - 39) when Sensor "a" or the next upstream sensor is unblocked. Solenoid valve "B" actuates (raises and powers Zone "c") when Sensor "a" or Sensor "b" is unblocked. This process repeats upstream until all product advances as a group with a gap (approximately 3 feet long) between 6-foot-long groups.

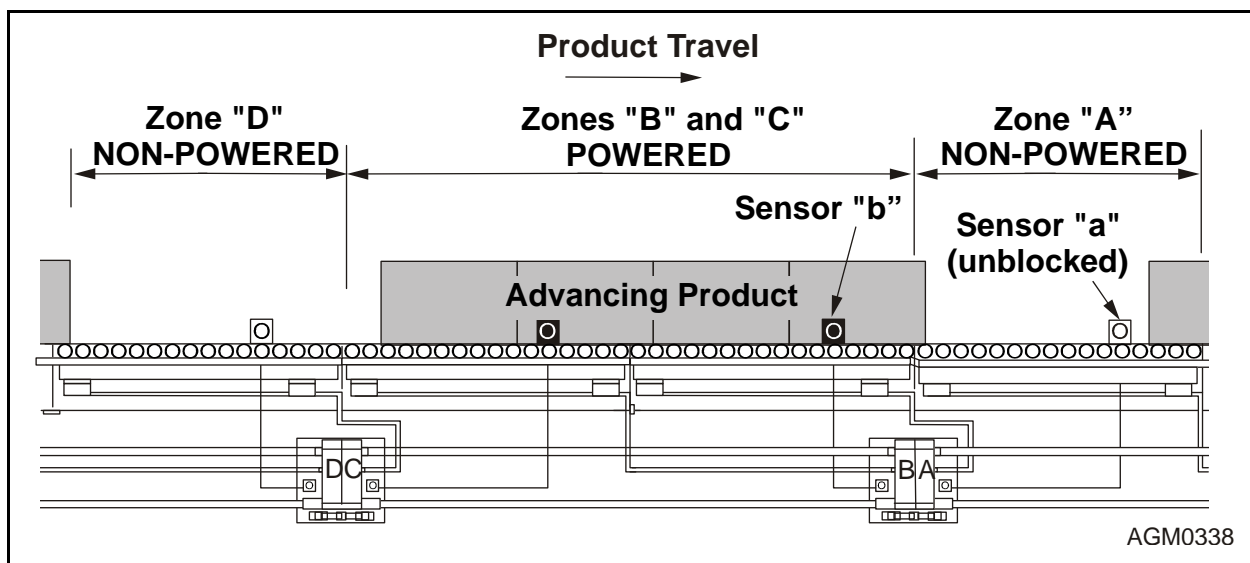


Figure 4 - 39 Checking Dual-Zone Mode Operation

## Checking Operational Mode - Slug

### Slug Mode Description

All Solenoid Control Modules within a defined slug-zone will respond to an external Slug-Release signal. When a Release signal is received, all solenoid Control Modules within the slug-zone override their primary operational-mode setting (singulation, auto-slug, or dual-zone) and function in the secondary slug operational-mode.

When the Slug Module ceases receiving the Slug-Release signal, the Solenoid control Modules will again function per their primary operational-mode setting.

### Checking Slug Mode Operation

**Product Release:** Provide a Slug-Release signal to the Power Supply or Slug Module and confirm that all accumulated product within the defined (slug-zone) advances in a single grouping. If the required slug-zone length is less than the conveyor's length, the zones upstream of the slug-zone will release per their primary operational mode setting. See to Figure 4 - 40.

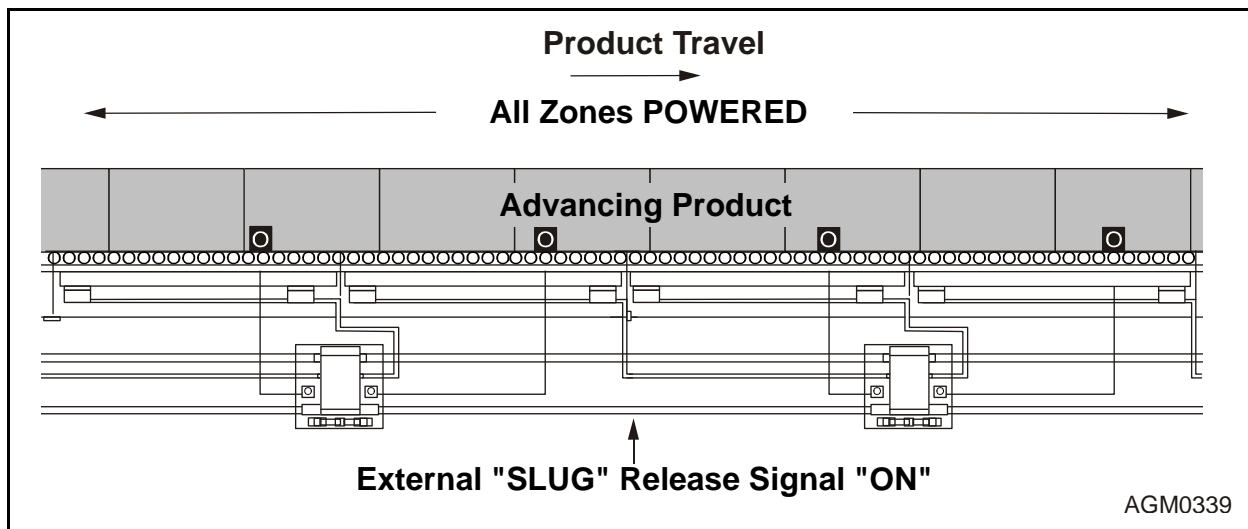


Figure 4 - 40 Checking Slug Mode Operation

## **Inline Conveyor Connection (Optional)**

When the length of an accumulation conveyor line requires that two (2) conveyors function as a single, continuous unit, the mating terminal-end sections (Idler Section and Drive Section) of two (2) adjoining conveyors must be equipped with zone-control components that provide the transportation, accumulation and released operational-modes that match the rest of the conveyor.

A single-zone Retrofit Kit will provide the required control. To make two accumulation conveyors function as a single, continuous unit:

1. Position and install the photo-eye/reflector components (Figure 4 - 41) approx. 12 inches from the discharge end of the downstream conveyor's Drive Section.
2. Position and mount the Solenoid Control Module (w/bracket) approx. 18 inches upstream of the photo-eye.
3. Remove the air-line (yellow, 1/4-inch O.D.) that connects the air-actuators and solenoid-valve in the Idler Section.
4. Connect the air-actuators to the Solenoid Control Module using the new tubing (yellow, 1/4-inch O.D., approximately 6 feet long).
5. Install the main air supply line tubing (red, 1/2-inch O.D.).
6. Connect the Solenoid control Module's Power/Communication Cord to the cord of the downstream module.
7. Connect the Solenoid Control Module to the upstream module using a 3-foot-long P/C Cord Extension.

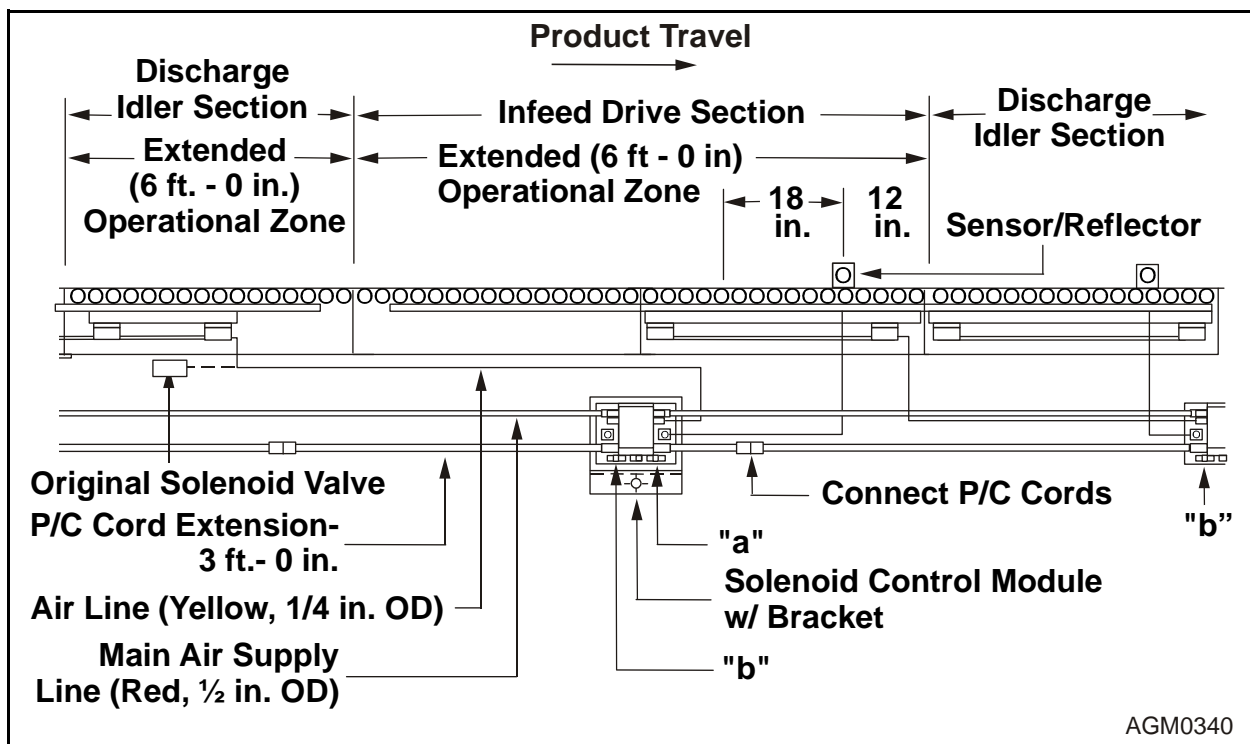


Figure 4 - 41 Connecting Two (2) Inline Conveyors



# 5 Installation Procedures

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The Installation manual contains instructions for receiving, inspecting, and installing the Accuglide Conveyor equipment and preparing it for operation. It is essential that the equipment be properly installed, and subsequently maintained, in order to obtain maximum productivity.

## **WARNING**

The installer must be qualified and must comply with all applicable codes, ordinances, specifications, and/or other governing data related to the installation of the equipment. Read the installation chapter of this manual and resolve any questions you have before attempting to move or install the equipment. Obey all safety precautions. Failure to follow these instructions may result in serious personal injury and/or equipment damage.

## Receiving & Inspections

During the process of unloading the material, it is important to:

1. Be sure that the quantity of items received matches the count listed on the Bill of Lading. Once the Bill of Lading has been signed, the liability of any shortage is on the receiver.
2. Inspect each item for damage to the product, especially if there is any damage to the crate or container. Any obvious shortage or damage should be noted on the Bill of Lading before it is accepted.

## **Reporting Lost or Product Damage**

Any damage to the product that cannot be detected upon the initial receiving inspection must be reported to the carrier within 24 hours of the receipt of the product in order to qualify for a damage claim against the delivering carrier. It is the responsibility of the recipient to file claims for shipping shortages or damage whenever the freight charges are borne by that recipient.

Please notify Intelligrated whenever there is a shipment shortage or any damage occurs to the equipment so that we can provide support services as well as track carrier performance. In the event that the shipment is refused, it is imperative that Intelligrated be contacted immediately for return authorization approval to avoid demurrage costs.

If you need further assistance, please visit our website at [www.intelligrated.com](http://www.intelligrated.com) or call our Customer Service Department at (513) 701-7300, Monday through Friday 8:00 A.M. to 5:00 P.M. EST.

## **Claims and Returns**

All equipment furnished in accordance with the Manufacturer's Agreement is not returnable for any reason except where authorized in writing by the Manufacturer. Notification of return must be made to the Manufacturer's Customer Service Department, and if approved, a "Return Authorization Tag" will be sent to the Purchaser (Users). The return tag sealed in the "Return Authorization Envelope" should be securely affixed to the exterior surface on any side of the shipping carton (not top or bottom), or affixed to any smooth flat surface on the equipment, if not boxed.

Send authorized return shipment(s) transportation charges prepaid to the address indicated on the Return Authorization Tag. If initial shipment is refused, the Purchaser (User) shall be liable for all freight charges, extra cost of handling, and other incidental expenses.

## **Layout Requirements**

Conveyor layout drawings are typically used to determine the conveyor location and elevation based on the building grid. Layout drawings should be referenced in the installation preparations to determine the conveyor layout area and to make sure there are no physical obstructions to the conveyor. Special consideration should be given to drives (motor/reducer combinations) that extend from the conveyor.

In addition, measurements should be taken along the conveyor to ensure that the support adjustment falls within the conveyor elevation requirements.

Prior to setting the conveyor or other components in place, scribe all reference measurements from the layout drawings to the facility floor. Typically, datum lines are marked with red diamonds, conveyor center lines are marked with yellow diamonds,

conveyor end of locations are marked with white diamonds, and 100 ft. lines are marked throughout the facility with red arrows to make marking layout lines easier.

## Codes and Standards

The equipment is designed and manufactured to comply with the American National Standard Institute's "Safety Standards for Conveyors and Related Equipment" (ANSI/ASME B20.1) and with the National Electrical Code (ANSI/NFPA70).

The Purchaser/Operator shall be familiar with, and responsible for, compliance with all codes and regulations having jurisdiction regarding the installation, use, and maintenance of this equipment. Appropriate lockout/tagout policy and procedures shall comply with the minimum safety requirements outlined in the American National Standard Institute's current publication (ANSI Z244.1).

## Safety Precautions

- DO turn off power source(s) and affix appropriate lockout/tagout device(s) to operating controls before servicing the equipment. ONLY trained and qualified personnel who are aware of the safety hazards should perform equipment adjustments or required maintenance while the equipment is in operation.
- DO observe all warning signs, lights, and alarms associated with the equipment operation and maintenance, and be alert at all times to automatic operation(s) of adjacent equipment.
- DO use extreme caution near moving parts to avoid the hazard of hands, hair, and clothing being caught.
- DO NOT sit on, stand on, walk, ride, or cross (over or under) the equipment at any time except where suitable catwalks, gates, or bridges are provided for personnel travel.
- DO NOT attempt to repair any equipment while it is running, replace any component without the appropriate replacement part, or modify the equipment without prior approval by the manufacturer.
- DO NOT operate the conveyor until all safety guards are securely in place, all tools and non-product materials are removed from or near the conveying surfaces, and all personnel are in safe positions.
- DO NOT remove or modify any safety devices provided on or with the equipment.
- DO NOT clear jams or reach into any unit before first turning off the all power source(s) and affixing appropriate lockout/tagout device(s).

## Safety Precautions Regarding Pop-Out Rollers and Spill Guards

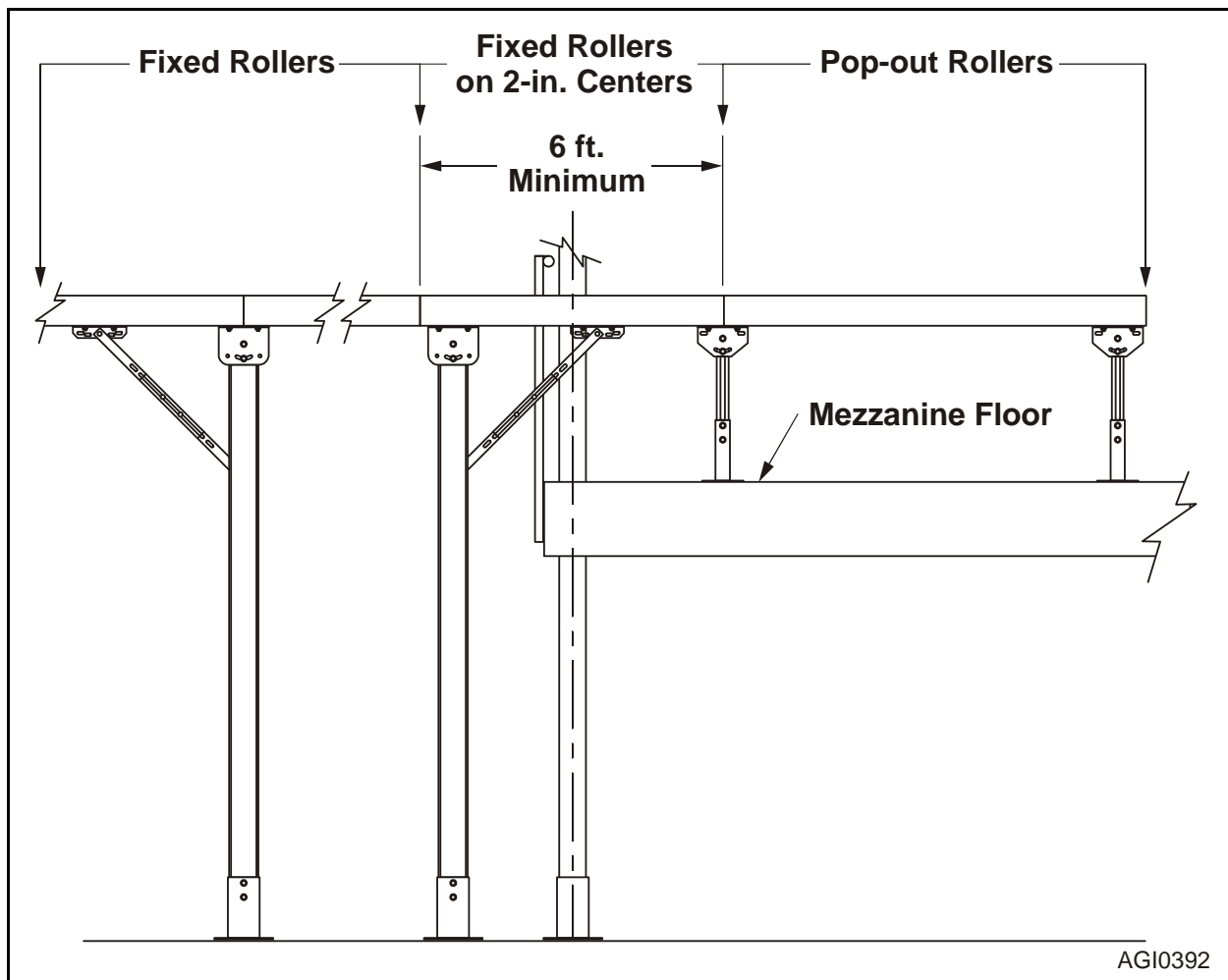
### **WARNING**

There is a risk of injury with live roller conveyors with trapped rollers. Turn off conveyors before handling product or servicing. Limit access to maintenance personnel. Some live roller conveyors are designed to allow the carrier rollers to “pop-out” if an object accidentally becomes caught between the carrier roller and the drive belt. This feature is required whenever the conveyor is installed in an area that is readily accessible to general plant personnel. However, when the conveyor is installed overhead, take provisions to prevent this feature from becoming a hazard to personnel below (due to falling rollers). Use the following guidelines to properly install the conveyors.

1. For conveyors not installed overhead (below 8-foot elevation):  
All carrier rollers must be free to pop out, except for carrier rollers installed at 2-inch centers.
2. For conveyors installed overhead (8 feet or higher) with no access (no catwalk, walkway, platform, etc.):
  - a. Installing only fixed rollers is recommended. If pop-out rollers are absolutely necessary, install netting with maximum 1-inch grid below the conveyor in all areas where falling rollers could hit personnel. Pop-out rollers are narrower than the conveyor frame, and can fall through the conveyor frame.
  - b. Post signs warning against the danger of pinch points caused by trapped rollers.
  - c. Provide an emergency stop pull cord for stopping the conveyor while clearing jams or performing maintenance.
3. For conveyors installed overhead (8 feet or higher) with access by catwalk or walkway:  
Installing only fixed rollers with 2-inch centers is recommended. (Pop-out rollers are not required with 2-inch roller centers.) If pop-out rollers are absolutely necessary, install netting with a maximum 1-inch grid below the conveyor in all areas where falling rollers could hit personnel. Pop-out rollers are narrower than the conveyor frame, and can fall through the conveyor frame.



4. For conveyors installed overhead (8 feet or higher), but accessible to operators by a platform or mezzanine:
  - a. If the platform or mezzanine extends under all conveyor sections, follow the instructions in step 1.
  - b. If the platform or mezzanine does not extend under all conveyor sections, follow the instructions in step 3.
  - c. If the conveyor extends past the edge of the platform or mezzanine, refer to Figure 5 - 1 for the correct roller configuration.



*Figure 5 - 1 Roller Configuration: Conveyors that Extend Past Mezzanine Edges*

5. For all conveyors installed overhead, provide spill guards:
  - If any conveyed object may fall off the conveyor for any reason (such as loose bottles in trays or poorly packaged products).
  - Where the conveyor is above aisles or work spaces.

**⚠ WARNING**

For conveyors installed at floor level in an “Authorized Personnel Access Area Only”, fixed rollers (3 inch centers) may be used in conjunction with an emergency pull cord. The area must be apart from normal working areas and access must be marked with a sign, “Warning - Do Not Enter - Authorized Personnel Only”. Part Number for ordering Warning Sign is 957305.  
See Figure 5 - 2 for placement of the sign.

## Warning Signs

Warning signs and labels posted on or near the equipment shall not be removed, painted over, or altered at any time. All safety devices, warning lights, and alarms associated with the system should be regularly tested for proper operation and serviced as needed. If the original safety item(s) become defective or damaged, refer to the parts list(s) of bill(s)-of-materials for replacement part numbers.

## Parts Replacement

To minimize production downtime, selected spare parts should be stocked for replacement of defective components when required. Refer to the equipment bill-of-material where quantity requirements or code numbers are not indicated on the parts list. For added convenience, information on ordering parts is included in the “Ordering Parts” chapter of this manual.

## Factory Assistance

Contact Field Service for installation, operation, or maintenance assistance, or Customer One Protection (COP) for replacement parts.

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## Installation Site Preparation

### Site Layout for Floor Support Installations

Using a chalk line, or other suitable method, layout the conveyor centerlines on the floor.

- Refer to the project specific layout drawings for the location of the various sections.

### Site Layout for Ceiling Hanger Installations

1. Using a chalk line, or other suitable method, layout the conveyor centerlines on the floor.
2. Install the necessary ceiling hanger components to the building structure.

Typical components include: steel header channel, drop angles, and threaded rods.

Refer to the project specific layout drawings for the location of hanger components.

### Section Arrangement

Identify the location of each section by the number shown on the label affixed to the section.

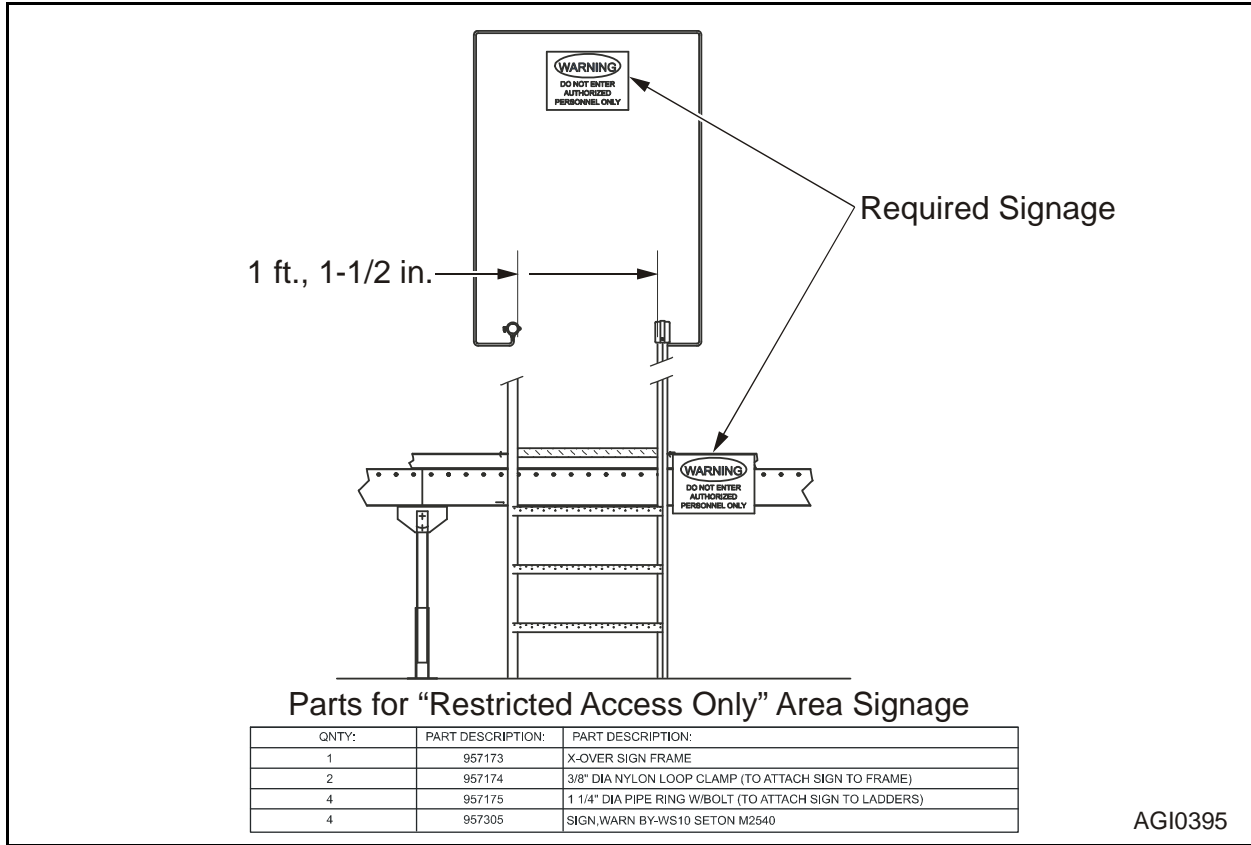


Figure 5 - 2 Placement of Authorized Personnel Only Warning Sign

## Pre-Assembly / Installation

Review all instructions provided in this manual and study the system's layout drawings to determine the conveyor's required location, direction of travel, elevation, etc. before assembling and installing the components.

### Conveyor Components

An Accuglide conveyor consists of the following components (Figure 5 - 3):

- Drive Section (with Power Unit) - installed at the infeed end of the conveyor
- Intermediate Straight Sections
- Intermediate Curve Sections (if required)
- Intermediate Sawtooth Merge Sections (if required)
- Idler Section - installed at the discharge end of the conveyor
- Supports / Hangers
- Accessories (Power Supply, Brake Module)

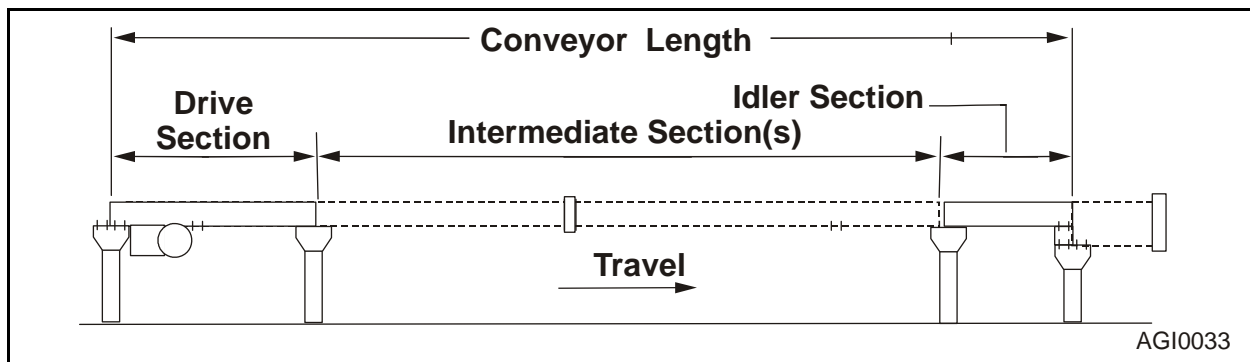


Figure 5 - 3 Components of Accuglide Conveyor

## Component Assembly

Use the following steps to assemble the various components.

1. Starting at either end of the conveyor, mount either floor supports or ceiling hangers (as required) to the conveyor's Drive Section or Idler Section and position as required in relation to the adjoining conveyor / equipment.

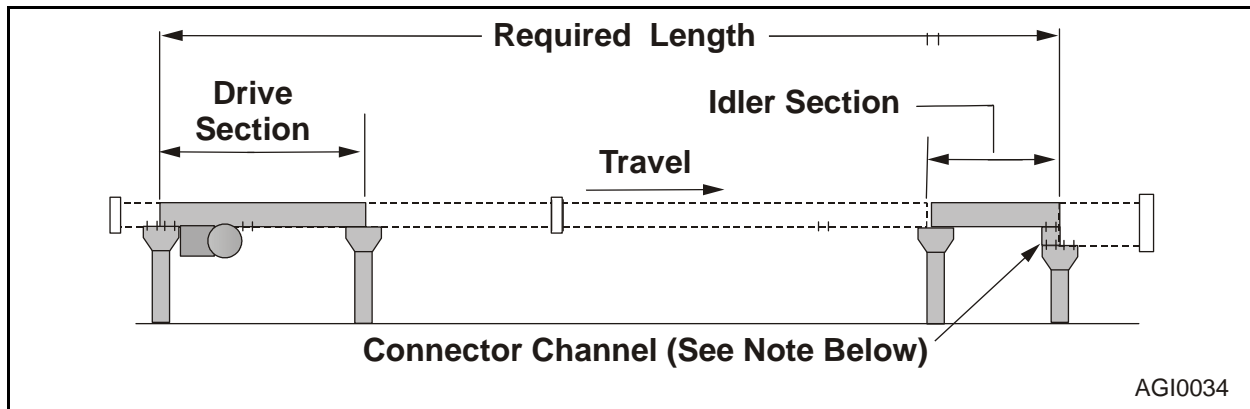


Figure 5 - 4 Installation of Drive Section / Idler Section

**NOTE:** In Figure 5 - 4, the depth of the adjoining “downstream” conveyor’s terminal end is greater than the Accuglide conveyor’s Idler Section. The use of a Connector Channel\* allows the two (2) components to share a “common” support.

2. Working from the installed Drive Section or Idler Section, position, align, splice and anchor the rest of the conveyor’s intermediate straight section(s), and terminal-end section (Figure 5 - 5).

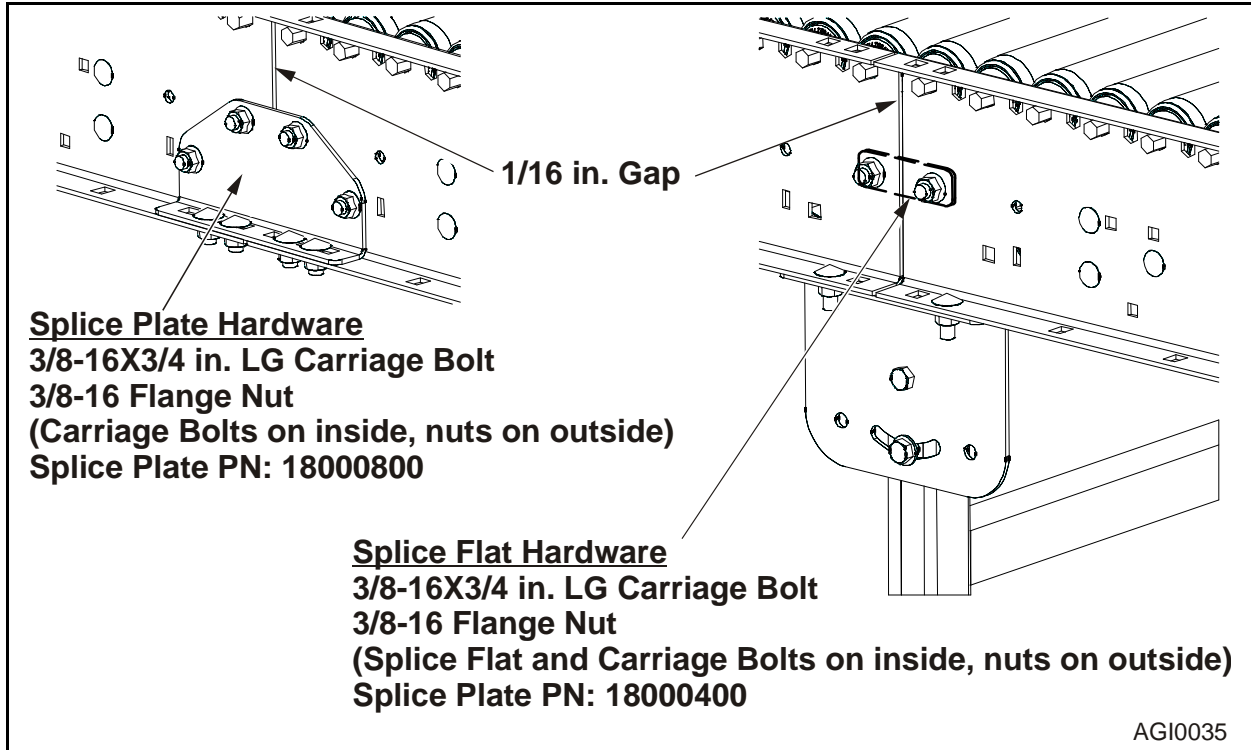


Figure 5 - 5 Splicing Adjoining Sections with Floor Support and Splice Flat

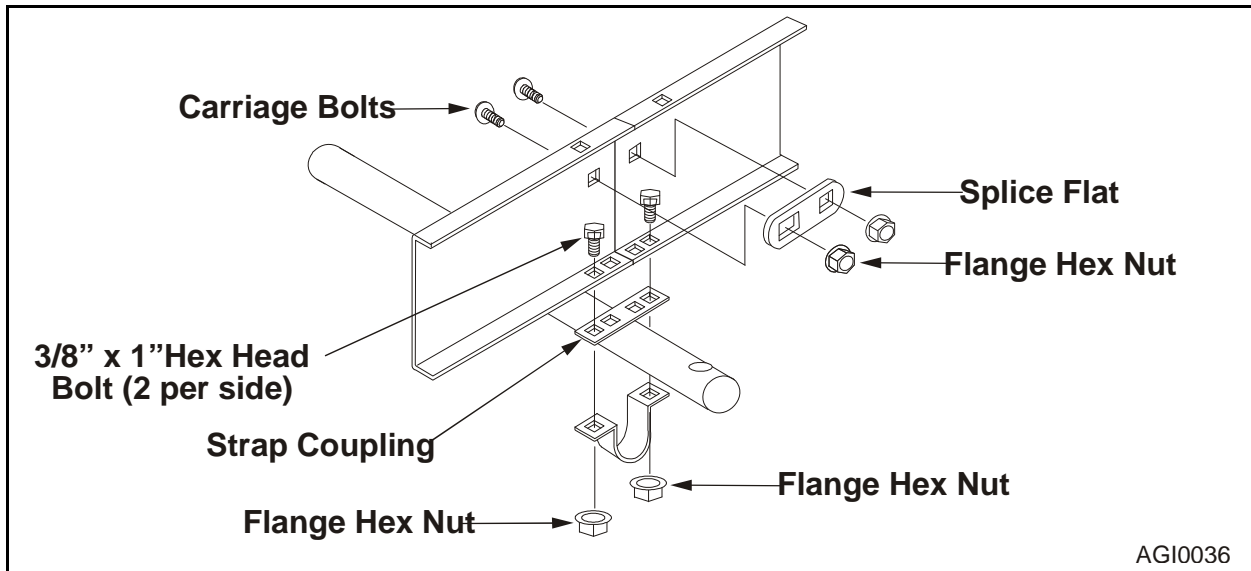


Figure 5 - 6 Splicing Adjoining Sections with Ceiling Hanger and Splice Flat

3. If an Accuglide conveyor includes an Intermediate Curve Section, connect it to the adjoining upstream/downstream sections using a common Floor Support or Ceiling Hanger, see Step 2 and Figure 5 - 5.

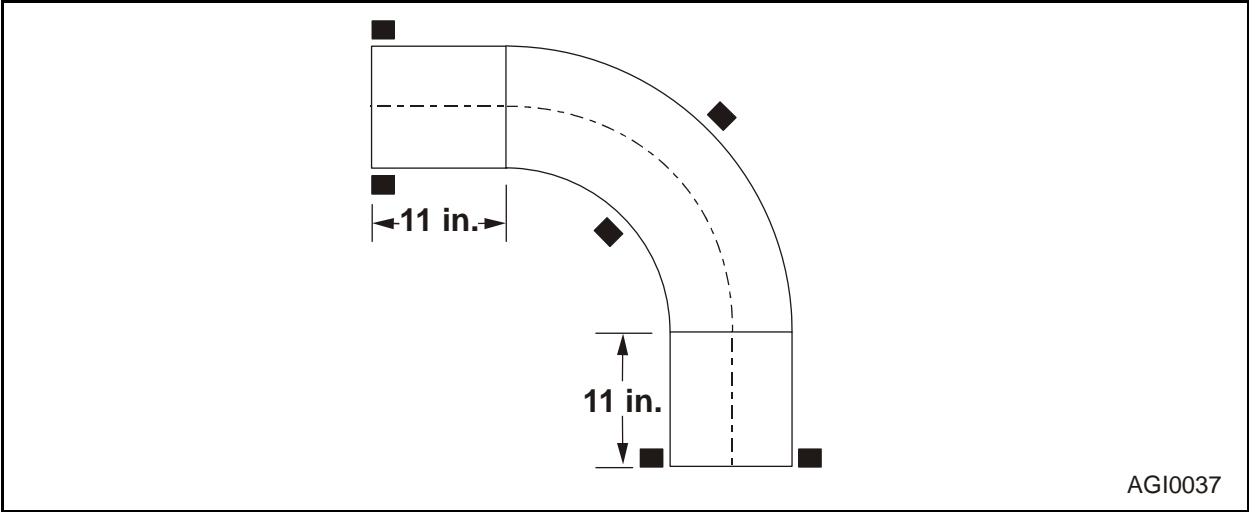


Figure 5 - 7 Intermediate Curve Section - Installed with Supports/Hangers

- 4. If an Accuglide conveyor includes an Intermediate Sawtooth Merge Section, connect it to the adjoining upstream/downstream sections per Step 2. The terminal-end of the “spur-line conveyor” must share a common support with the tapered portion of the section.

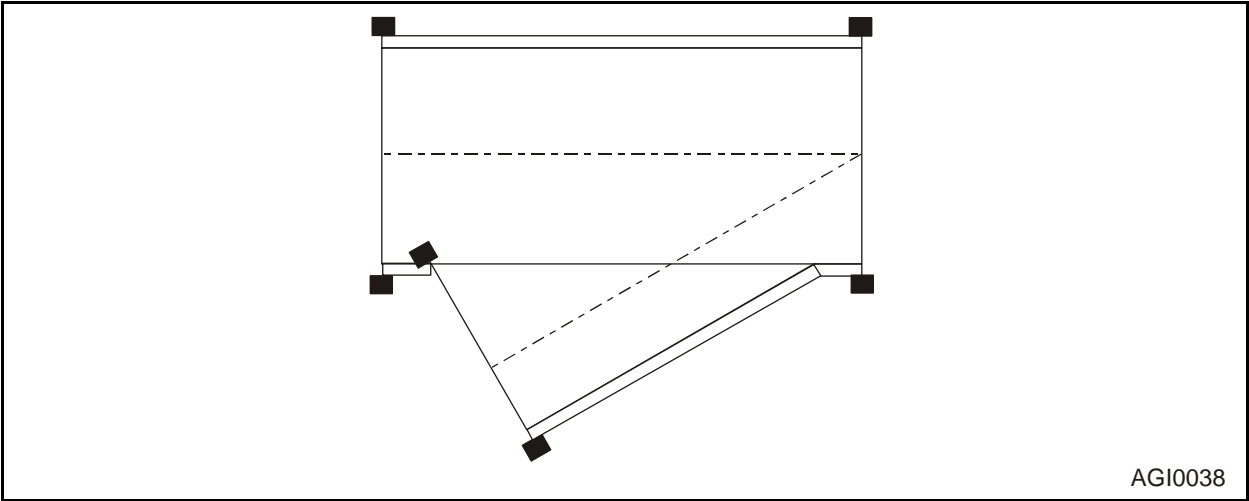


Figure 5 - 8 Connect Sawtooth Merge Section to Other Intermediate Sections



## Drive Section Preparation

### Carrier Roller Removal

Remove all but one (1) Carrier Roller (located directly above the drive sprocket's center line) from the section. This provides access to the drive sprocket, chain tensioner and track lubricator, and easier installation of the drive chain/pad (later).

### Drive Sprocket Height Verification

Using the AG DE Sprocket Alignment Gauge (P/N #740003), place the "Final" portion of the gauge between the sprocket and the Carrier Roller, see Figure 5 - 9. If the gauge is not available, the face of the sprocket should be 2-11/16 inches below the top of the carrier roller.

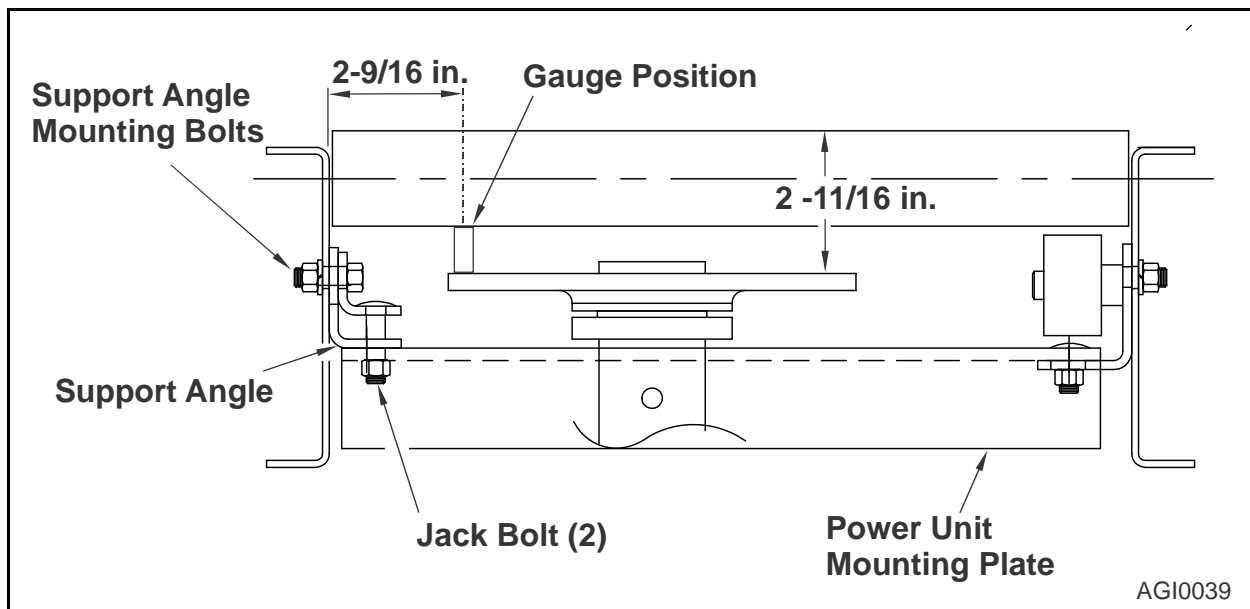


Figure 5 - 9 Check Drive Sprocket Height Setting

**⚠ WARNING**

If the main electrical power supply has been brought to the conveyor, turn off any power circuit(s) and/or lockout / tagout operating control(s) before making any of the following electrical connections.

**Motor - Power Unit**

Wire the power unit's motor to the electrical power source.

Refer to the system's electrical/control drawings for specific wiring requirements.

**Reducer Preparation**

Standard reducers (Dodge) supplied with the Accuglide power units are ventless and do not require any installation preparation other than verifying that the unit has adequate lubrication. To make sure the unit has adequate lubrication:

1. Check that the reducer's lubricant is up to the oil level plug.
2. If needed, add oil through the "fill" holes until the oil begins to run out the oil level hole.

Reducers are filled by the manufacturer with a synthetic gear lubricant. When replenishing the oil, be sure to use the same brand and type. **DO NOT MIX** lubricants. For further information, refer to the instruction tag attached to the unit.

**NOTE:** Standard reducers requiring a grease-fitting in the bearing flange of the output shaft are shipped with the fitting installed and the output shaft bearing greased where required.

**Chain Tensioner Proximity Sensor**

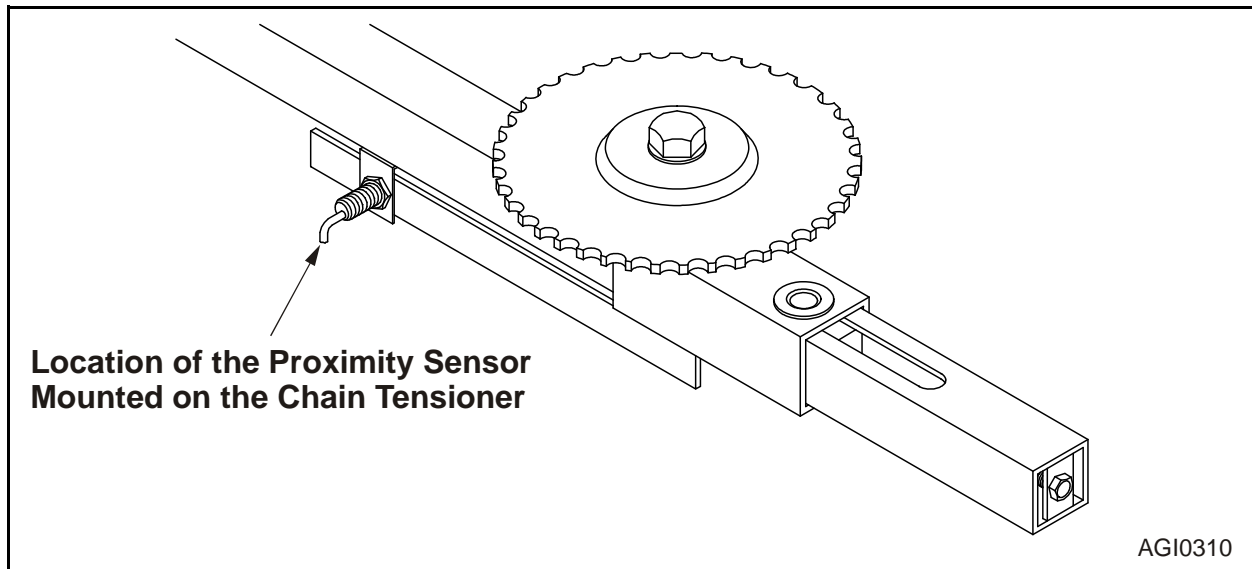
All Chain Tensioners (spring-type and air-type) have a non-contacting proximity sensor (115VAC or 24VDC) that detects the presence of the position-indicator.

When the conveyor's power unit is turned on at conveyor startup, the tensioner compensates for the momentarily chain stretch that normally occurs under initial startup loading. After startup, the chain returns to its normal length.

When properly adjusted, the tensioner's position indicator remains within a safe operating range where it is detected by the proximity sensor and the conveyor remains powered.

If the tensioner is not properly adjusted or the chain length increases (due to wear) and the position indicator is no longer detected by the proximity sensor, the conveyor will be shut down.

To install the chain tensioner proximity sensor perform the following:  
Wire the proximity sensor to the system's control panel.



*Figure 5 - 10 Chain-Tensioner Proximity Switch (Air-Type shown)*

## Chain Tensioner - Air-Type (Optional)

### *Installing a Single Chain Tensioner*

The optional air-type chain tensioner requires a separate filter/regulator (0-100 psi) and pressure switch to provide the required air supply.

Check the system's engineering/layout drawing(s) to identify the requirements.

1. Mount the filter/regulator unit on or near the drive section and wire the air-pressure switch to the system's control panel.
2. Connect the filter/regulator to the main plant air supply and the input port of the tensioner.

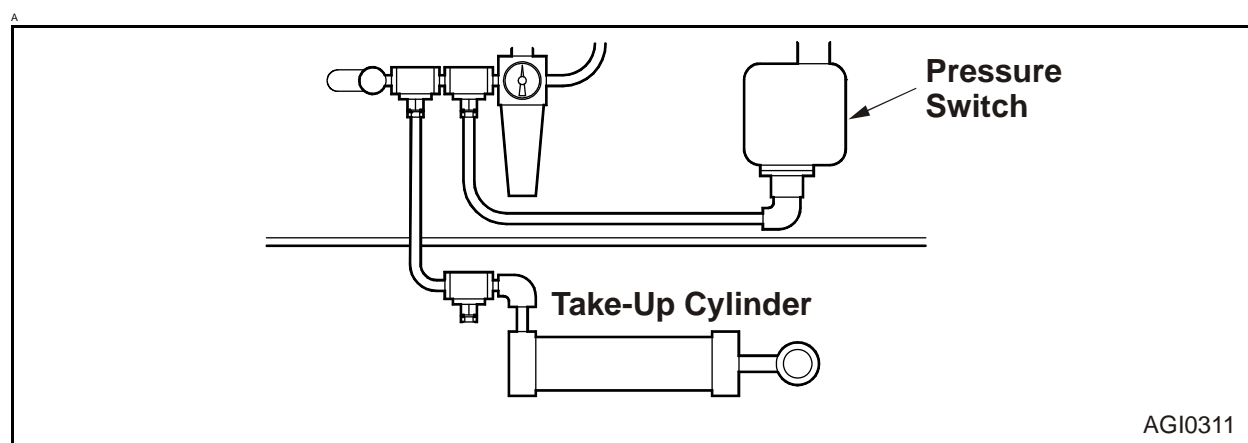


Figure 5 - 11 Single Air-Type Chain Tensioner

### *Installing Multiple Chain Tensioners*

Multiple air-type chain tensioners (up to a maximum of 6) may service a single filter/regulator unit and pressure switch. To install multiple chain tensioners:

1. Check the system's engineering/layout drawing(s) to identify location for mounting of the units.
2. Mount the filter/regulator unit at a convenient location.
3. Wire the air-pressure switch to the system's control panel.
4. Connect up to six take-up units as shown in Figure 5 - 12.
5. Install the pressure switch near the take-up unit furthest away from the filter regulator. Refer to Figure 5 - 12 for layout information.

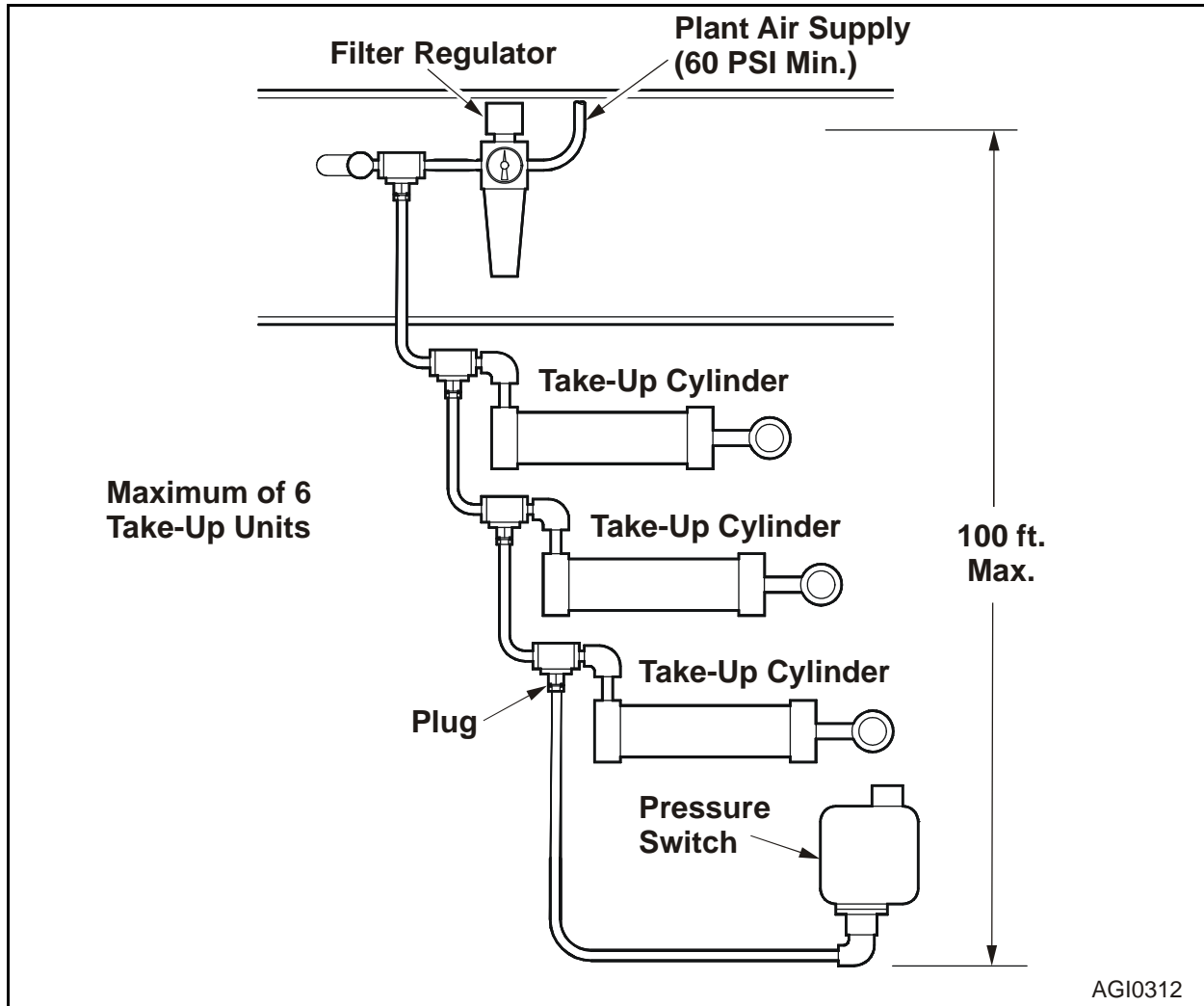


Figure 5 - 12 Multiple Air-Type Chain Tensioners

### **Adjusting the Air Pressure of the Chain Tensioner**

The recommended pressure is 60-80 psi. To adjust the air pressure:

1. Adjust the pressure output of the filter regulator so that:
  - a. The tensioner is fully collapsed,
  - b. The regulator is consistently supplied with at least 60 psi.

## Chain Track Lubricator

The Chain Track Lubricator is factory-assembled into the drive section. An Oil Reservoir is shipped separate and must be assembled at the time of installation.

1. Attach the Oil Reservoir and its mounting bracket to the bottom flange of the Infeed Drive Section's frame rail.
2. Using the clear 1/8-inch ID hose, connect the "output" port fitting of the 2-way valve to the Oil Reservoir's barbed input fitting (Figure 5 - 13). The valve controls the flow of lubricant to the chain track.
3. Use the milky colored 1/16-inch ID tubing to connect the Oil Reservoir's barbed fitting and the mist head block (Figure 5 - 13).
4. After the Oil Reservoir is installed and piped, fill with SAE 10 weight Non-detergent Motor Oil.

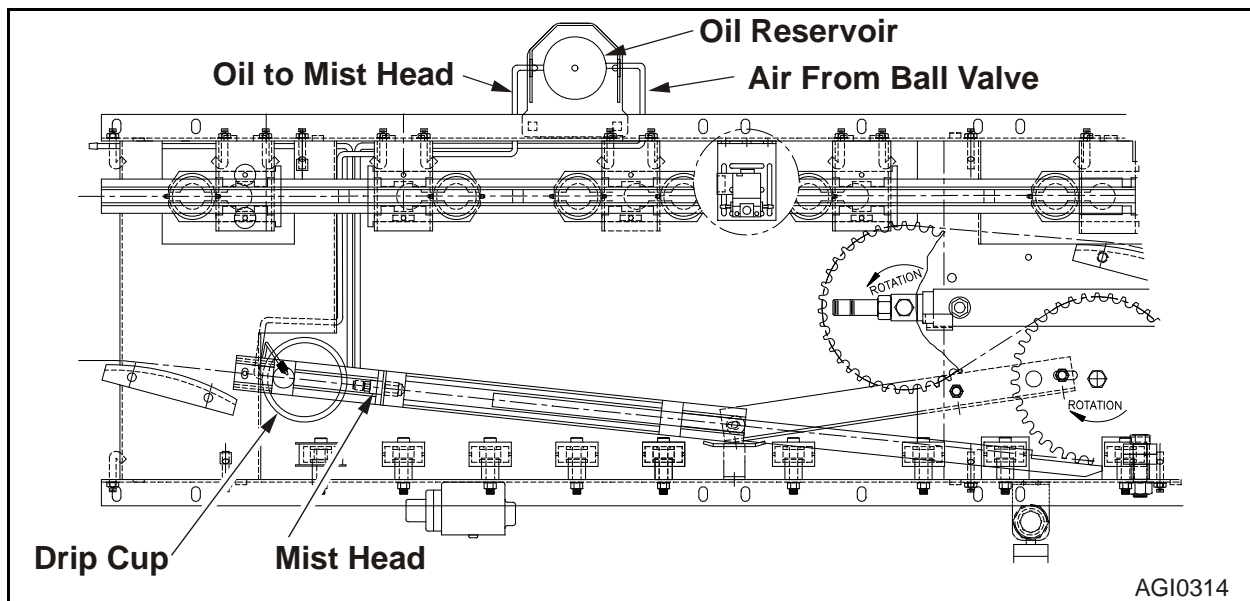


Figure 5 - 13 Piping of the Oil-Reservoir

5. Connect the chain-track lubricator's air-supply line (yellow, 1/4-inch OD) to the downstream intermediate section's main air-supply line (red).

**NOTE:** The Intermediate Section requires a brass 1/2-inch to 1/4-inch push-to-connect reducer and a 1/2-inch push-to-connect type fitting.

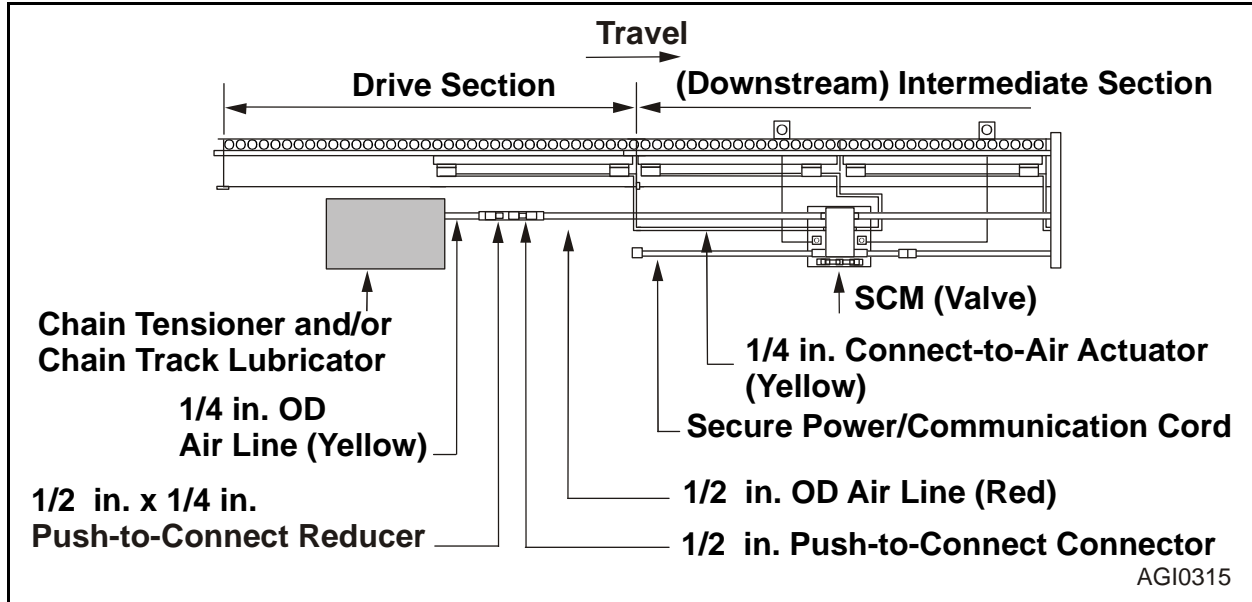


Figure 5 - 14 Main Air-Supply Lines Connection (Intermediate Section shown)

**Solenoid-Controlled Chain Track Lubricator (Optional)**

The optional Chain Track Lubricator has a 2-way, solenoid-valve (115VDC or 24VDC) that “remotely” controls the flow of lubricant to the track.

To install, wire the solenoid-valve to the system’s control panel.

## Idler Section Preparation

### Carrier Roller Removal

Remove all but one Carrier Roller (located directly above the idler sprocket’s centerline) from the section. This allows for installation of the drive chain/pad (later), and provides access to the Idler Sprocket, Solenoid Valve, and optional Brake Module and/or Blade Stop.

### Idler Sprocket Height Verification

Using the “AG DE Sprocket Alignment Gauge” (P/N #740003), place the “Final” portion of the gauge between sprocket and the Carrier Roller, see Figure 5 - 15. If the gauge is not available, the face of the sprocket should be 2-11/16 inches below the top of the carrier roller.

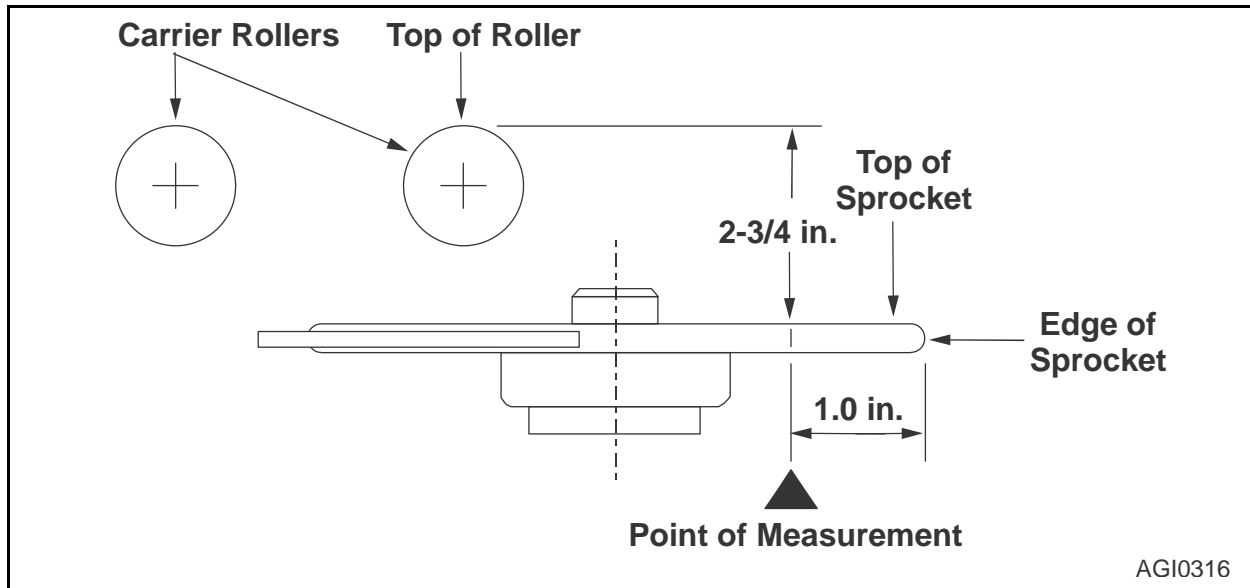


Figure 5 - 15 Check Idler Sprocket Height

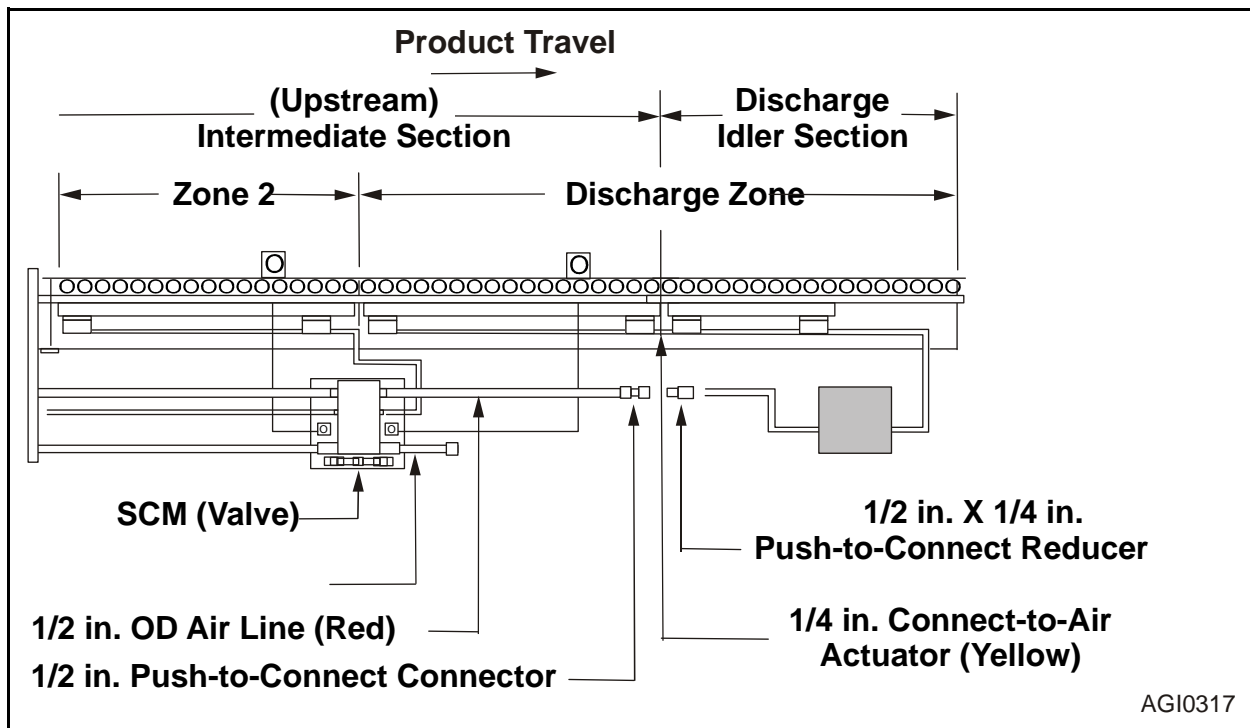


**Operational Zone Control - Solenoid Valve**

The powered / non-powered state of the conveyor’s “Discharge Zone” is controlled by a solenoid-valve (24VDC/115VAC, 3-way, normally-closed). The valve is factory-piped to the air-actuators of the operational-zone in the Idler Section; one end of a short length of (yellow, 1/4-inch OD) tubing is attached to the second port of the “rear” actuator. To complete the installation of the solenoid valve:

1. Connect the “other” end of the yellow tubing to the first air-actuator in the adjoining upstream intermediate section. This creates the first 6-foot discharge zone.
2. Wire the solenoid valve to the system control panel.
3. Connect the air supply line (yellow, 1/4-inch OD) of the zone-controlling solenoid-valve to the upstream intermediate section’s main air-supply line (red).

**NOTE:** The Intermediate Section requires a brass 1/2-inch to 1/4-inch push-to-connect reducer and a 1/2-inch push-to-connect type fitting.



*Figure 5 - 16 Discharge Zone Wiring/Piping Connection*

**Brake Module**

The optional “spring-set” Brake Module is factory-assembled into a Discharge Idler Section and its air supply line is connected into the section’s operational-zone piping. No additional wiring or piping is required.

**Blade Stop**

The optional Blade Stop is factory-assembled into a Discharge Idler Section and piped to a separate 4-way solenoid-valve (115VAC/24VDC) that is also installed into the section. A separate filter/regulator unit (0-100 psi) is required.

1. Mount the unit’s separate filter/regulator near the Discharge Idler Section and pipe to the solenoid valve.
2. Wire the solenoid to the control panel.

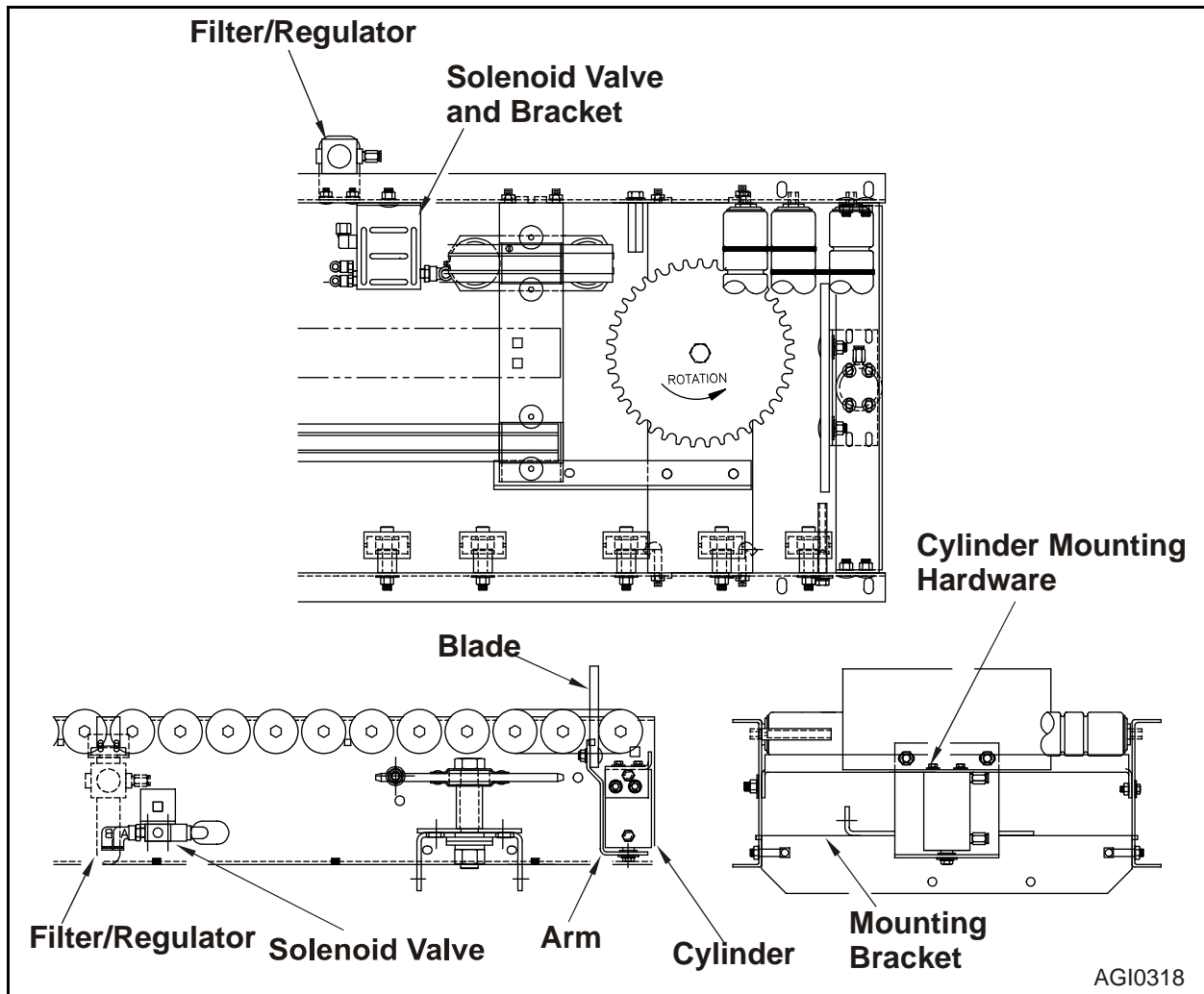


Figure 5 - 17 Blade Stop Installation

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## Factory Air Supply

### Filter/Regulator Piping Requirements

Refer to system's layout/control drawing(s) to identify the number of filter/regulator units required and their required location(s).

Table 5 - 1 may be used to identify the appropriate piping procedures to follow when installing each Accuglide conveyor.

**NOTE:** The piping codes shown in Table 5 - 1 are based on the conveyed product being approximately zone length (3 feet long.). Shorter length products will result in a more frequent actuation of the sensors and a higher air consumption rate. Refer to system's layout/control drawing(s) to identify the number of filter/regulator units required and their required locations.

Table 5 - 1 Filter/Regulator Connection Codes

Overall Length (Feet)	Conveyor Speed								
	45 fpm	60 fpm	75 fpm	90 fpm	120 fpm	150 fpm	180 fpm	210 fpm	240 fpm
80	A	A	A	A	A	A	A	A	A
90	A	A	A	A	A	A	A	A	A
100	A	A	A	A	A	A	A	A	A
110	A	A	A	A	A	A	A	A	A
120	A	A	A	A	A	A	A	A	A
130	A	A	A	A	A	A	A	A	B
140	A	A	A	A	A	A	A	B	B
150	A	A	A	A	A	A	B	B	C
160	A	A	A	A	B	B	B	C	C
170	A	A	A	A	B	B	C	C	C
180	A	A	A	B	B	C	C	C	C
190	A	A	B	B	C	C	C	C	C
200	A	B	B	C	C	C	C	C	C
210	B	B	C	C	C	C	C	C	C
220	B	C	C	C	C	C	C	C	C
230	C	C	C	C	C	C	C	C	C
240	C	C	C	C	C	C	C	C	C
250	C	C	C	C	C	C	C	C	D
260	C	C	C	C	C	C	C	C	D
270	C	C	C	C	C	C	C	D	D
280	C	C	C	C	C	C	C	D	D
290	C	C	C	C	C	C	D	D	D
300	C	C	C	C	C	C	D	D	D

**Single Filter/Regulator Unit Installation (Code A)**

1. Mount the Filter/Regulator Unit at the conveyor's mid-point.
2. Cut the "red" main air supply line (near the Filter/Regulator Unit) and install a 1/2-inch x 1/2-inch x 3/8-inch "Tee" fitting.
3. Install a 3/8-inch OD line from the installed "Tee" fitting to the Filter/Regulator Unit.

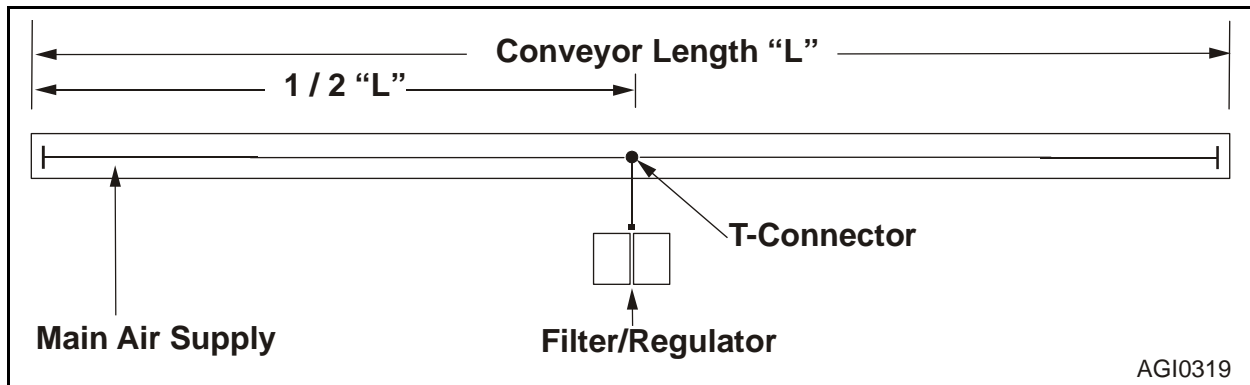


Figure 5 - 18 Installing a Single Filter/Regulator Unit (Code "A")

**Single Filter/Regulator Unit Installation (Code B)**

1. Mount the Filter/Regulator Unit at the conveyor's mid-point.
2. Divide each half of the conveyor's length into thirds and cut the "red" main air supply line at two (2) points (1/6-inch "L" in from each end of the conveyor).
3. Install two (2) 1/2 x 1/2 x 3/8-inch "Tee" fittings into the cut main air-supply line.
4. Cut and install two (2) 3/8 x 3/8 x 3/8-inch "Tee" fittings in the 3/8-inch OD air line.
5. Connect the "T" fittings in the "red" main air supply line to the "T" fittings at the Filter/Regulator Unit with "red" 3/8-inch tubing.

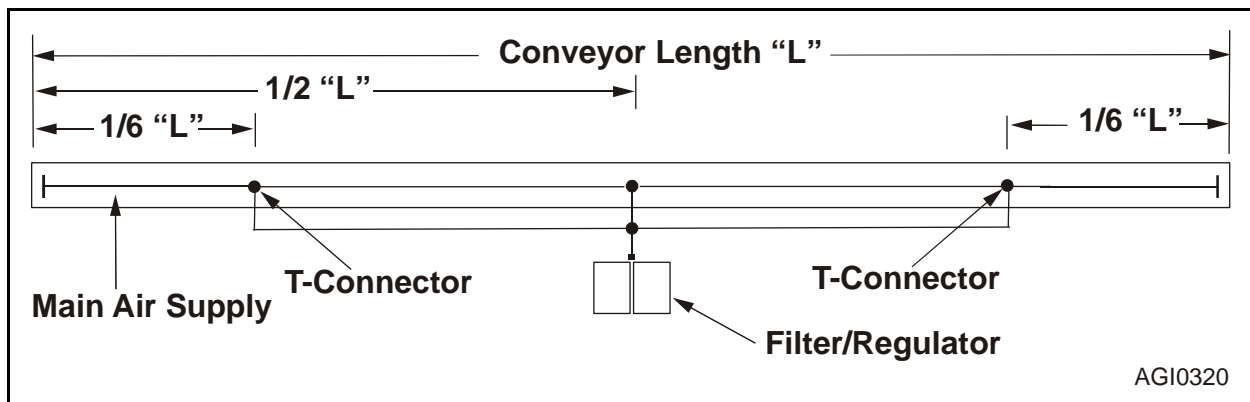


Figure 5 - 19 Installing a Single Filter/Regulator Unit (Code B)

***Multiple Filter/Regulator Unit Installation (Codes C / D)***

1. At locations identified on the system layout drawing, install the multiple Filter/Regulator Units.
2. Isolate multiple regulators from each other at the mid-point between regulators.

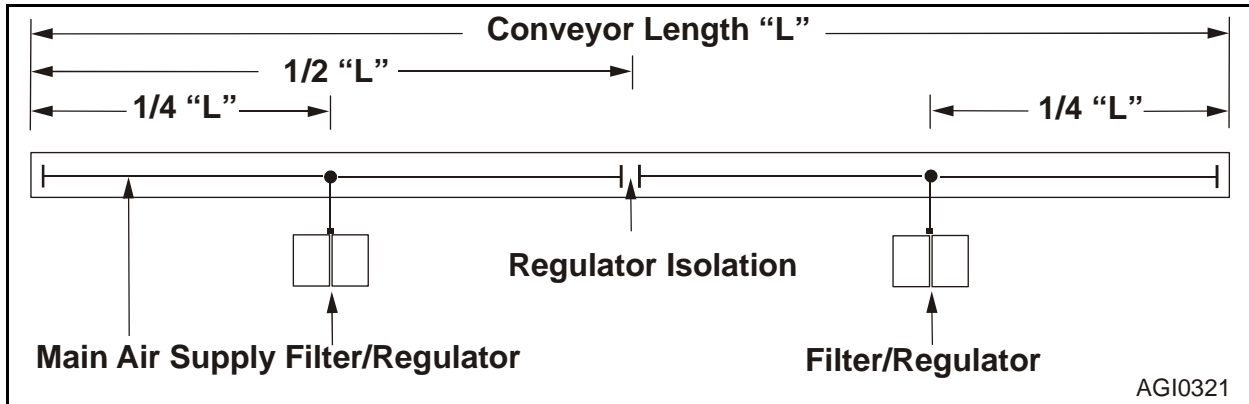


Figure 5 - 20 Installing Multiple Filter/Regulator Units (Code "C")

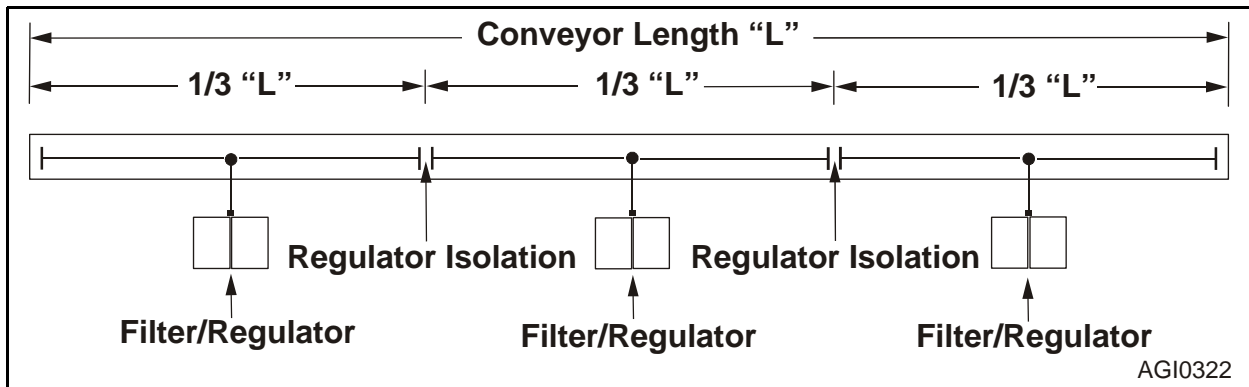


Figure 5 - 21 Installing Multiple Filter/Regulator Units (Code "D")

**Isolating Multiple Air Supply Lines - (Codes C & D)**

1. For Intermediate Sections make two (2) cuts in the 1/2-inch O.D. "red" air supply line, midway between two (2) filter/regulators and approx. 6 inches from the Solenoid Control Modules.
2. Insert each tubing end into a 1/2 x 1/2-inch Connector Fitting
3. Insert a plug fitting into the connector's other end.

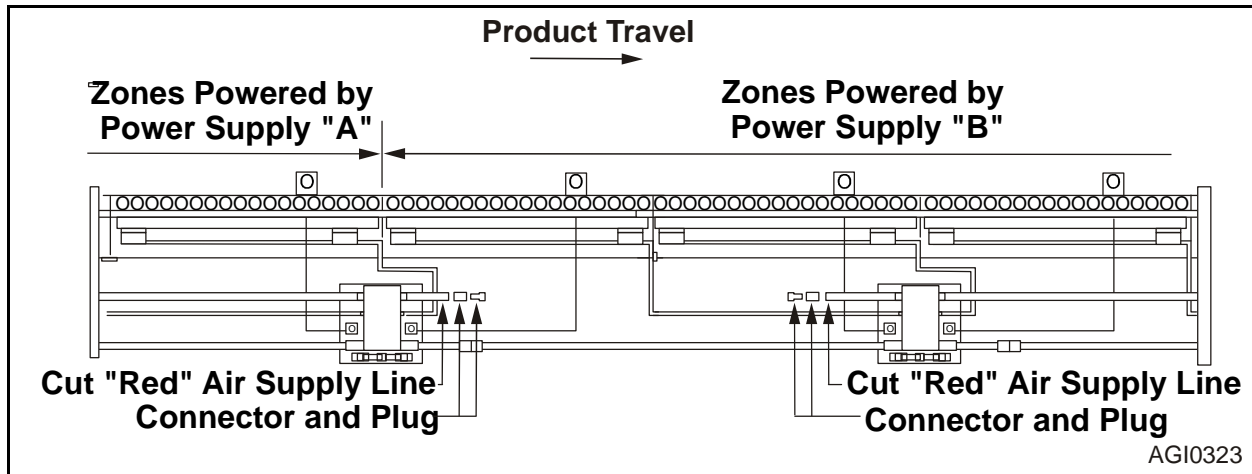


Figure 5 - 22 Isolating Multiple Filter/Regulator Units

**Connecting the Main Air Supply**

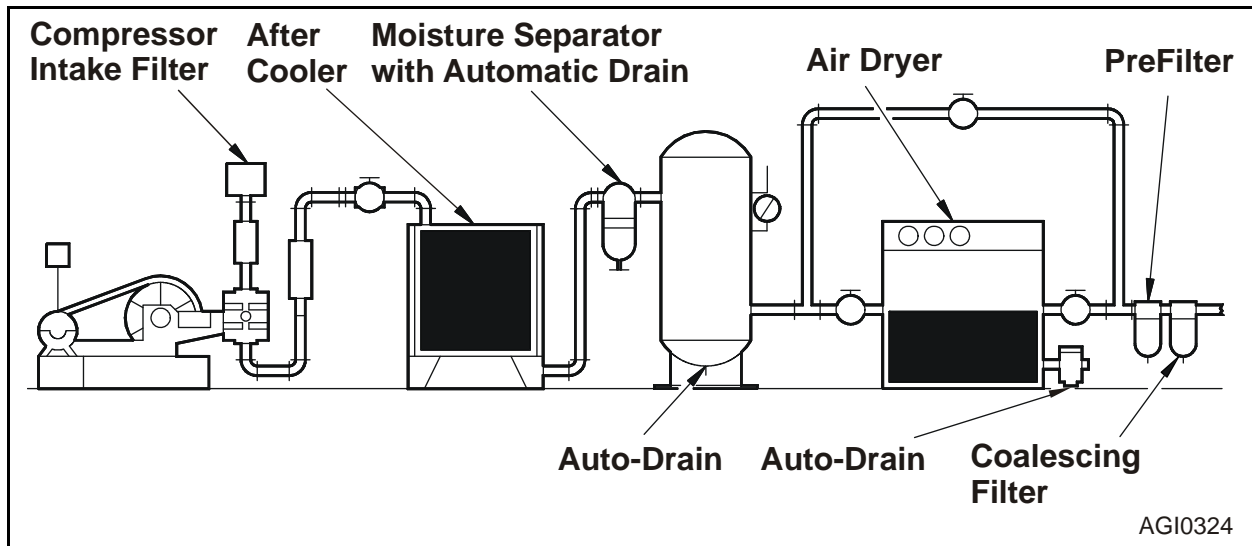


Figure 5 - 23 Typical Air Treatment for Compressed Air Systems

## Intermediate Section Preparation

### Intermediate Air Supply Line Connection(s)

1. Uncoil the 1/2-inch OD “red” Air Supply Line with one end connected to the barb fitting of a Solenoid Control Module and connect to the barb fitting of the Solenoid Control Module in the next upstream Intermediate Section.
2. Uncoil and connect the 1/4-inch OD “yellow” tubing to the first air actuator in the next upstream section.

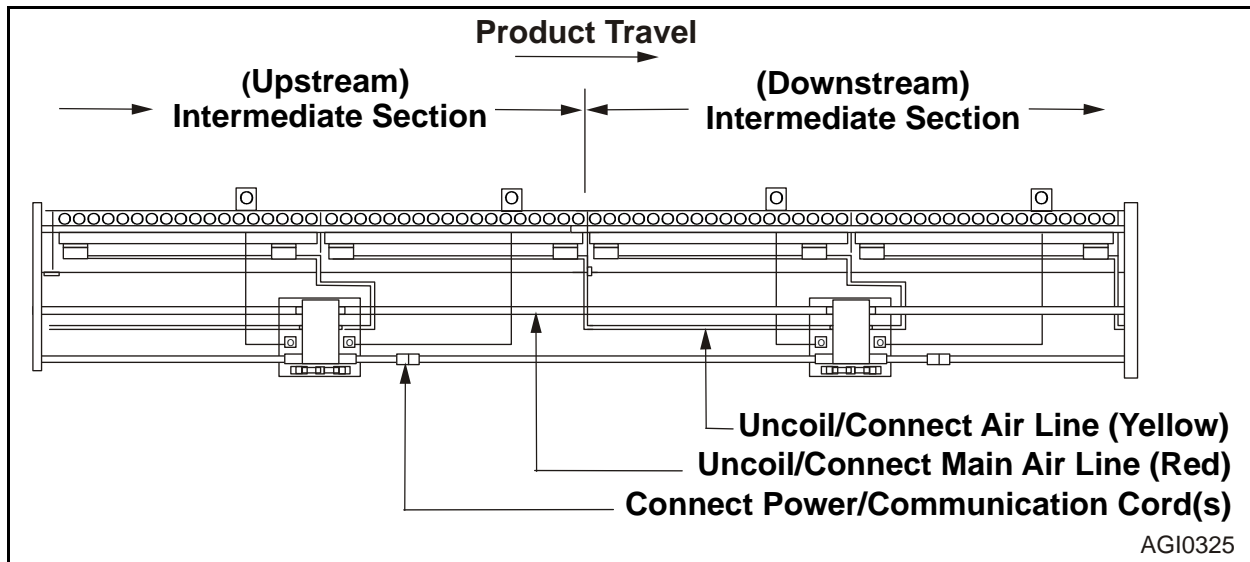


Figure 5 - 24 Intermediate Section Air Line Connections



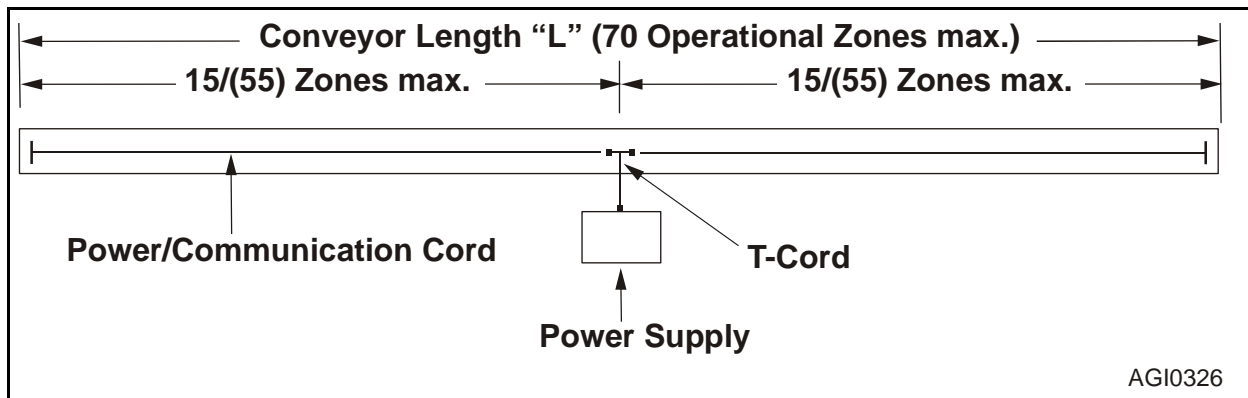
**⚠ WARNING**

If the main electrical power supply has been brought to the conveyor, turn off any power circuit(s) and/or lockout / tagout operating control(s) before making any of the following electrical connections.

**24VDC Power Supply Installation - Single**

The standard 24VDC power supply with its T-Cord can power up to seventy (70) operational zones (maximum). DO NOT exceed fifty-five (55 zones on one (1) side of the T-Cord connection).

1. Mount the power supply to any appropriate structure within reach of the T-Cord's long leg (6 feet) and the desired connection point.
2. Connect the two (2) short legs (with male/female push-type connectors) to the connectors of the two (2) adjoining Solenoid Control Modules.
3. Connect the T-Cord's long leg to the power supply.

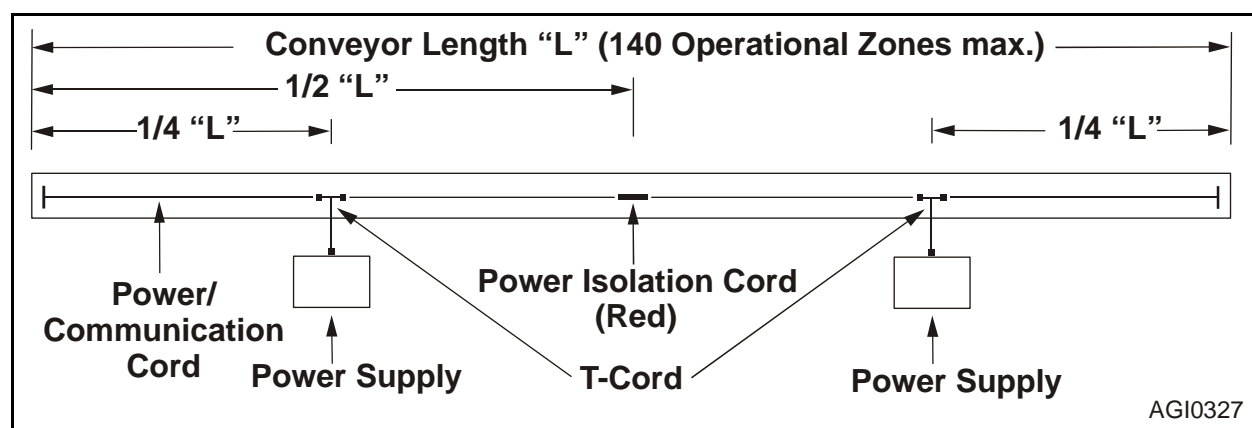


*Figure 5 - 25 Install Single Power Supply*

## **24VDC Power Supply Installation - Multiple**

Conveyors over 210 feet in length (70 operational zones) require the installation of a second power supply.

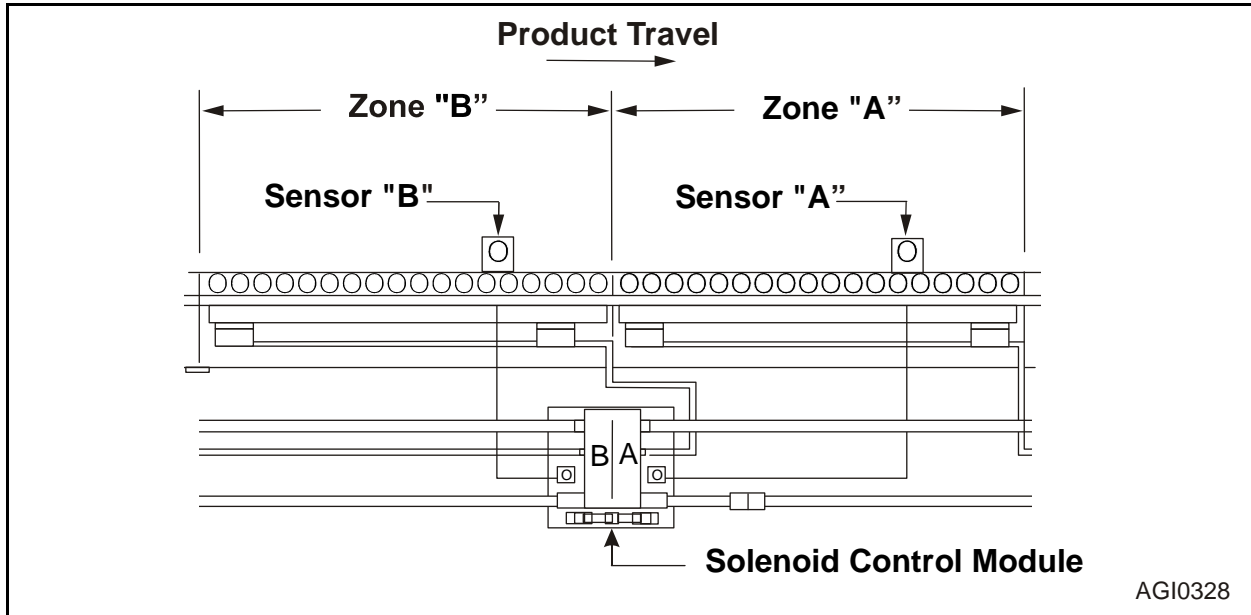
1. Mount the power supply to any appropriate structure within reach of the T-Cord's long leg (6 feet) and the desired connection point.
2. Connect the two (2) short legs (with male/female push-type connectors) to the connectors of the two (2) adjoining Solenoid Control Modules.
3. Connect the T-Cord's long leg to the power supply.
4. At the mid-point between the two power supplies, install a Power Isolation Cord into the Power/Communication Cord.



*Figure 5 - 26 Isolate Multiple Power Supply/Supplies with Isolator Cord*

**Solenoid Control Module (SCM)**

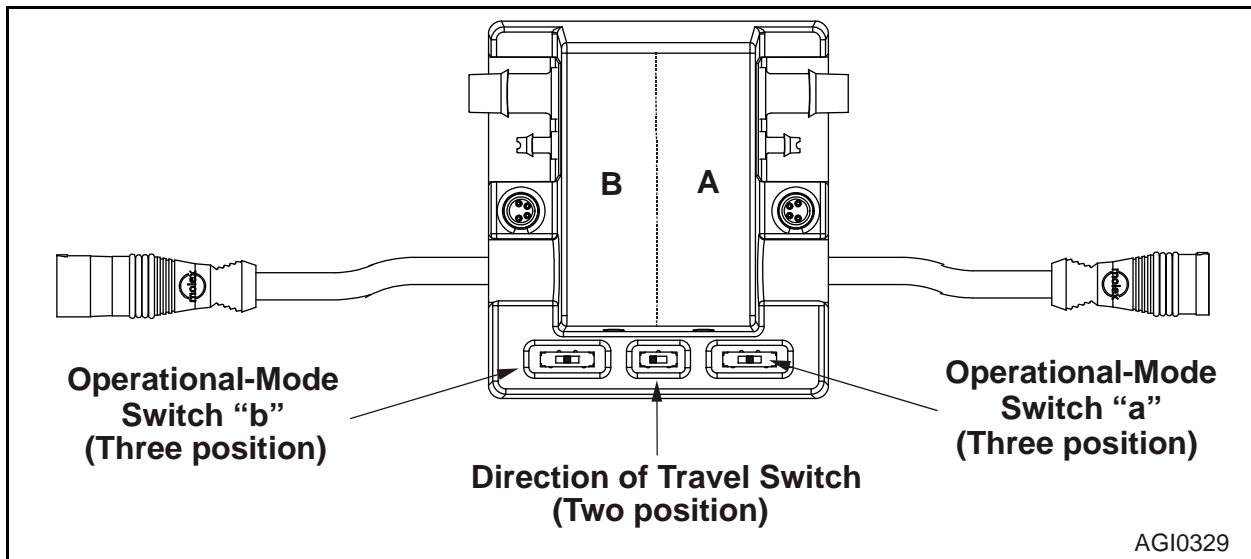
A Solenoid Control Module (SCM) incorporates two (2) 24VDC solenoid valves and the associated logic for controlling two (2) independent operational zones.



*Figure 5 - 27 Solenoid Control Module Controls Two (2) Operational Zones*

Each SCM has three (3) slide switches: one (1) centrally-located, 2-position "direction of travel" slide switch; and two (2) 3-position primary "operational-mode" slide switches.

Refer to Figure 5 - 32 for the switch position labels on frame rail.



*Figure 5 - 28 Solenoid Control Module Switches*

## Direction of Travel (DOT) Switch Setting

The Solenoid Control Modules in Figure 5 - 29 and Figure 5 - 30 are shown mounted on the inner face of the right-side or left-side frame rail (based on the sections' RH/LH assembly). Perform the steps below to make sure the "Direction of Travel" switch of each SCM is properly set for the required direction of travel:

1. For "LH" sections (SCM mounted on the left-side frame rail when looking in the direction of travel): Move the DOT switch to the right towards the discharge end of the conveyor. See Figure 5 - 29.
2. For "RH" sections (SCM mounted on the right-side frame rail when looking in the direction of travel): Move the DOT switch to the left towards the discharge end of the conveyor. See Figure 5 - 30.

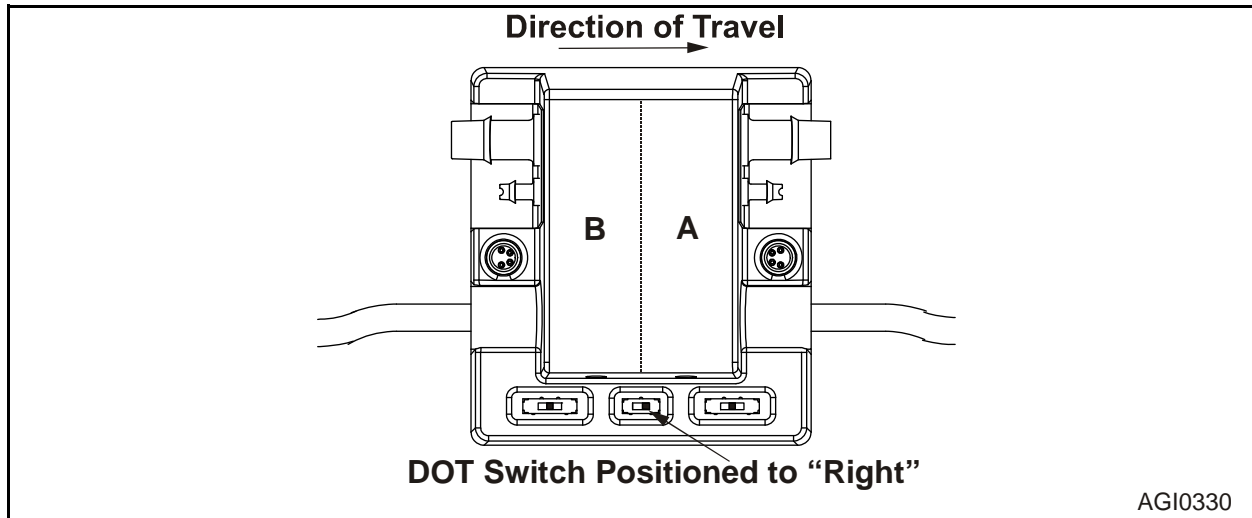


Figure 5 - 29 DOT Switch Setting for Left-Hand (LH) Section Assembly

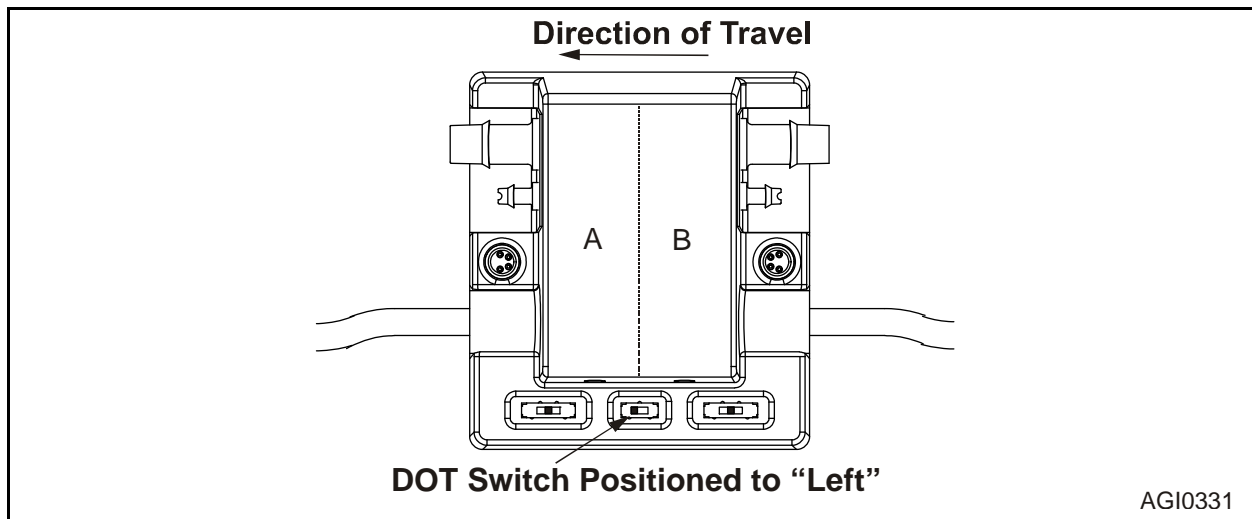


Figure 5 - 30 DOT Switch Setting for Right-Hand (RH) Section Assembly

## Primary Operational Mode - Setting

The primary operational-mode (Singulation, Dual-Zone, or Auto Slug) of a Local Zone “LZ” is determined by its controlling solenoid-valve whose “logic” is programmed by the setting of the next “downstream” valve’s Operational Mode Switch (OMS).

For this example, set the operation mode at OMS “a” to signal valve “B” which controls Local Zone “a”. See Figure 5 - 32 for Operational Mode Switch Positions.

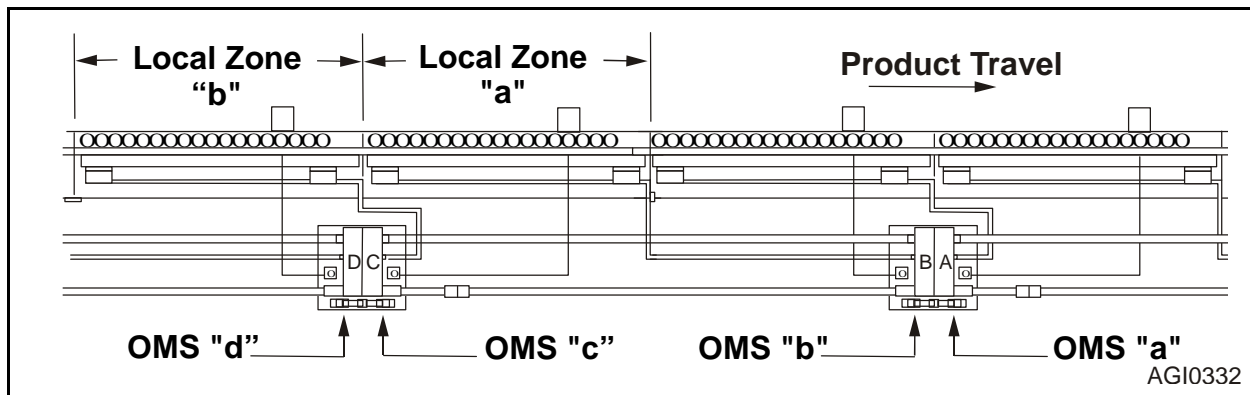


Figure 5 - 31 Primary Operational Mode - Logic Diagram

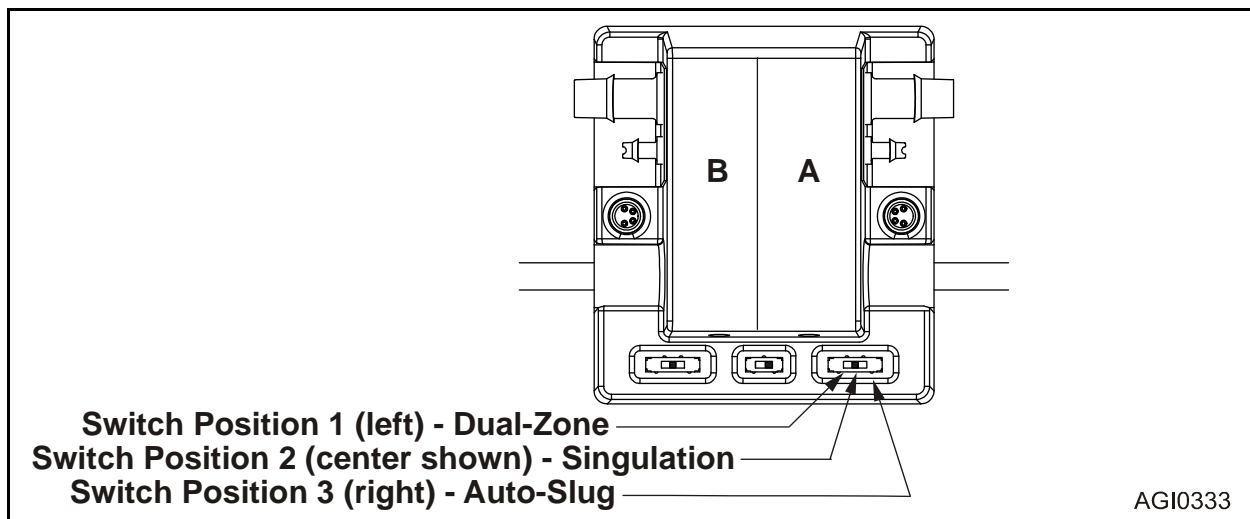


Figure 5 - 32 Operational Mode Switch Positions

Set the Primary Operational Mode Switch to: Position 1 “left” for Dual Zone; Position 2 “center” for Singulation; or Position 3 “right” for Auto-Slug.

**NOTE:** For conveyors requiring Auto-Slug Operational Mode, identify the Auto-Slug Zone length (number of individual zones). Set the first operational mode switch in each Auto-Slug grouping to “Singulation”.

## Secondary (Slug) Operational Mode - Setting

To achieve higher product release rates (approx. 95%), a conveyor (or a portion of the conveyor) may be controlled to operate in the secondary “Slug” Operational Mode.

The “slug” mode over-rides a Solenoid Control Module’s preset “primary” mode and causes its air-valve to open and inflate the associated air-actuators and propel the rollers. The “slug” mode operates when a remote signal is received from the control panel.

Refer to the system layout drawing(s) to identify the portion(s) of the conveyor that require the Slug Operational Mode.

### Slug Operational Mode - Full Length

Make the wiring connection (115VAC/24VDC) between the system’s control panel and the Power Supply’s “Release In” terminals L1 and L2 for the remote “slug” signal.

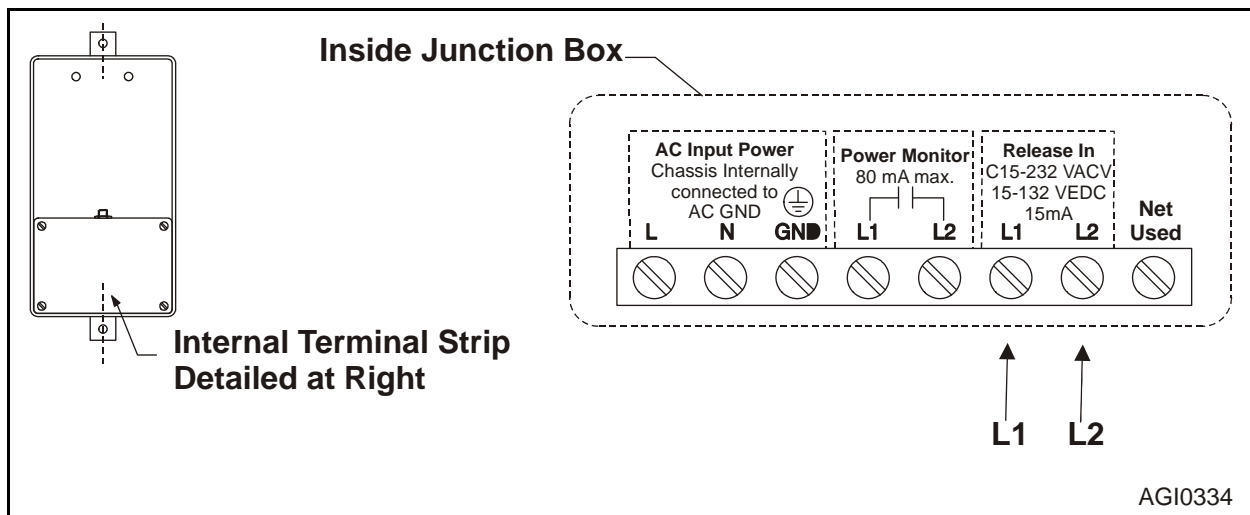


Figure 5 - 33 Remote Slug Signal Connection to Power Supply

**Primary Mode Release**

Initiation of product-release for a conveyor functioning in one of the “primary” operational-modes (Singulation, Dual-Zone, or Auto-Slug) requires the remote release signal be connected to the Discharge-Zone's (solenoid-type) control valve.

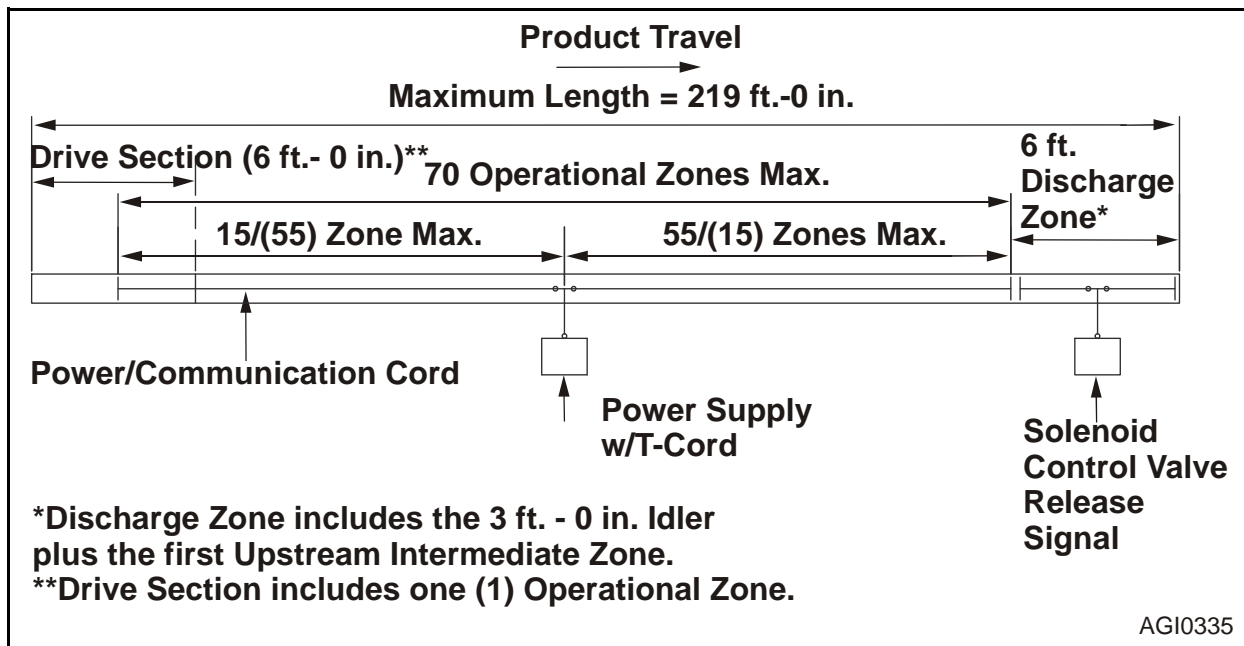


Figure 5 - 34 Primary Operational-Mode Release - (Single Power Supply).

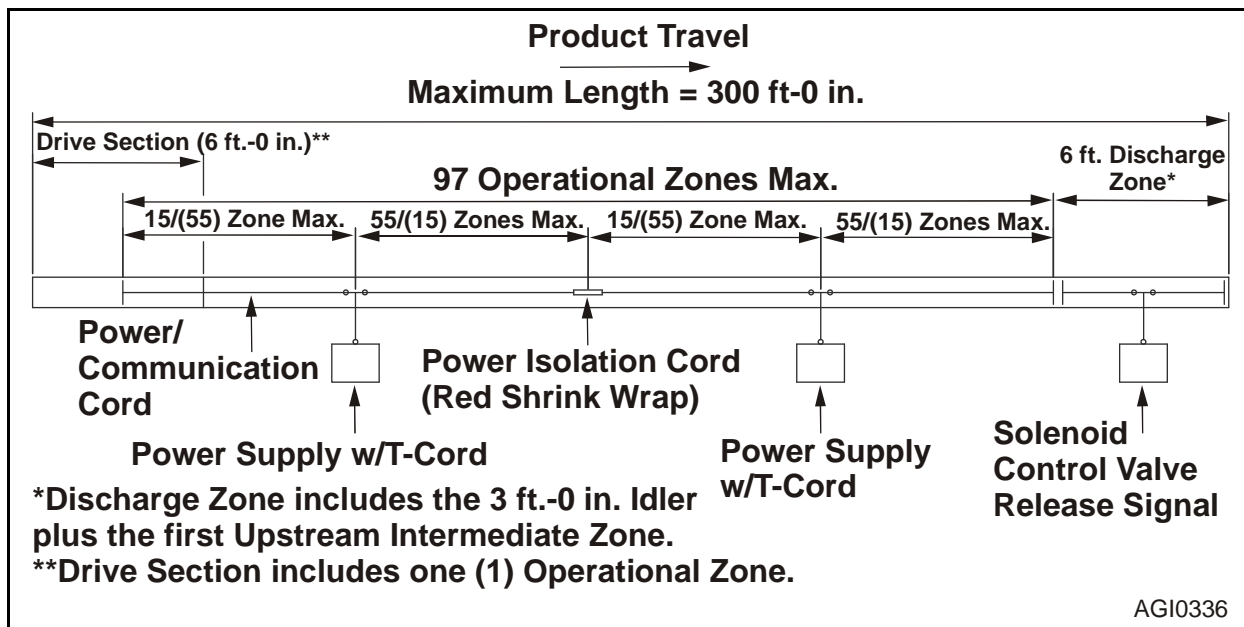


Figure 5 - 35 Primary Operational-Mode Release - (Dual Power Supplies)

## Secondary Mode Release (Slug) Full-Length

Initiating “slug-release” of accumulated product requires an external release-signal that overrides the primary operational logic of all Solenoid Control Modules within a defined “slug-release” area.

For full-length “slug-release” conveyors consisting of seventy (70) Operational-Zones or less, the external release-signal is connected to: 1) the conveyor's Power Supply which sends the signal through the T-Cord to the Power Communication cord; and 2) to the Discharge-Zone's (solenoid-type) control valve.

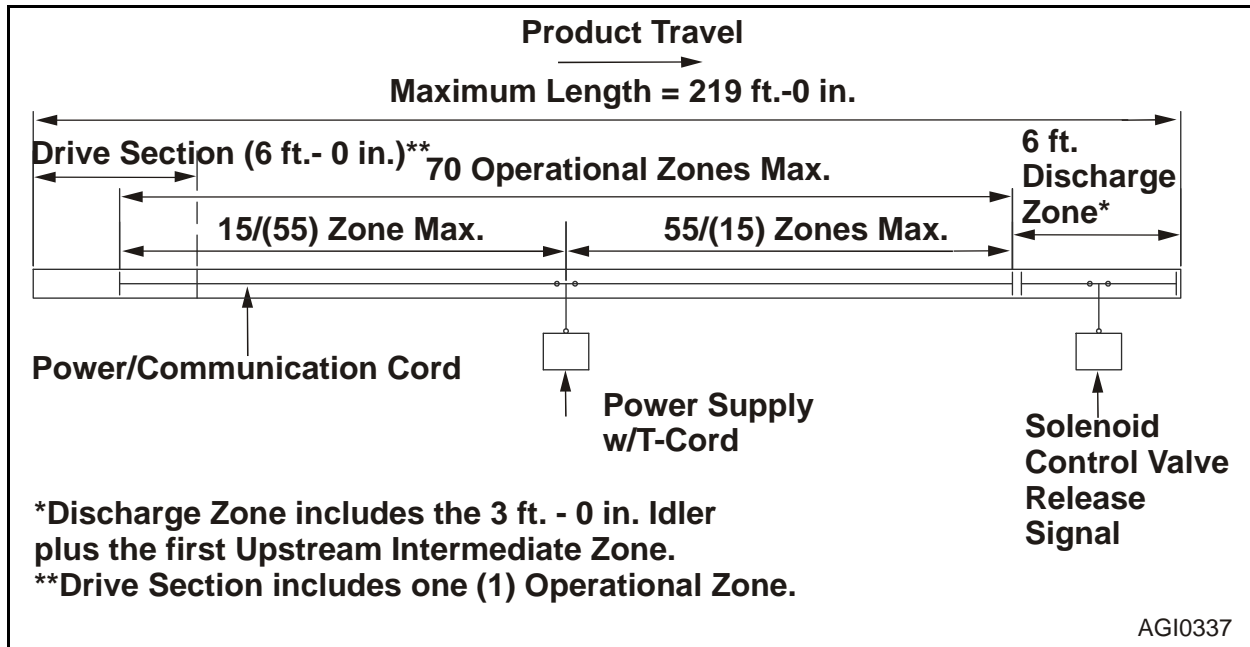


Figure 5 - 36 Full-Length Slug-Release (Single Power Supply)



For full-length “slug-release” conveyors consisting of one-hundred forty (140) Operational-Zones or less, two (2) Power Supplies are required with a Power Isolation Cord separating the two power sources. The external slug-release signal is connected to: 1) either Power Supply; and 2) to the Discharge-Zone's (solenoid-type) control valve.

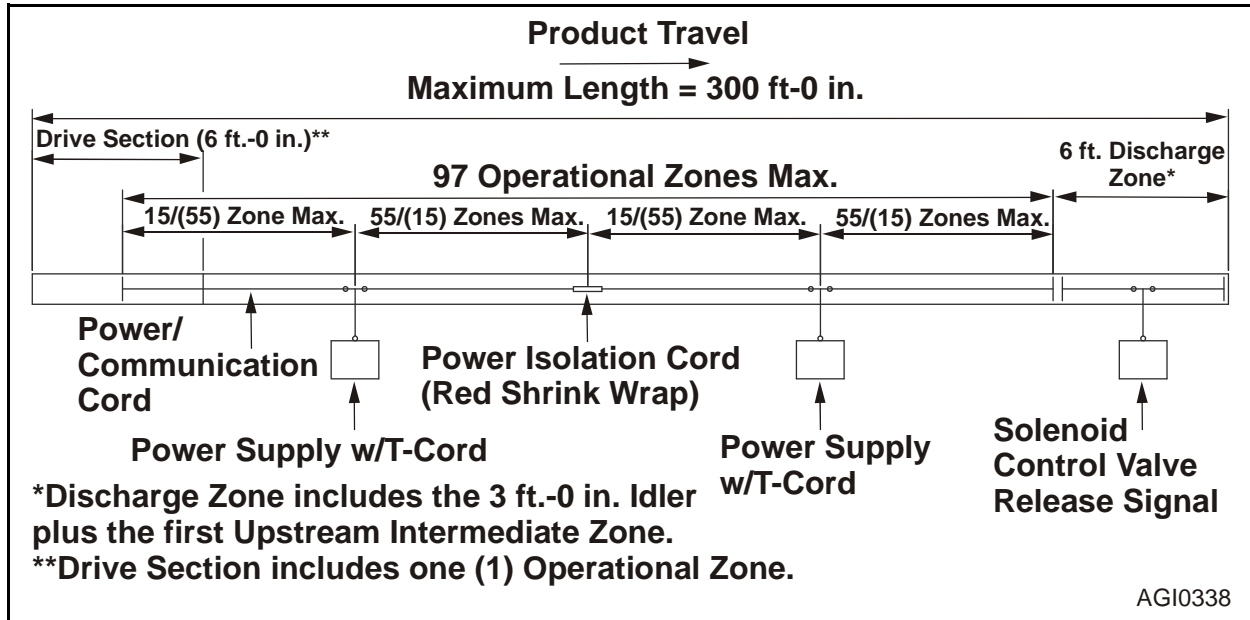


Figure 5 - 37 Full-Length Slug-Release (Dual Power Supplies).

## Secondary Mode Release (Slug) Partial-Length

A conveyor may require that only a portion of its length operate in the secondary “slug-release” operational mode (with the “partial-length” slug-zone beginning at the discharge-end of the conveyor).

The external slug-release signal must be connected to a Power Supply within the slug-release zone. A Slug Termination Cord is required to terminate the slug-release signal at the upstream end of the slug-release zone.

A single Power Supply conveyor (70 Operational Zones max.) can have a partial-length slug-release that requires the Slug Termination Cord to be connected upstream of the Power Supply. The external release signal is connected to: 1) the Power Supply; and 2) the Discharge-Zone's (solenoid-type) control valve.

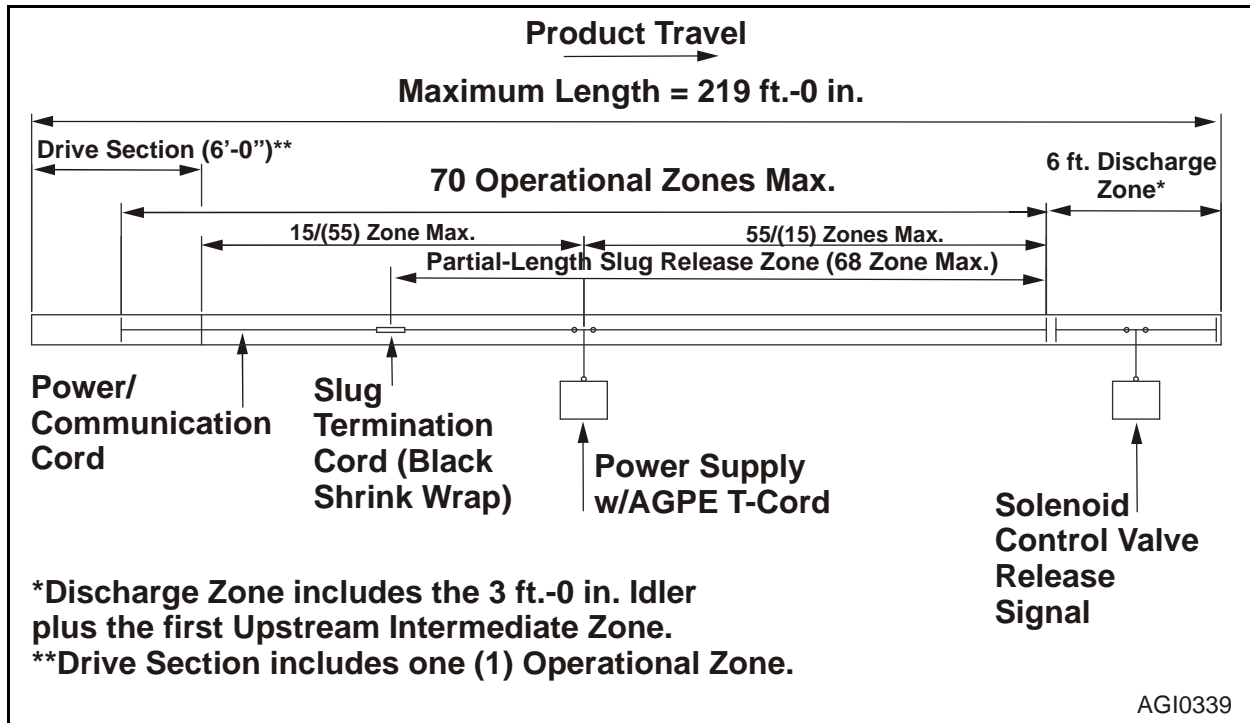


Figure 5 - 38 Partial-Length Slug-Release (Single Power Supply)

A single Power Supply conveyor (70 Operational Zones max.) can have a partial-length slug-release that requires the Slug Termination Cord to be connected downstream of the Power Supply. The external release signal is connected to: 1) a Slug Module\*; and 2) the Discharge-Zone's (solenoid-type) control valve.

(\*) A Slug-Module is a standard Power Supply that is NOT connected to the 110VAC power source.

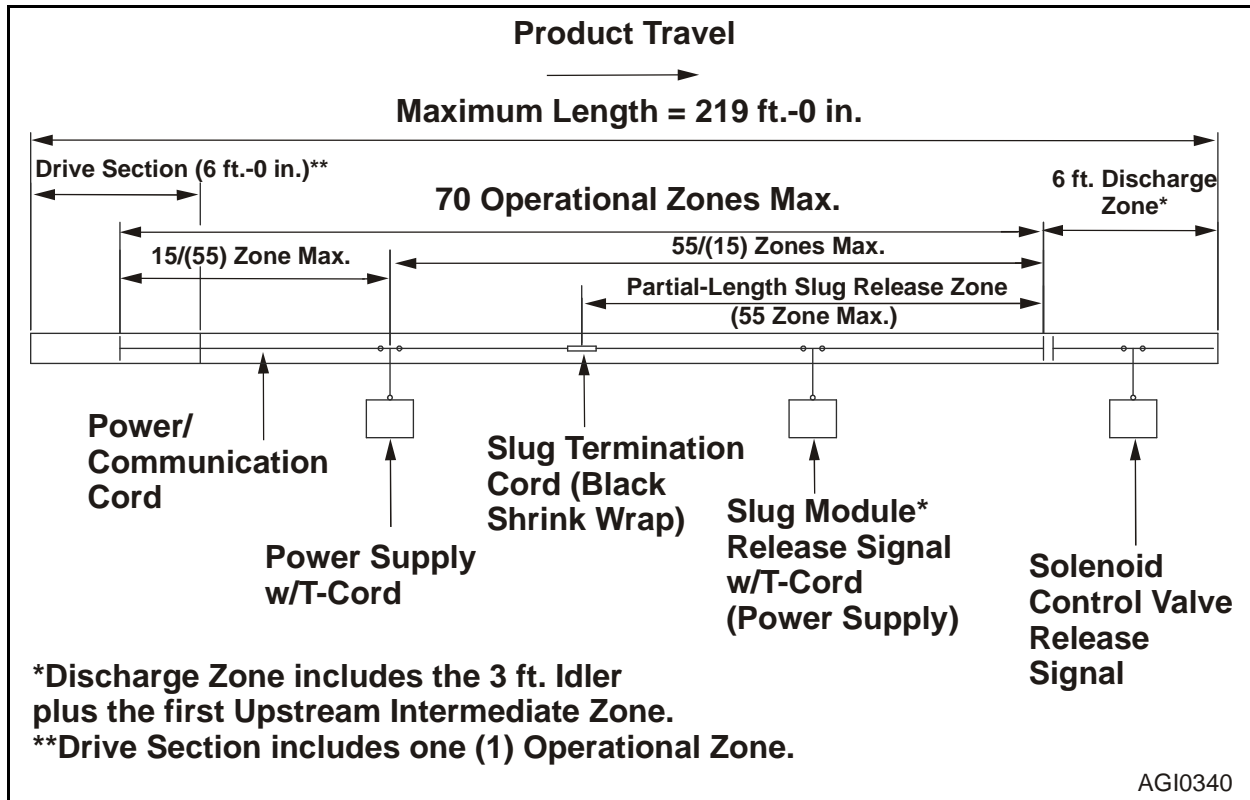


Figure 5 - 39 Partial-Length Slug-Release (Single Power Supply & Slug-Module)

For dual Power Supply conveyors (140 Operational Zones max.) with a partial-length slug-zone that requires the Slug Termination Cord be connected between the Power Supplies, the external release-signal must be connected to: 1) the downstream Power Supply and 2) to the Discharge-Zone's (solenoid-type) control valve.

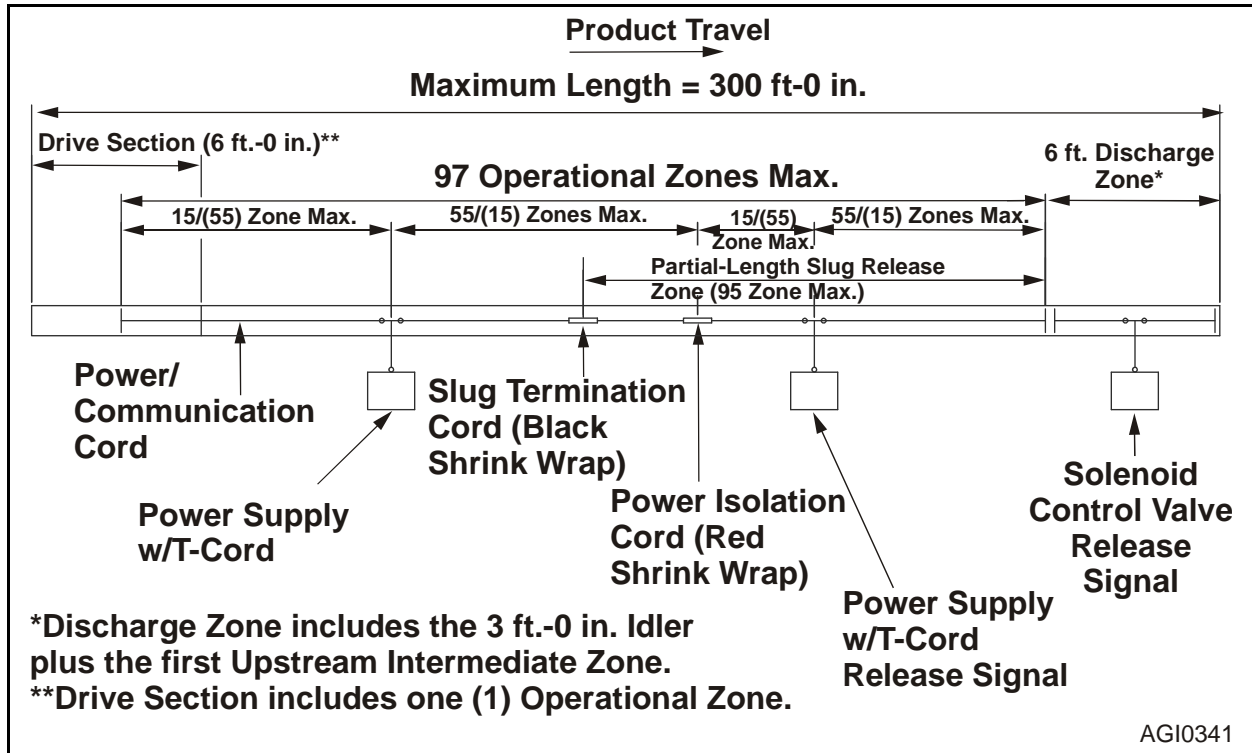


Figure 5 - 40 Partial-Length Slug-Release (Dual Power Supplies)

For dual Power Supply conveyors (140 Operational Zones max) with a partial-length slug-zone that requires the Slug Termination Cord be connected upstream of the upstream Power Supply, the external release-signal may be connect to: 1) either Power Supply; and 2) to the Discharge-Zone's (solenoid-type) control valve.

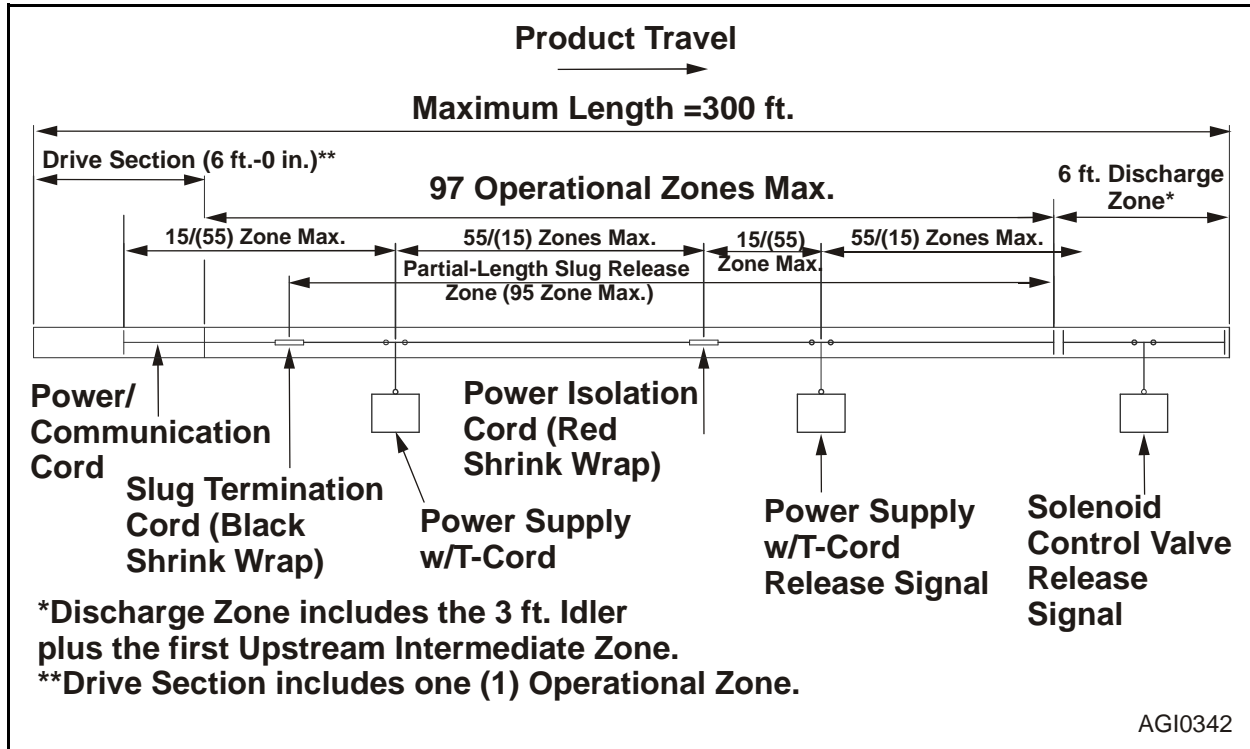


Figure 5 - 41 Partial-Length Slug-Release (Dual Power Supplies)

## Slug Mode Infeed / Primary Mode Release

An Accuglide Conveyor operating in one of the three (3) “primary” operational-modes (Singulation, Auto-Slug, Dual-Zone) may require an “upstream” portion of its length (beginning at the infeed end of the conveyor) to operate in the secondary “slug” operational mode.

When the infeed-slug mode is no longer required, the slug-infeed zone returns to its primary operational-mode.

Initiating the “infeed-slug” requires that an external (slug) signal be supplied to a Power Supply (or Slug-Module) within the defined “slug-infeed zone”. A Slug Termination Cord is required downstream of the Power Supply/Slug-Module.

Initiation of the primary release mode (Singulation, Auto-Slug, or Dual-Zone) requires a remote release signal be connected to the Discharge-Zone's (solenoid-type) control valve.

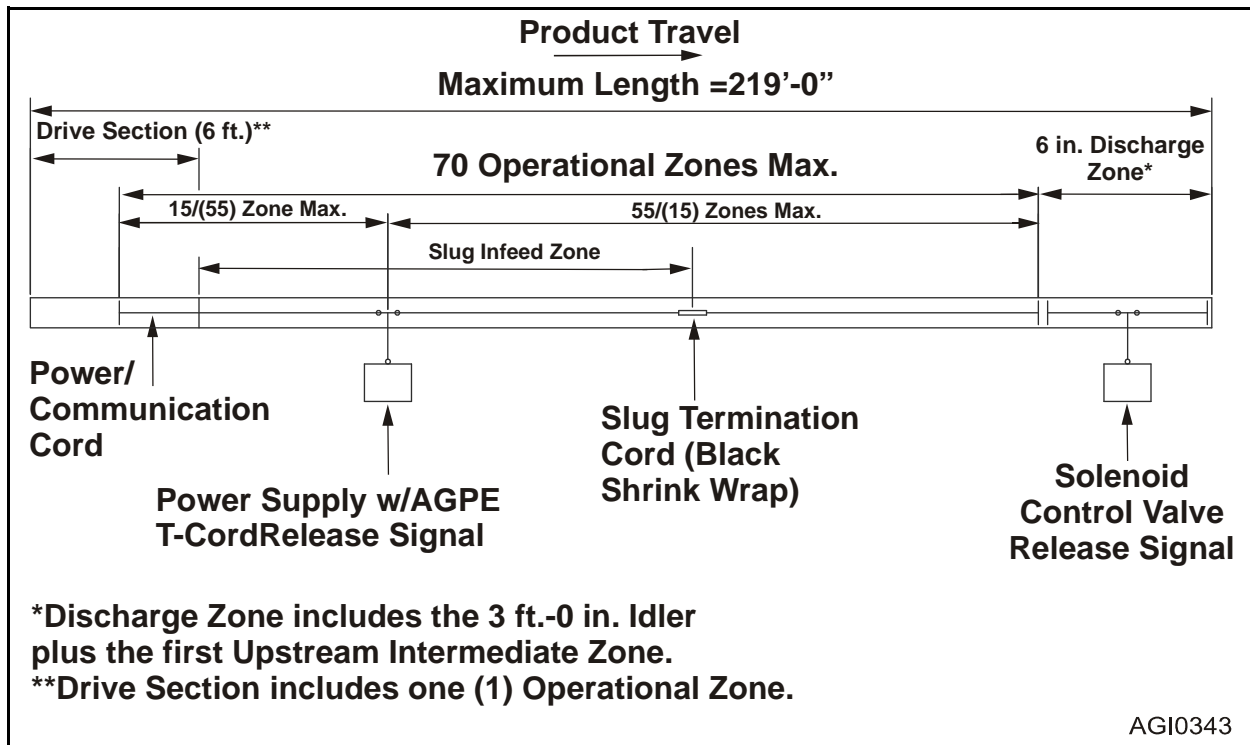


Figure 5 - 42 Slug-Infeed / Primary Release (Single Power Supply)

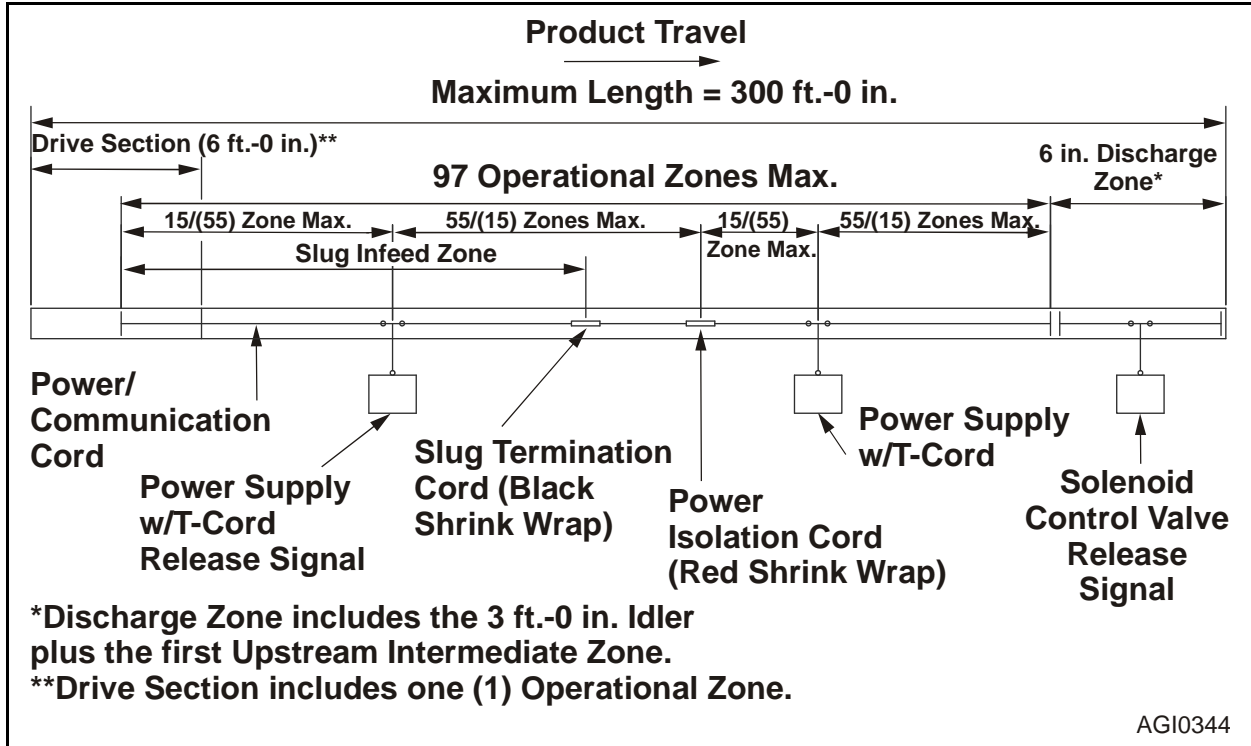


Figure 5 - 43 Slug-Mode / Primary Release (Multiple Power Supplies)

## Slug Mode Infeed / Slug Mode Release

An Accuglide Conveyor with an “infeed-slug zone” (see above) may require either full or partial-length slug-release of accumulated product.

Initiating “infeed-slug” requires an external, infeed-slug signal be supplied to a Power Supply or Slug-Module located within the defined “infeed-slug” zone. A Slug Termination Cord is required to terminate the infeed-slug zone at the zone's downstream end.

Initiating “slug-release” (full-length) requires an external slug-release signal be connected to: 1) all Slug-Module(s) and/or Power Supply/Supplies; and 2) the Discharge-Zone's (solenoid-type) control valve.

(\*) A Slug-Module is a standard Power Supply that is NOT connected to the 110VAC power source.

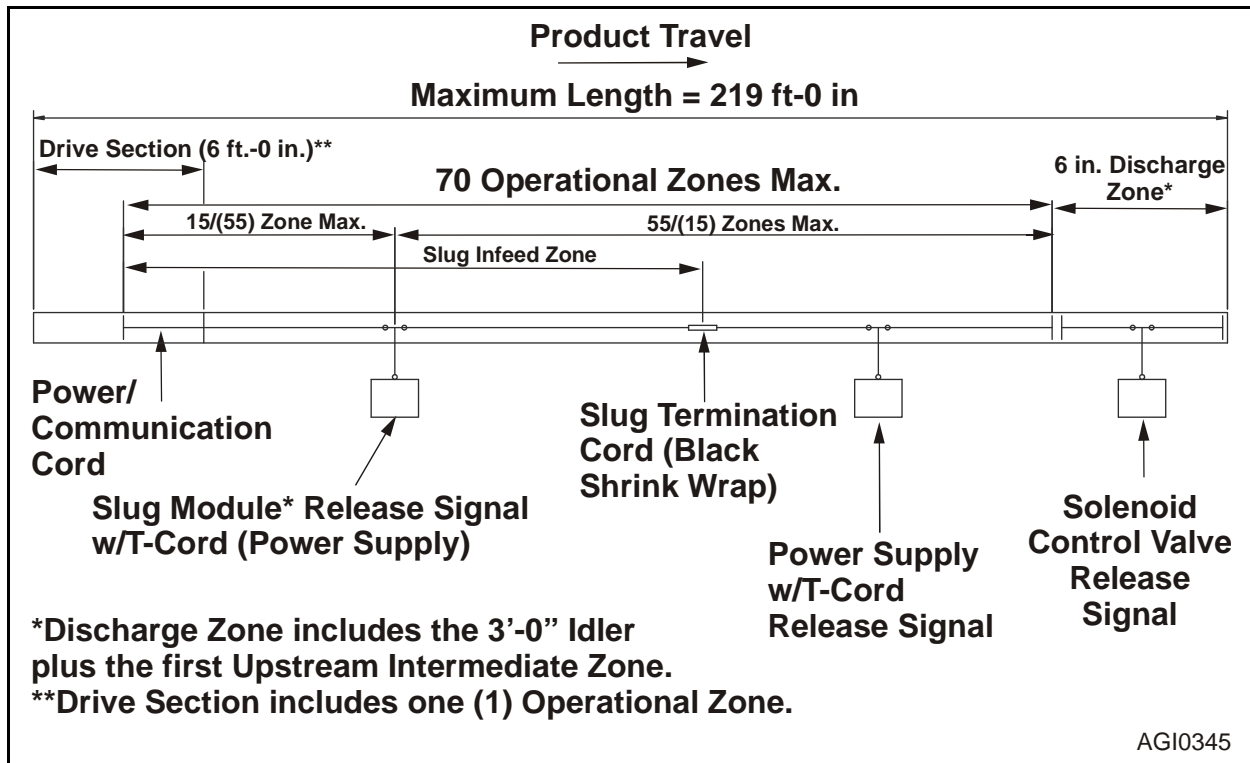


Figure 5 - 44 Slug-Infeed/Full-Length Slug-Release (Single Power Supply shown)

Initiating “slug-release” (partial-length) requires an external slug-release signal be connected to: 1) all Slug-Module(s) and/or Power Supply/Supplies within the partial slug-release zone; and 2) the Discharge-Zone's (solenoid-type) control valve.

(\*) A Slug-Module is a standard Power Supply that is NOT connected to the 110VAC power source.



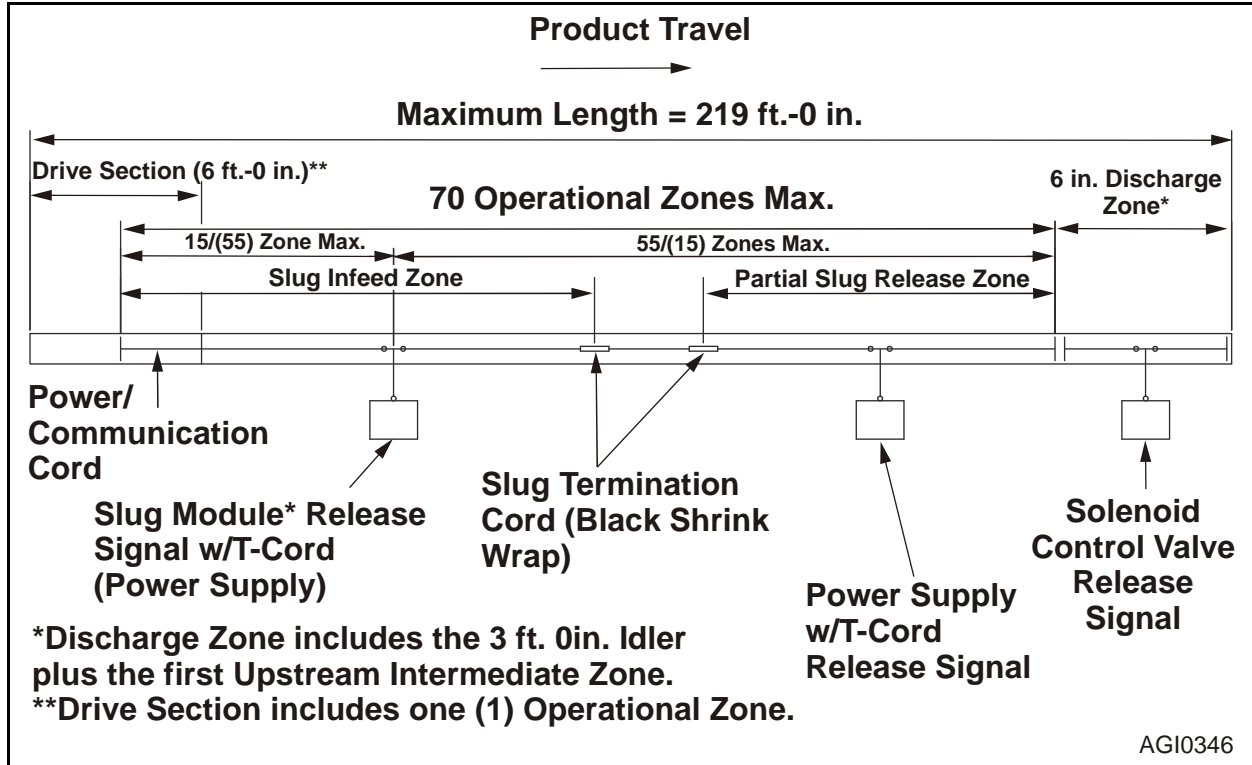


Figure 5 - 45 Slug-Infeed/Partial-Length Slug-Release (Single Pwr Supply shown)

An Accuglide Conveyor may have an “infeed-slug zone” that overlaps the conveyor’s partial-length slug-release zone.

An additional Power Supply/Slug-Module is required to control the overlapping common area.

Two (2) Slug-Termination Cords are required. One (1) at the discharge-end of the infeed-slug zone, and one (1) at the upstream-end of the slug-release zone.

Initiating “infeed-slug” requires that a release-signal be connected to the Slug-Module/Power Supplies within: 1) the infeed-slug zone; and 2) the “common zone”.

Initiating “slug-release” requires that a release-signal be connected to: 1) the Slug-Module/Power Supplies within: a) the “common zone”; and b) the slug-release zone; and 2) the Discharge-Zone’s (solenoid type) control valve.

(\*) A Slug-Module is a standard Power Supply that is NOT connected to the 110VAC power source.

The example below shows a single power supply.

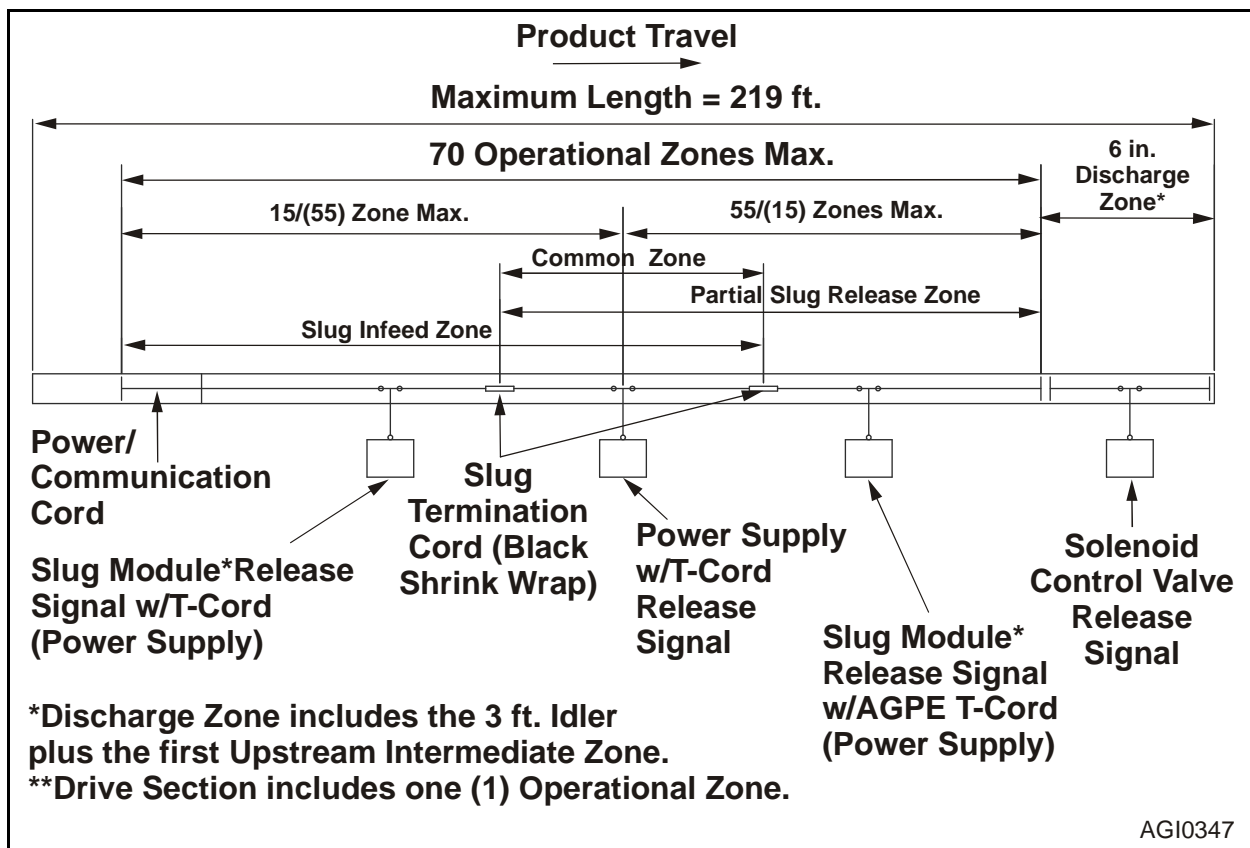


Figure 5 - 46 Slug-Mode Infeed/Overlapping Partial-Length Slug-Mode Release

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## Intermediate Curve Section Preparation

### Carrier Roller Removal

Remove all Carrier Rollers from the section(s) to facilitate the installation of the drive chain and pad.

### Power Communication Cord Connections

Route the appropriate Power/Communication Extension Cord through the curve section and connect the cord's connectors to the connectors of the upstream and downstream Solenoid Control Modules.

### Air Line Connections

Replace the curve's original air supply line (3/8-inch OD "red") with a new length of 1/2-inch OD "red" tubing. Connect the tubing to the air supply ports of the upstream and downstream Solenoid Control Modules.

## Intermediate Curve Section - Transportation-Type Preparation

To prepare the Intermediate Curve Section:

1. Remove all Carrier Rollers (non-bolted) from the section(s) to facilitate the installation of the drive chain and pad.
2. Route the appropriate Power/Communication Extension Cord through the curve section and connect the cord's connectors to the connectors of the upstream and downstream Solenoid Control Modules.
3. Replace the curve's original air supply line (3/8-inch OD "red") with a new length of 1/2-inch OD "red" tubing connect the tubing to the air supply ports of the upstream and downstream Solenoid Control Modules.

### Curve with Brake-Module Installation

Refer to the system layout drawing(s) to determine whether Brake-Modules are required in the first two (2) operational zones upstream of the Intermediate Curve Section. To install Brake-Modules (if required):

1. Bolt two (2) Brake-Modules to the cross members of each zone using the hardware supplied.
2. Install the appropriate Field Kit to make the pneumatic connections. Refer to Table 5 - 2 for Field Kit Part Numbers.

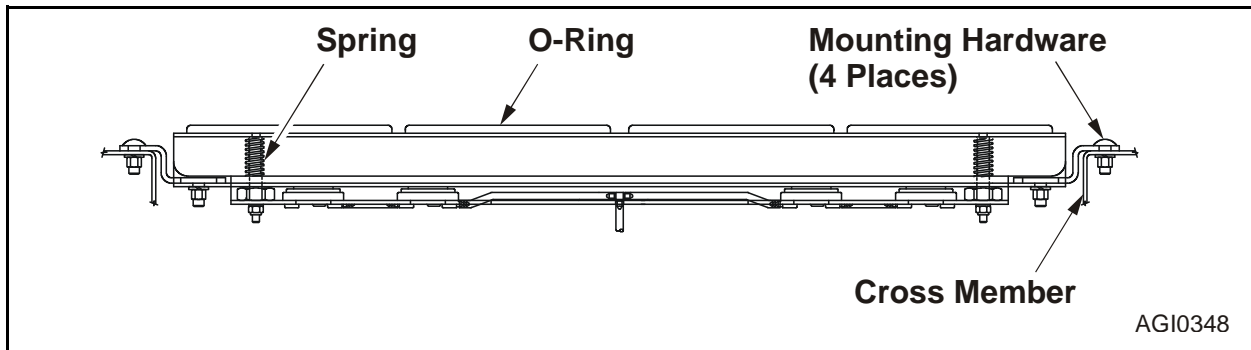


Figure 5 - 47 Drop-in Brake-Module

Table 5 - 2 Field Kit Part Numbers and Installation Drawing Numbers

Operational Mode	Intermediate Straight Section - Type	
	PN	Dwg
Air-Controlled - Intermediate Curve/Straight Sections		
Singulation	51043100	510430
Auto-Slug	51043200	510432
Solenoid-Controlled - Intermediate Curve/Straight Sections		
Singulation / Auto-Slug - 110VAC	51043301	510433
Singulation / Auto-Slug - 24VDC	51043302	510433

## Intermediate Sawtooth Merge Section Preparation

To prepare the Intermediate Sawtooth Merge Section:

1. Remove all Carrier Rollers from the merge section(s) to facilitate the installation of the drive chain and pad.
2. Install the appropriate Field Kit to make the pneumatic connections.

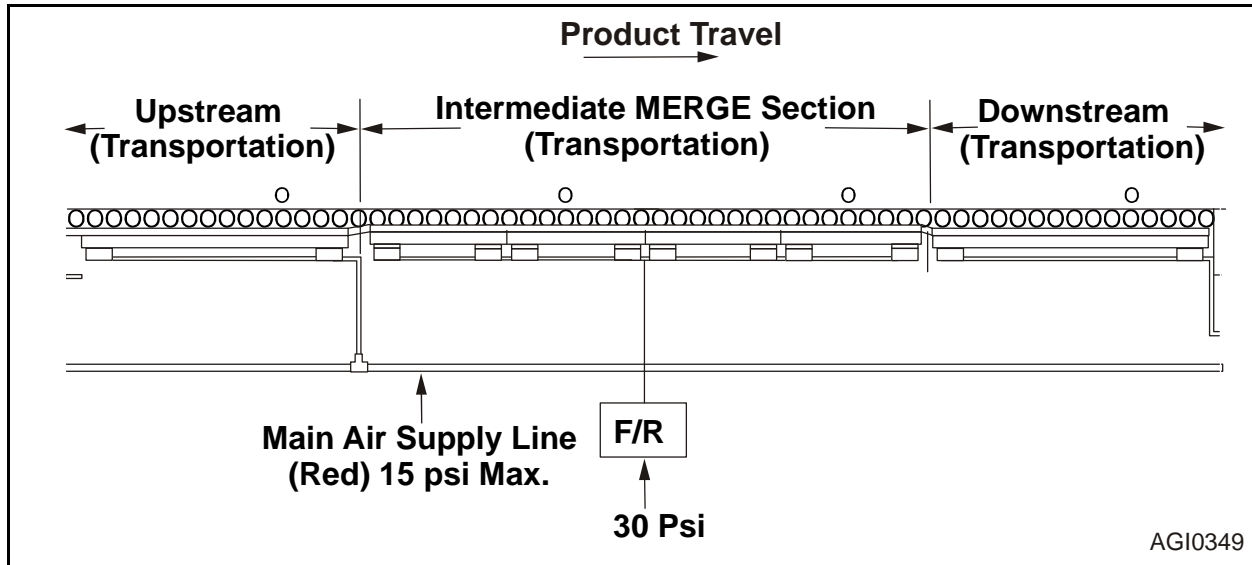


Figure 5 - 48 Sawtooth Merge

Table 5 - 3 Field Kit Part Numbers and Installation Drawing Numbers

Operational Mode	Intermediate Straight Section - Type	
	PN	Dwg
STM Field Kit Note: Mounting hardware not included	271799MA	73301

## Chain Installation

The single-pitch RC50 roller chain (with extended pins) is shipped separately in 100-foot lengths and is installed after all conveyor sections are installed.

**NOTE:** The Drive Section is shipped with the standard spring-loaded chain tensioner disengaged. DO NOT engage the tensioner until the chain and all connecting links are installed.

### Preparation

To prepare for new chain installation:

1. Remove all carrier rollers.
2. Orient the chain spool so the extended pins on the chain point upward.
3. Unroll a manageable length of chain from the spool, keeping the spool axis vertical to avoid twisting or distorting the chain.
4. Make sure the Chain Tensioners are fully disengaged:  
For Spring Chain Tensioners, turn the End Retainer (Fixed) Nut to collapse the Middle Tube, then turn the Compression Nut to compress the Inner Tube into the Middle Tube, see Figure 5 - 49.

For air tensioners, the turn off the air supply at the filter / regulator and disconnect the air line to the air tensioner.

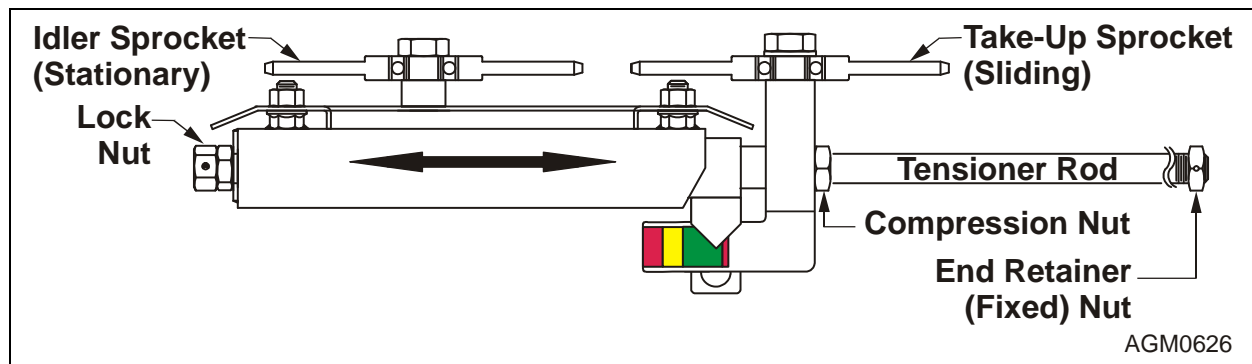
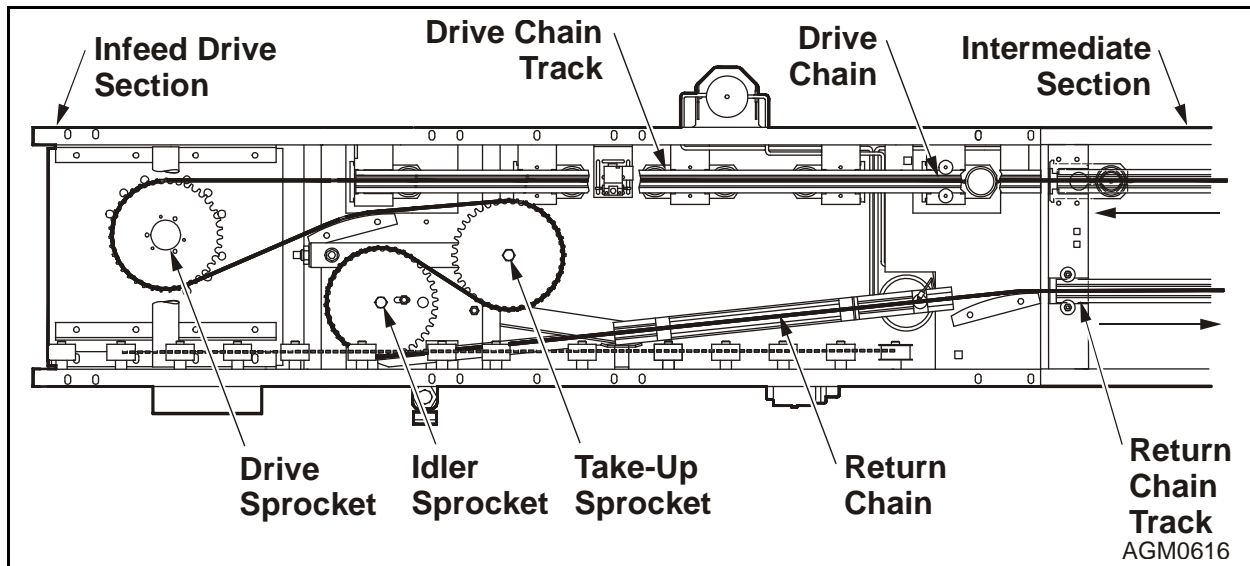


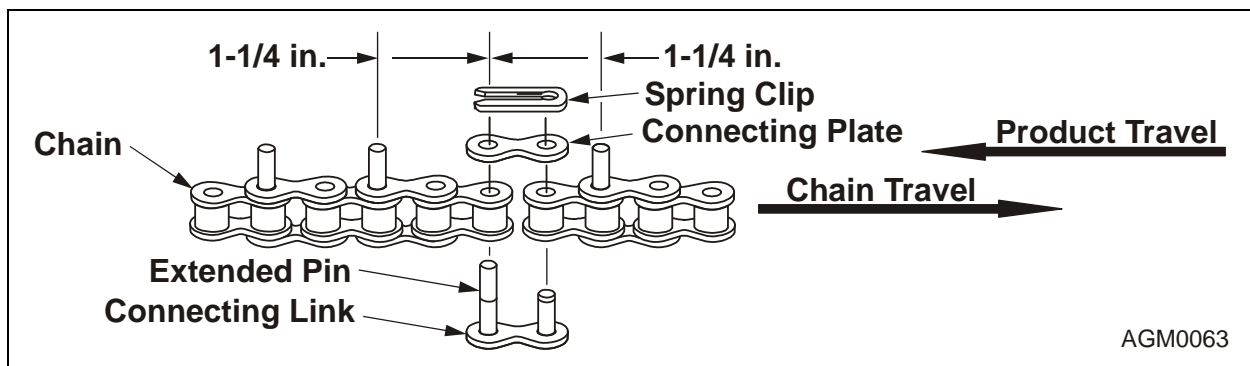
Figure 5 - 49 Compressing the Spring Chain Tensioner

**Chain Installation Procedure - Drive / Straight Sections**

1. Beginning at the Drive Section, unreel and lay the first chain segment (100 feet) into the extruded, green Drive Chain Track with the leading end of the chain downstream of the Drive Sprocket, see Figure 5 - 50.
2. Pull sufficient chain towards the Drive Sprocket to allow the chain to be routed through all of the drive components (Drive, Take-Up, and Idler Sprockets, chain track lubricator, guides, etc.) with the leading end laying in the Return Chain Track of the next downstream Intermediate Section.
3. Make sure the chain is properly engaged with the teeth of all sprockets, and free of kinks.
4. Working from either end of the first chain segment, lay the next chain segment into the chain tracks.
5. Connect the chain segment ends using the Connecting Link, see Figure 5 - 51.



*Figure 5 - 50 Chain Installation - Infeed Drive Section*



*Figure 5 - 51 Installing the Chain Connector Link*

**Chain Installation Procedure - Curve Section**

To install the chain into the Curve Section:

1. Lay chain segments into the Chain Tracks ahead of the Idler Sprockets see Figure 5 - 52.
2. Pull the chains through the Idler Sprocket assemblies and ensure that they are properly aligned/engaged with the sprocket teeth.
3. Install the Connecting Link between this chain segment and the segment previously installed. Make sure the closed end of the Spring Clip is facing the chain's direction of travel. This prevents the Spring Clip from being pulled from the Connecting Link.

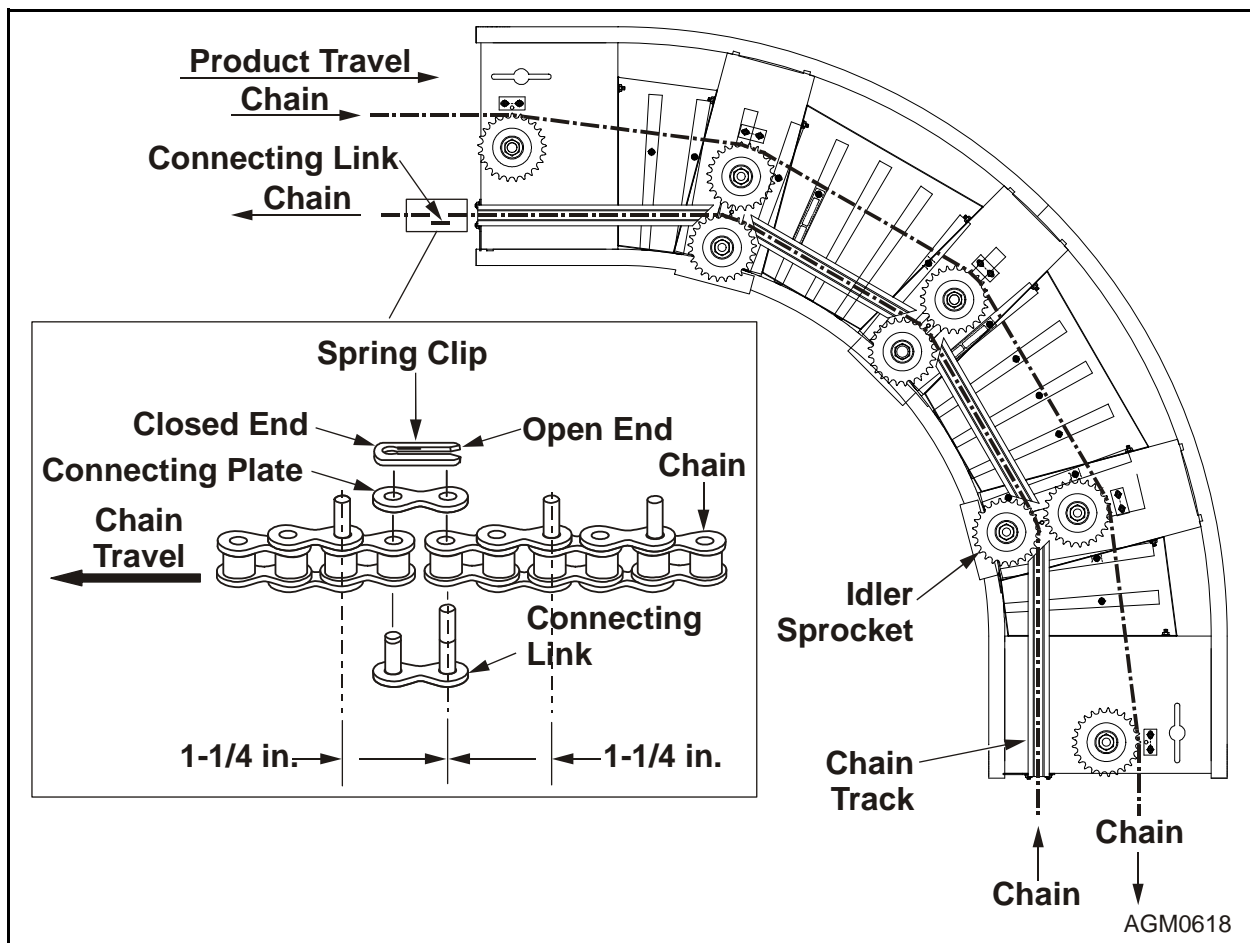


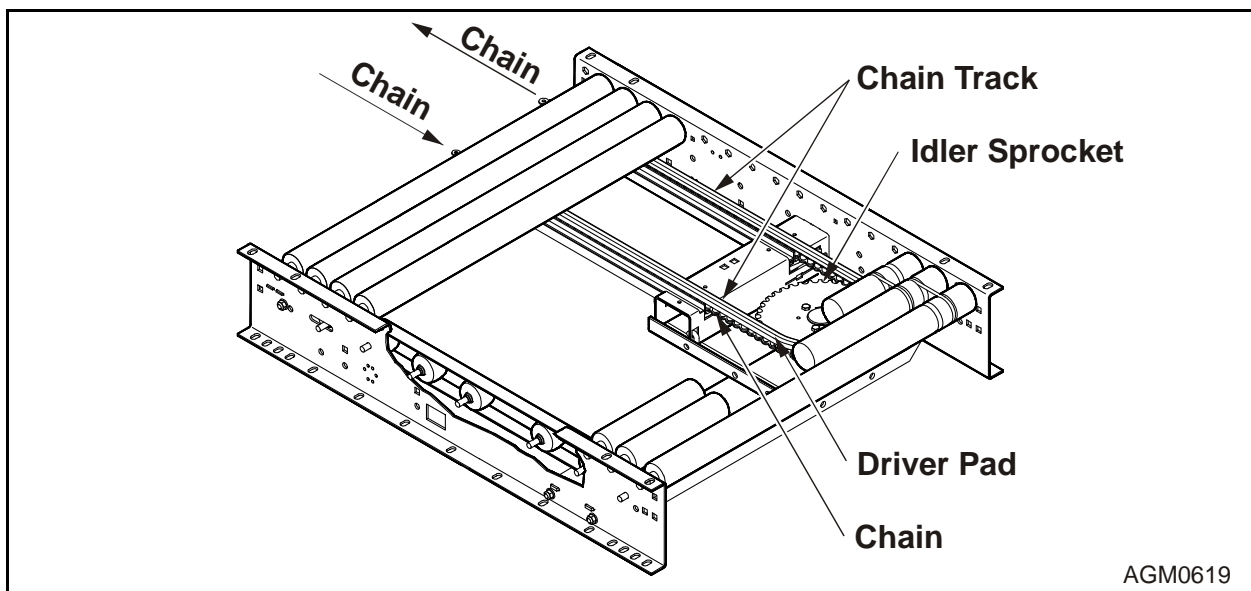
Figure 5 - 52 Chain Installation - Curve Sections



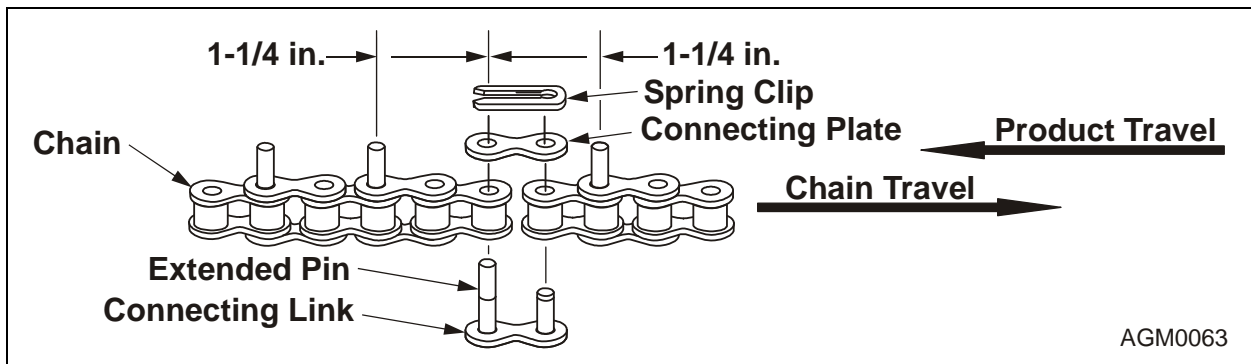
**Chain Installation Procedure - Idler Section**

To install the chain into the Idler Section:

1. Lay the chain segment into the Chain Track ahead of the Idler Sprocket.
2. Pull the chain around the Idler Sprocket and ensure that it is properly aligned/engaged with the sprocket teeth, see Figure 5 - 53.
3. Install the connecting link between this chain segment and the segment previously installed, see Figure 5 - 54. Make sure the closed end of the Spring Clip is facing the chain's direction of travel. This prevents the Spring Clip from being pulled from the Connecting Link.



*Figure 5 - 53 Chain Installation - Idler Section*



*Figure 5 - 54 Installing the Chain Connector Link*

## Chain Installation Procedure - Final Connection

To complete the installation of the chain:

1. When the last chain segment is placed in the chain track, install the connecting link between this chain segment and the segment previously installed, see Figure 5 - 55. Make sure the closed end of the Spring Clip is facing the chain's direction of travel. This prevents the Spring Clip from being pulled from the Connecting Link.
2. Pull the non-connected end of the chain to remove any slack.
3. Make sure that the chain is aligned and engaged with the teeth of all sprockets.
4. Overlap the chain's two non-connected ends and break the chain at the correct length.
5. Install the connecting link between the two chain ends.

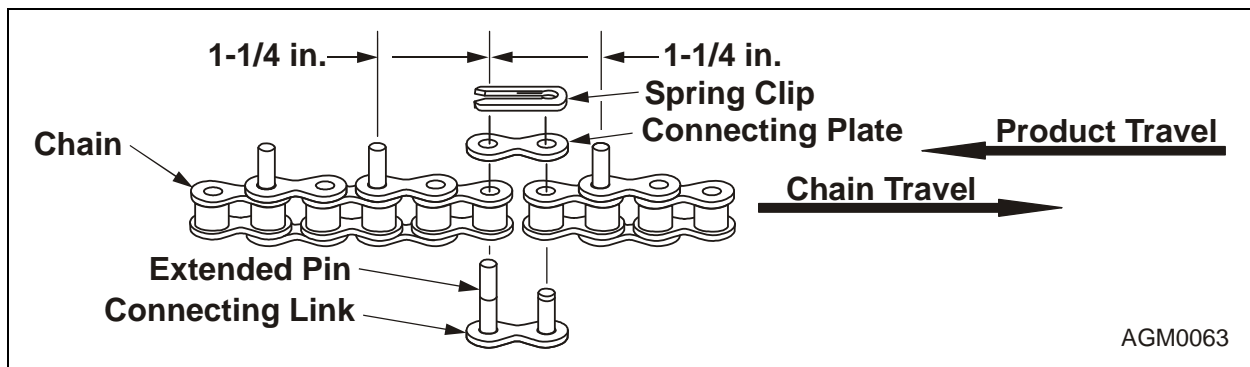


Figure 5 - 55 Installing the Chain Connector Link

**(Standard) Spring-Tensioner Engagement**

The standard spring-loaded chain-tensioner is disengaged (fully-collapsed) when shipped from the factory. When installation of the chain is complete (with the chain/teeth engagement of all sprockets verified), the tensioner is ready to be engaged. To engage the tensioner:

1. Turn the Compression Nut counter-clockwise to extend the Take-Up Sprocket and remove all remaining slack from the chain, see Figure 5 - 56.
2. Continue turning the Compression Nut until it is tight against the End Retainer (Fixed) Nut. This is the normal position for the Compression Nut after initial tensioning.
3. Make sure the Position Indicator is within the Green Zone of the Visual Indicator Band.

If the Position Indicator stays in the Yellow or Red Zone, follow the procedures for Restoring the Chain Tensioner to the Green Zone in *Chapter 6 - Preventive Maintenance*.

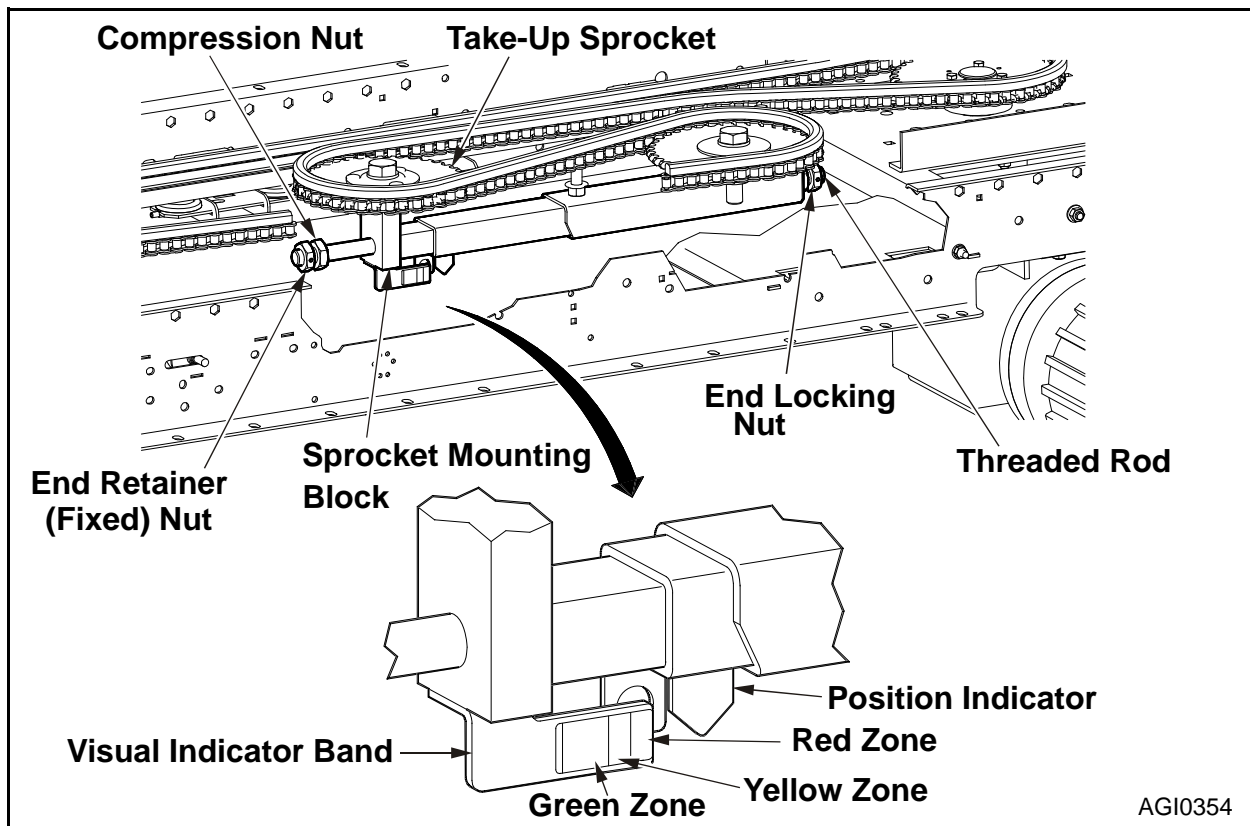


Figure 5 - 56 Spring Tensioner

**(Optional) Air Tensioner Engagement**

To engage the air tensioner:

1. Make sure the tensioner is turned off at the filter/regulator and the Air Supply Line is disconnected, see Figure 5 - 57.
2. With the tensioner fully-retracted, make sure the chain installation is complete, with the chain teeth properly aligned in all sprockets. The air-tensioner is ready to be engaged.
3. Connect the Air Supply Line to the air tensioner.
4. Turn on the air supply at the filter/regulator.
5. Make sure the air Flow Control Valve is set to two full turns open from the closed position. The Flow Control Valve keeps constant tension on the chain at start up.
6. Set the regulator to provide 60-80 psi to the tensioner.
7. Make sure the Position Indicator is within the Green Zone of the Visual Indicator Band. If the Position Indicator stays in the Yellow or Red Zone, follow the procedures in Removing Chain Links.

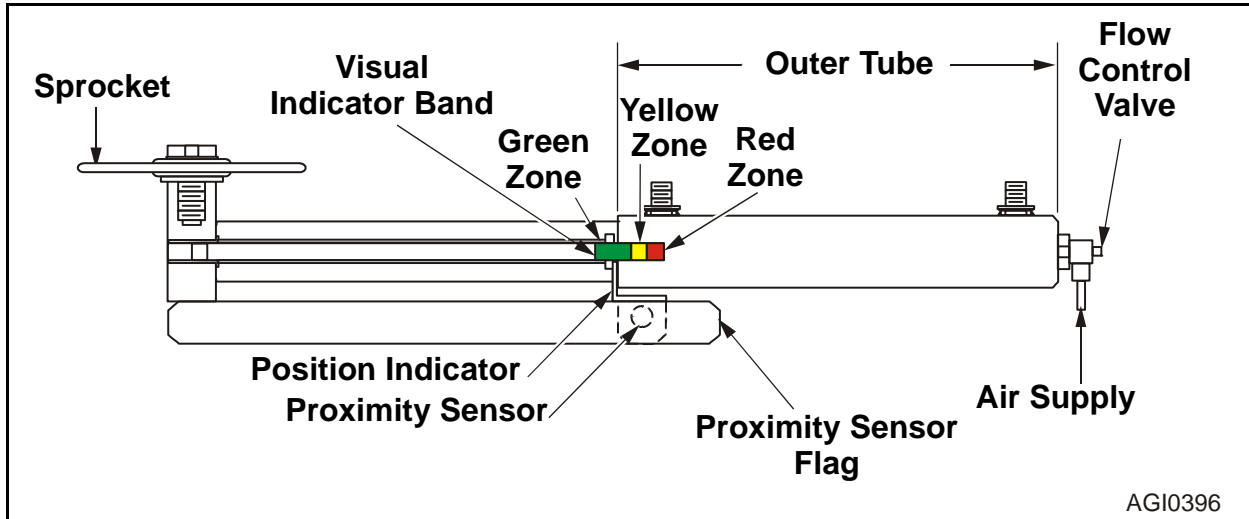


Figure 5 - 57 Air Tensioner

**⚠ WARNING**

**Drive Chain and Driver Pad Maintenance**

Turn the conveyor off and perform lockout/tagout procedures before starting drive chain and driver pad maintenance. Failure to follow this instruction may result in serious personal injury.

**Removing Chain Links**

When the Chain Tensioner can't be adjusted into the safe operation-or Green-Zone, chain links must be removed.

To remove chain links:

1. Remove sufficient carrier rollers in the drive section to access the chain tensioner from above.

**NOTE:** Connector links are typically installed within 300mm (12 inches) of the driver pad splice.

2. Jog the conveyor until the connector link is located in the open area immediately downstream of the drive sprocket.
3. Fully compress the Chain Tensioner.  
For Spring Chain Tensioners, turn the End Retainer (Fixed) Nut to collapse the Middle Tube, then turn the Compression Nut to compress the Inner Tube into the Middle Tube. This positions the Take-Up Sprocket all the way in to its minimum travel distance, see Figure 5 - 58.

For air tensioners, turn off the air supply at the filter / regulator and disconnect the air line to the air tensioner.

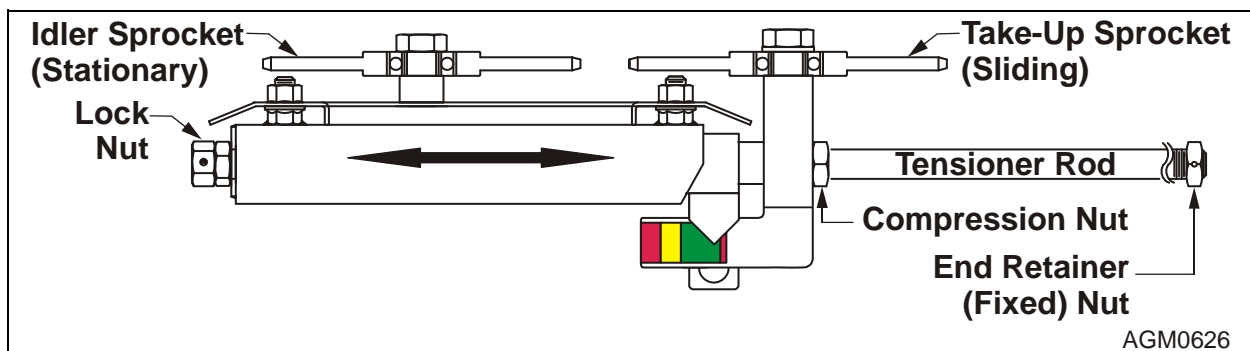


Figure 5 - 58 Compressing the Spring Chain Tensioner

4. Starting at the splice, lift the driver pad from the chain's extended pins to expose the connecting link.
5. Remove the chain's Spring Clip, Connecting Plate, and Connecting Link, see Figure 5 - 59. Pull the excess slack out of the chain and determine number of links to remove.
6. Using a chain break tool, remove the necessary links. One link is defined as being the center distance (1.25 inches) between two extended pins.  
For spring tensioners, if the tensioner is at or near its fully extended position, remove approximately eight link (10 inches) of chain.  
For air tensioners, if the tensioner is at or near its fully extended position, remove approximately 12 links (15 inches) of chain.
7. Record the number of chain links removed. This information is needed to determine when the chain is over 2% elongated, and must be replaced. Refer to *Chapter 6 - Preventive Maintenance* in the *Accuglide Maintenance Manual*.
8. Orient and install the Connecting Link with the Extended Pin matching the chain's 1.25-inch Extended Pin centers.
9. Install the Connecting Plate.
10. For best results, use a chain holder tool (not provided) to pre-tension the chain.
11. Orient and install the Spring Clip with its closed end facing the chain's direction of travel. This prevents the clip from being pulled from the Connecting Link.

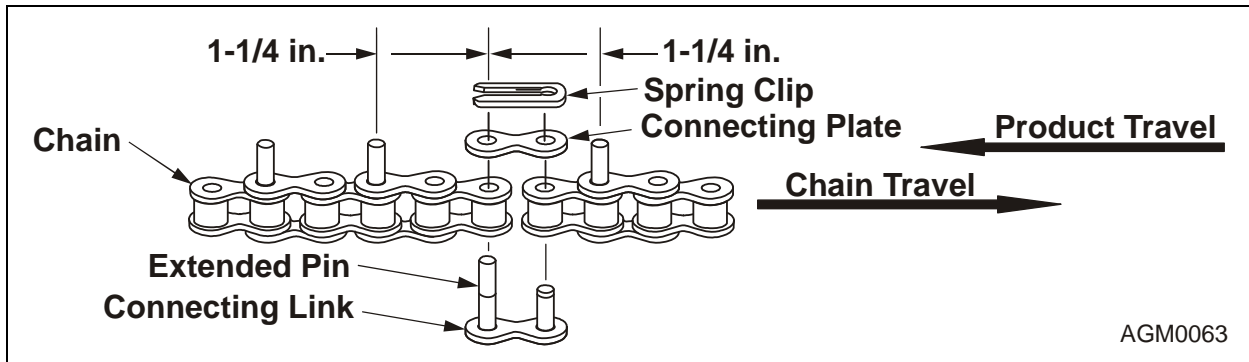
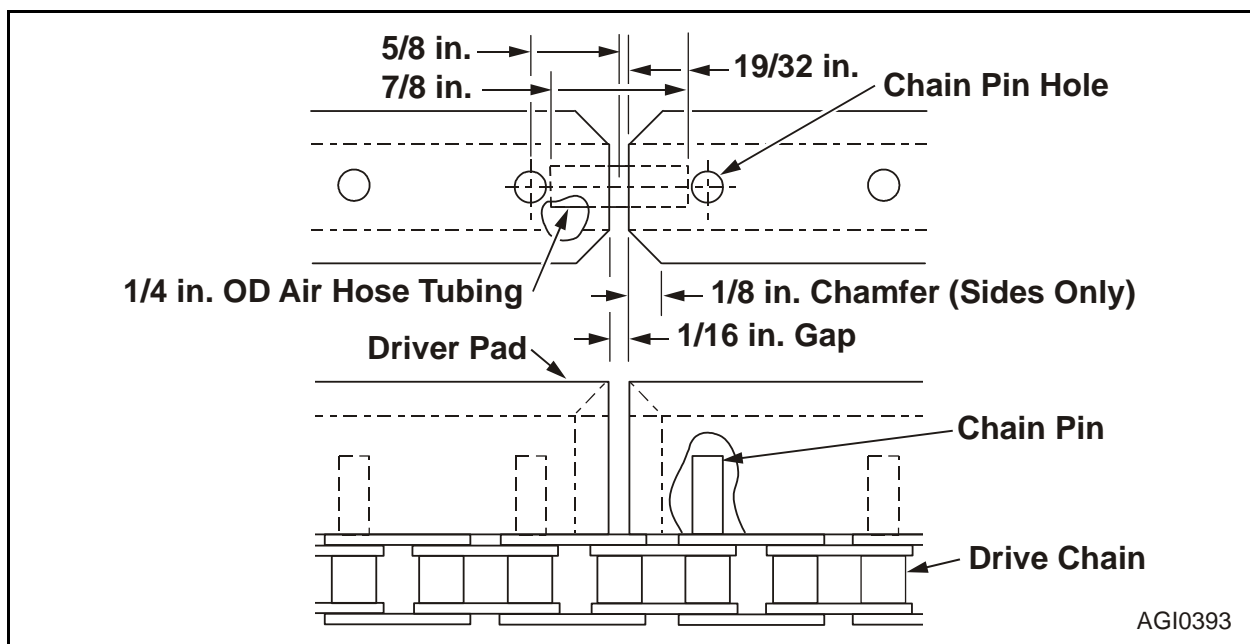


Figure 5 - 59 Removing/Installing the Chain Connector Link

**Driver Pad Installation**

The Driver Pad, normally supplied in 500-foot lengths, is installed by pushing it onto the chain's extended pins. It is usually installed in one continuous length; however multiple shorter lengths can be pieced together (the minimum length is 10 feet long). To install the Driver Pad:

1. Cut the end of the pad 19/32 inches from centerline of the last Chain Pin Hole, see Figure 5 - 60.
2. Chamfer the edges 1/8 inch at a 45 degree angle.
3. Start installing the Driver Pad with the end of the pad located 12 inches from a Connector Link. This makes it easy to find a Connector Link assembly in the future.
4. Firmly push the pad onto the Chain Pins.
5. Continue installing the pad along the entire length of the chain and mark the pad where it overlaps the pad's other end.
6. Cut and chamfer the pad at the mark according to steps 1 and 2.
7. Make a splice-connection by inserting a 7/8-inch long piece of 1/4-inch OD Air Hose Tubing into each end of the pad.
8. Firmly push the pad (and splice connection) onto the Chain Pins.
9. Remove all dirt and oil from the pad using a clean shop towel and a suitable cleaner.



*Figure 5 - 60 Driver Pad Installation and Joint*

---

## Carrier Roller Installation

**NOTE:** Make sure all rollers are clean before installing to ensure good drive.

Perform the following steps to install all Carrier Rollers:

1. Install “fixed” Carrier Rollers (with spring-loaded axles) into the Drive Section and Idler Section at 2-inch centers.
2. Install Carrier Rollers (“fixed” or “pop-out” type into Intermediate Straight Sections at required centers (2-inch, 3-inch, or 4-inch).
3. If Intermediate Curve Sections and/or Intermediate Merge Sections are required, install “fixed” Carrier Rollers (with spring-loaded axles).  
For Curves with close (2-inch roller) centers, lower the bolted tapered-rollers so that there is light non-driving contact with the drive pad. Re-tighten the bolts after making adjustments. These rollers serve as cross members for the frame.

**NOTE:** Excessive pressure between the rollers and the pad will damage the pad.



## Skewed Carrier Roller / Driver Guide Installation

### **⚠ WARNING**

Do not skew rollers more than the recommended maximum angle. Skewing rollers more than the recommended maximum angle will produce gaps between the rollers large enough for fingers or hands. Skewing rollers more than the recommended amount may also cause the roller driver pad to roll off the chain. Failure to follow this instruction may result in serious personal injury and/or equipment damage.

Intermediate Straight Section Carrier Rollers may be skewed (advanced on one side) to move product to the other side of the conveyor.

### **⚠ CAUTION**

**DO NOT** skew rollers in either the Drive Section or the Idler Sections.

To skew carrier rollers:

1. Refer to the Skewed Driver Field Kit drawing to identify the maximum skew angle and the maximum length of skew.
2. For each Carrier Roller to be skewed, install one end of the Carrier Roller 1 to 3 inches forward (towards the discharge end of the conveyor) of the other side, according to information from step 1.
3. Bolt one Skewed Driver Guide to each cross member in the skewed-roller area; refer to Figure 5 - 61 for correct location of the Skewed Driver Guide.
  - a. If a roller sits directly over a bearing:
    - 1) Move the chain and the driver to their lowest positions.
    - 2) Make sure there is clearance between the roller and the screw.
  - b. If a rotating roller hits the screw, switch it with a more concentric roller from the same conveyor.

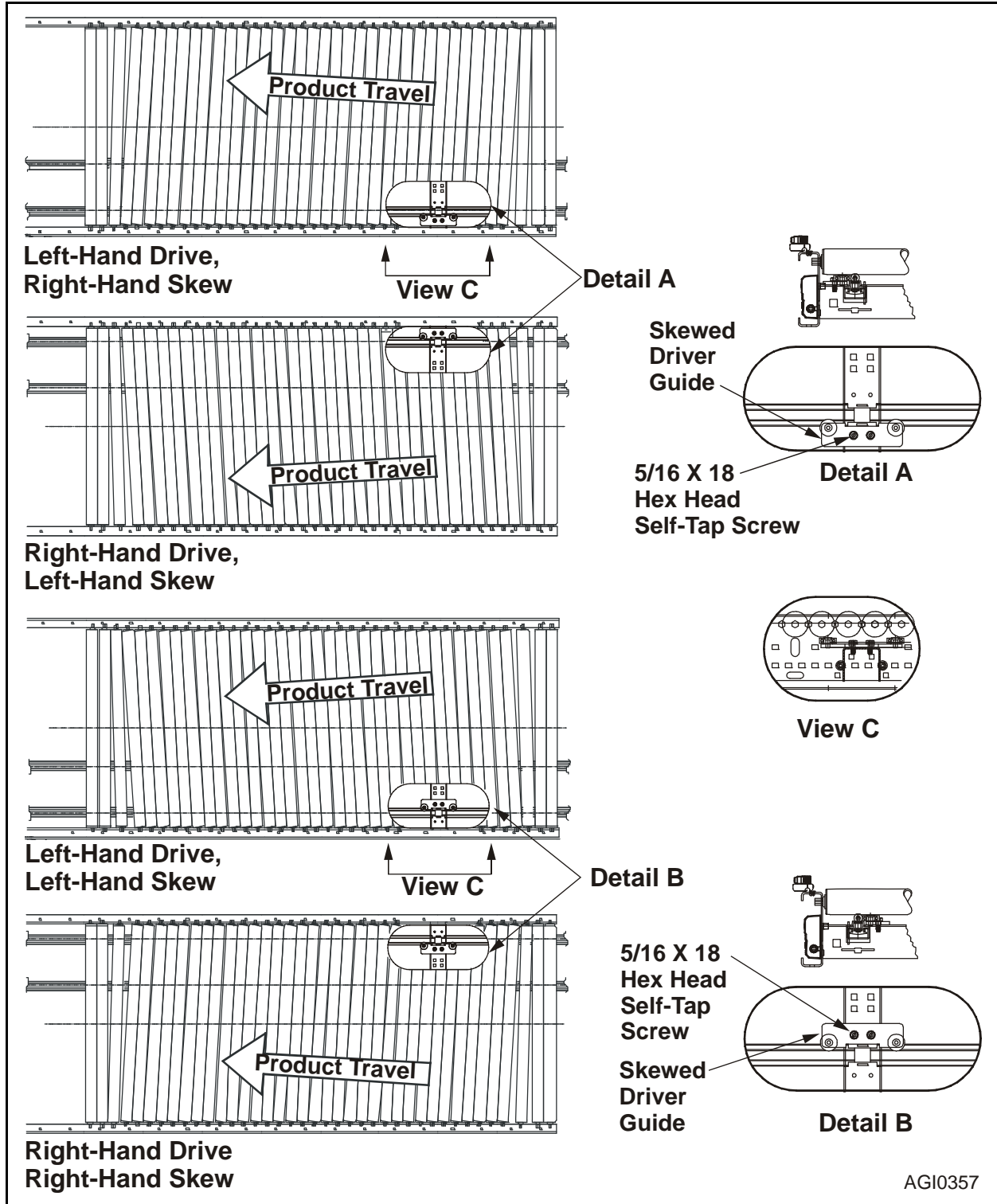


Figure 5 - 61 Skewed Roller Driver Guide Installation

## Interfacing Drive / Idler Section - Air Line Connection(s)

To make two inline conveyors function as a single, continuous line, install the Singulation Mode Field Kit (refer to Table 5 - 4).

Table 5 - 4 Idler Section-Air Line Connection Field Kit Part Numbers

Operational Mode	Intermediate Straight Section - Type	
	PN	Dwg
Singulation	51043700	510437

# Field Wiring Connections

## Drive Section

1. Connect the power unit to the power source. If electrical power is available when the wiring is complete, “bump” the motor starter to ensure that the wiring connections provide the required direction of travel.
2. Connect the optional Air-Pressure Switch for the optional Air-Tensioner to the control panel.

## Idler Section

1. Connect the Solenoid-Valve that controls the power/non-powered state of the operational-zone to the control panel.
2. Connect the Solenoid-Valve that controls the optional Solenoid Track Lubricator to the control panel.
3. Connect the Solenoid-Valve that controls the optional Blade-Stop to the control panel.

## Power and “Slug” Signal Source

1. Connect the Power Supply/Supplies to the power source, (110VAC). If multiple Power Supplies are required, install Power Isolator Cord(s) midway between units.
2. For “Slug” Operational Mode - Connect the remote “slug” signal source (24VDC or 110VAC) to the “Release In” terminals in the Power Supply that controls the group of “slug” zones.

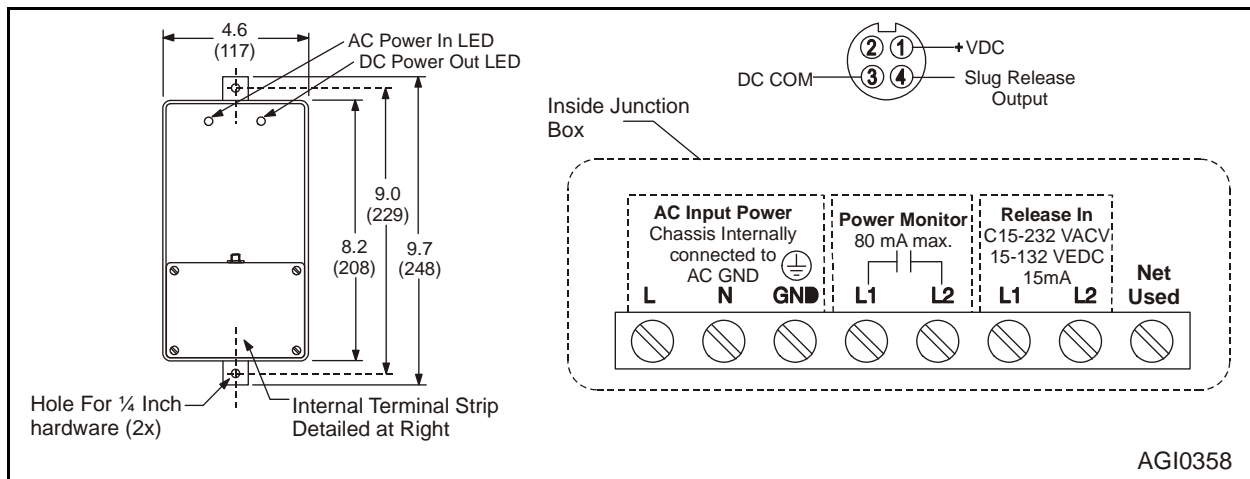


Figure 5 - 62 Connect Remote “Slug” Signal to Terminal Strip in Power Supply

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## Field Piping Connections

### Conveyor

Connect the conveyor's Filter/Regulator(s) (0-15 psi) to the air source.

### Drive Section

Connect the Filter/Regulator (0-100 psi) for the optional Air-Tensioner to the air source.

### Idler Section

Connect the Filter/Regulator (0-100 psi) for the optional Blade Stop to the air source.

### Sawtooth Merge / Curve

1. Connect the Filter/Regulator (0-100 psi) for the optional Sawtooth Merge Section to the air source.
2. For "Slug" Operational Mode - Connect the remote "slug" signal source (24VDC or 110VAC) to the "Release In" terminals in the Power Supply (or Slug Module) that controls the group of "slug" zones.

## Field-Cutting Special Rail Lengths

Use the following procedure for cutting rail lengths.

1. Remove the end cross member and advance/return tracks from the discharge end of the section to be shortened. Also, remove any other hardware in the way of the following procedures.
2. Follow the procedures in Figure 5 - 63.

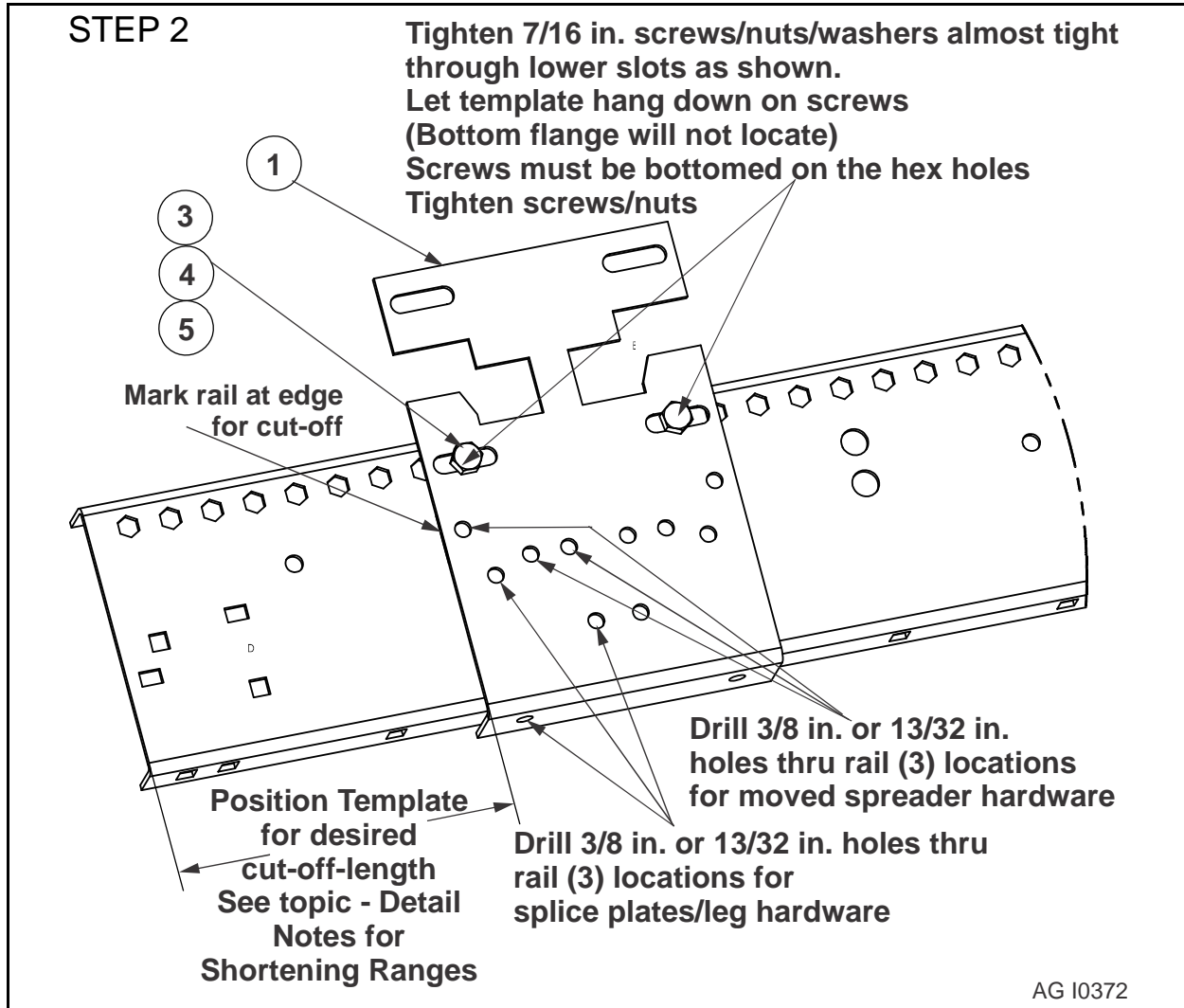


Figure 5 - 63 Field-Cutting Special Rail Lengths - Step 2

3. Follow the procedures in Figure 5 - 64.

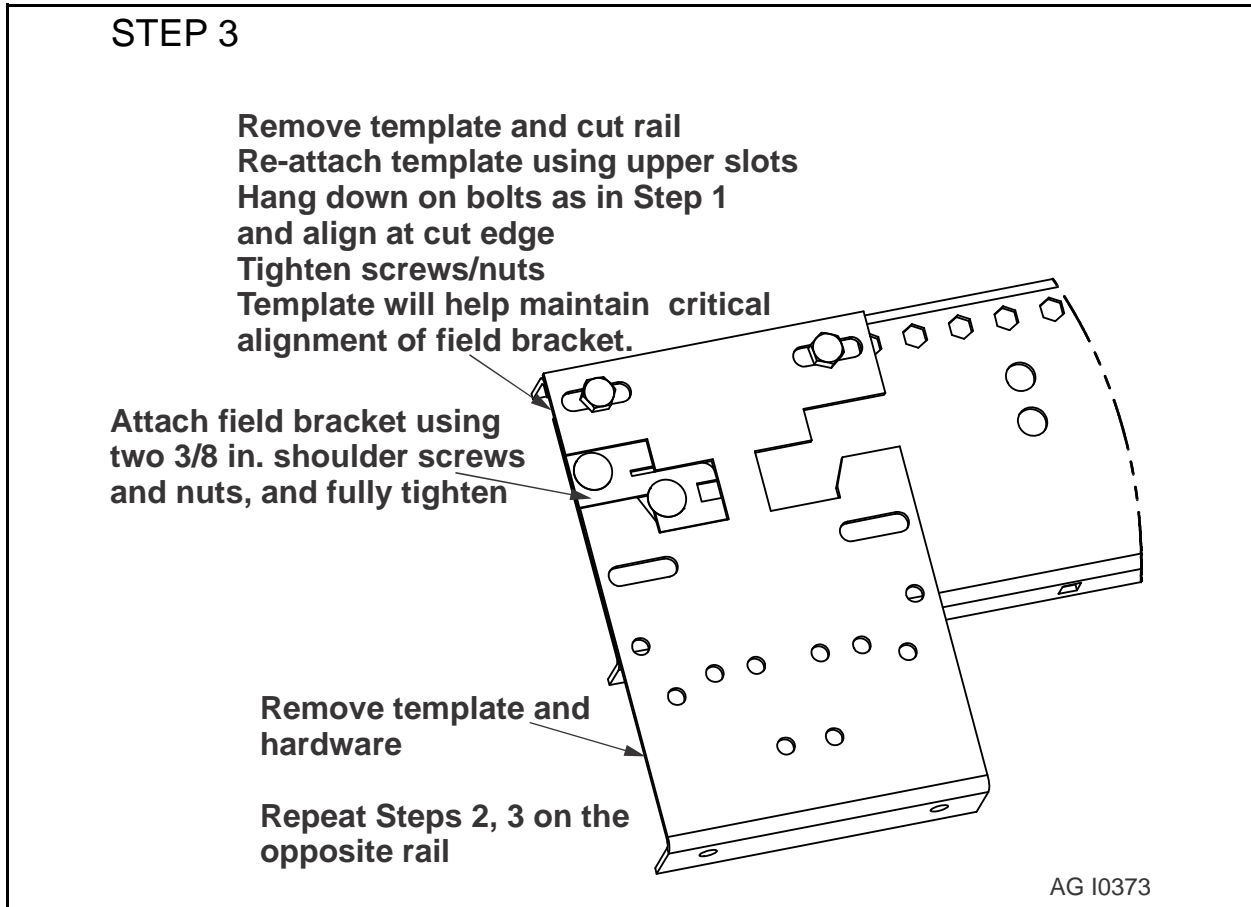


Figure 5 - 64 Field-Cutting Special Rail Lengths - Step 3

4. Follow the procedures in Figure 5 - 65.

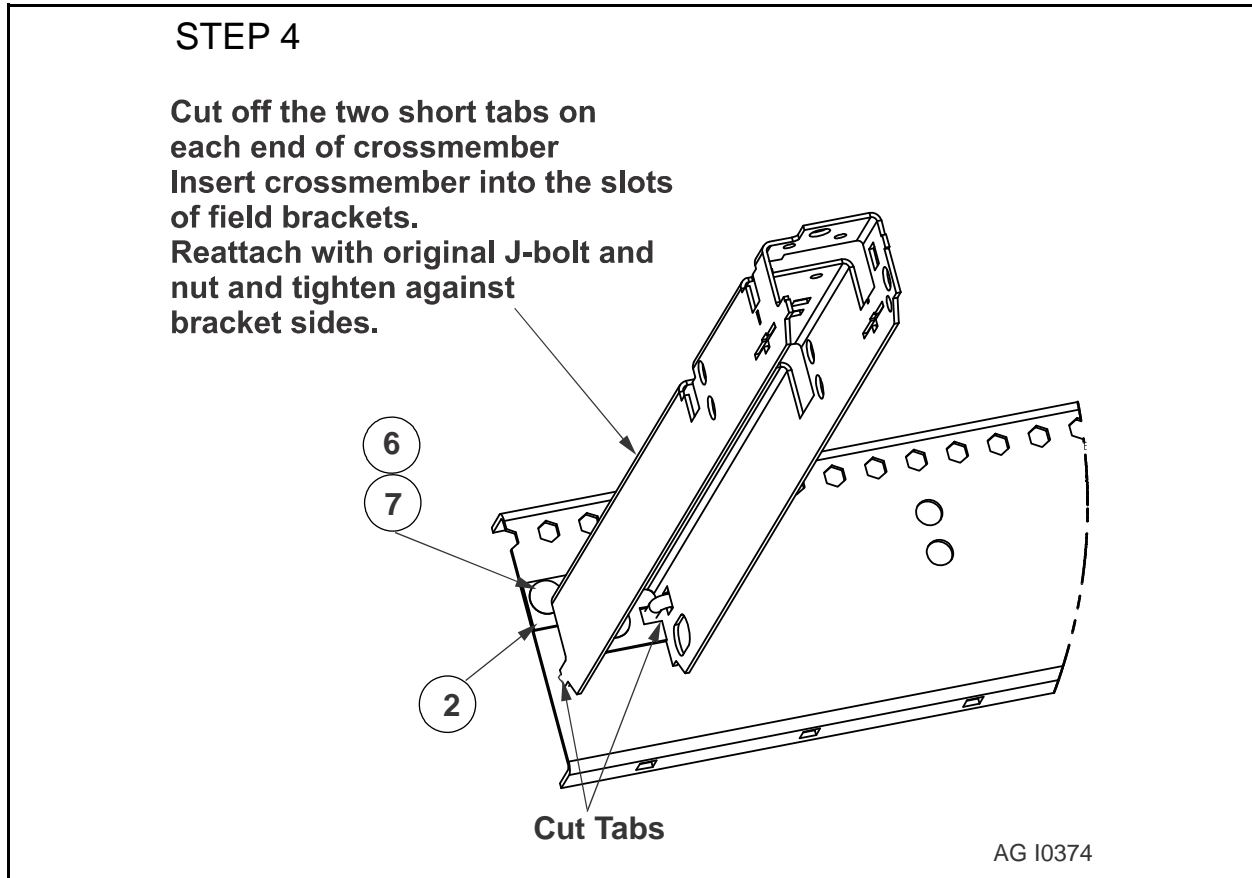


Figure 5 - 65 Field-Cutting Special Rail Lengths - Step 4

5. Cut the advance/return tracks and support channels the same amount as the frame rails. Bevel the tracks in the chain enter/exit areas similar to the factory tracks, and re-assembly.  
Check corner to corner square of assembled frame, and maintain within  $\pm 1/32$  of an inch.

Seq.	Master/Qty.	Part No.	Description
1	1	51044700	510 Field Rail Shorten Template
2	2	51045000	510 Bracket Field Spreader Position
3	2	02200027	Bolt Hex .438-14 x 1.00
4	2	20016200	Nut Hex .438-14
5	2	0225191	Washer Flat .438 SAE Type A
6	4	0220003	Bolt Car .375-16 X.750 Short Sq Neck
7	4	20033900	Nut Hex .375-16 ZP GRS



## Detail Notes for Shorting Ranges

1. Shorten up to 24 inches - follow instructions as shown.
2. Shorten 24 inches to 26.5 inches - first intermediate spreader will need to be temporarily removed for work access.
3. Shorten 26.5 inches to 34 inches - both end and first intermediate spreaders will need to be moved and advance/return tracks cut accordingly.
4. Shorten 34.25 inches - simply cut off last section, remove first intermediate spreader, and move the end spreader over one zone; one tab will need to be cut off.
5. Shorten more than 34.25 inches - delete intermediate spreader and hardware, and continue as above instructions.

Options for situations resulting in short zones:

- Tie new short zone air to adjoining standard zone with tees included in the kit.
- Run short zone independently.
- Make longer than standard zone; longer stock for the advanced chain track and support channel will need to be ordered (not included in kit).

Control hookups

- If change results in an odd number of zones, with dual zone controls, upstream air output will not be used on one control.

**NOTE:** Recommended with 2-inch roller spacing. When possible, cut in even 2-inch increments to maintain ideal roller-to-roller spacing to next section.

**510 Template for Shorting Rail in the Field**

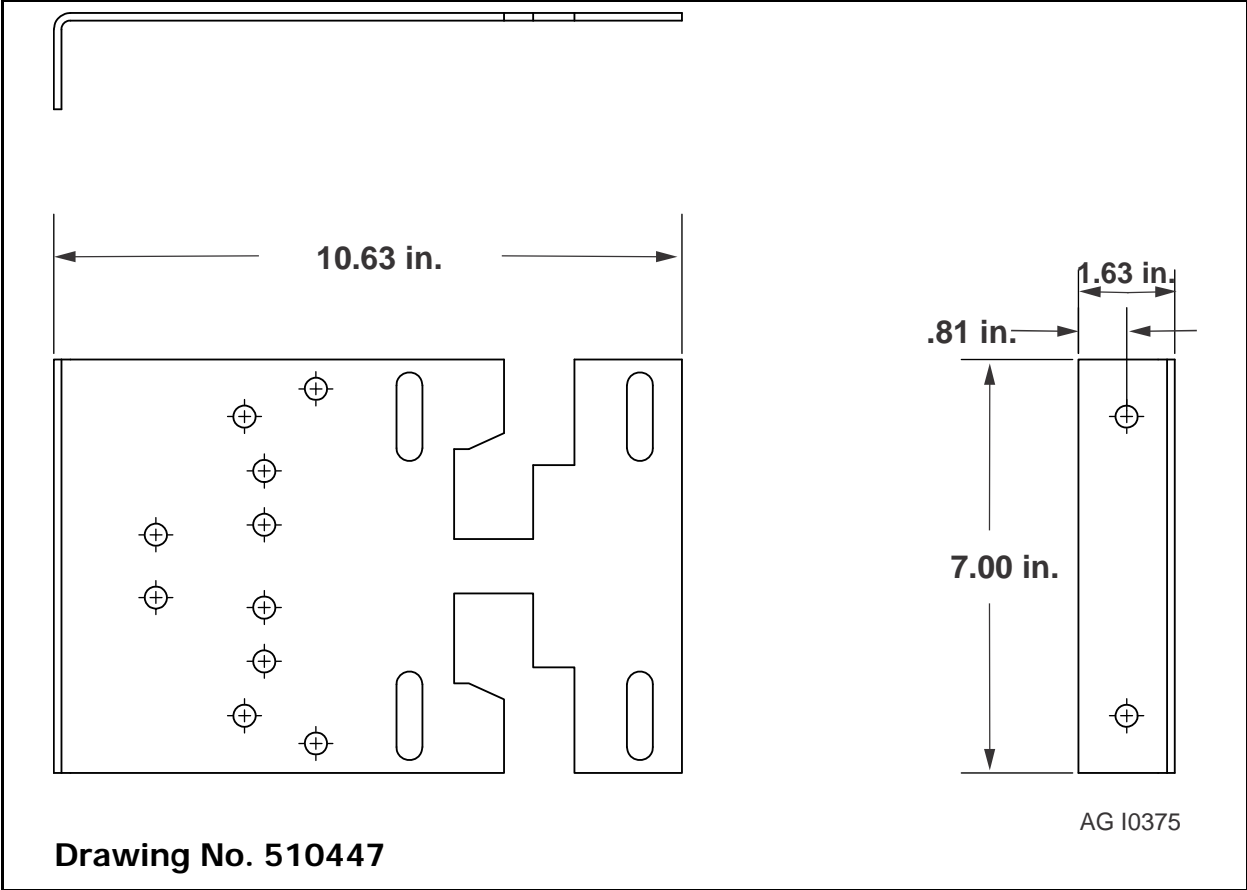


Figure 5 - 66 Field-Cutting Special Rail Lengths - Template

## Side Guide Installation

### **⚠ WARNING**

Turn off any power circuit(s) and/or lockout / tagout operating control(s) before installing the side guides. Failure to follow this instruction may result in equipment starting unexpectedly and causing serious personal injury and/or equipment damage.

### **Side Guide Types**

There are several types of side guides available, see Figure 5 - 67:

- Photo-Eye and Reflector Side Guide
- Straight Side Guide
- Curve Side Guide
- Merge (Sawtooth) Side Guide
- Bull Nose Side Guide
- Side Guide Transition
- Side Guide Transition - End
- Skate Wheel Side Guide

**NOTE:** Refer to the *Accessories* chapter in this manual for information about sizes, finishes, and part numbers for each side guide type. Refer to Table 5 - 5 on page 73 for side guide mounting options.

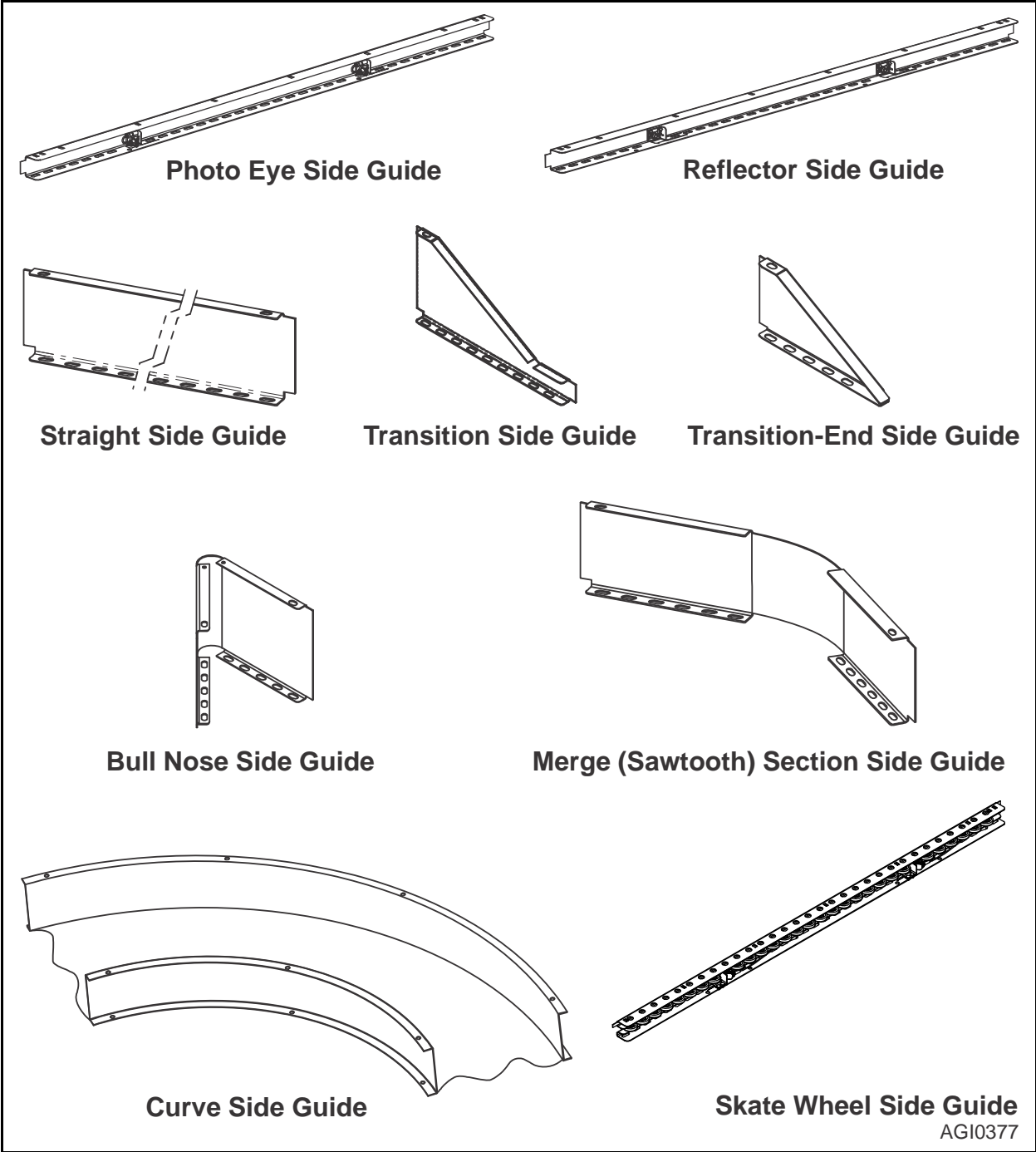


Figure 5 - 67 Side Guide Types

**Side Guide Mounting Styles**

All side guides are fixed. Once installed, they are not meant to be adjusted.

Some mounting styles are not available for all side guide types, see Table 5 - 5.

Table 5 - 5 Side Guide Mounting Style Options

Side Guide Type	Direct	Offset
Photo-Eye and Reflector	X	Reflector Only
Straight	X	X
Curve	X	
Merge (Sawtooth)	X	
Bull Nose	X	
Transition	X	X
Transition - End	X	X
Skate Wheel (Straight)	X	

**Standard Side Guides**

There are two mounting styles for standard side guides:

- Direct-mounted to the frame; refer to page 74 through page 84,
- Offset-mounted to the outside of the frame; refer to page 87.

**Skate Wheel Side Guides**

Skate Wheel Side Guides are handled differently. There is one mounting style for the Skate Wheel Side Guides:

- Direct-mounted to the frame; refer to page 85,

## Direct-Mounting Side Guides

Follow these instructions for direct-mounting side guides.

### *Direct-Mounting Photo-Eye Side Guides*

The Photo-Eye Side Guide is used in areas where photo-eyes are required. It is mounted directly to the frame. To install the Photo-Eye Side Guide:

1. Refer to the installation drawings or contact Intelligrated for photo-eye locations.
2. Place the Photo-Eye Side Guide on the conveyor frame. Position and orient the side guide as shown in Figure 5 - 68 and Figure 5 - 69.
3. If the side guide butts against a previously installed side guide, follow the procedure in "Overlapping the Side Guides" on page 89.
4. Bolt the side guide to the frame at each end, and at every three feet in the middle. Use the hardware specified, see Figure 5 - 68.
5. Repeat steps 2-4 as needed.

**NOTE:** The Direct-Mounting Hardware Kit contains enough hardware to mount one 12-foot long straight side guide.

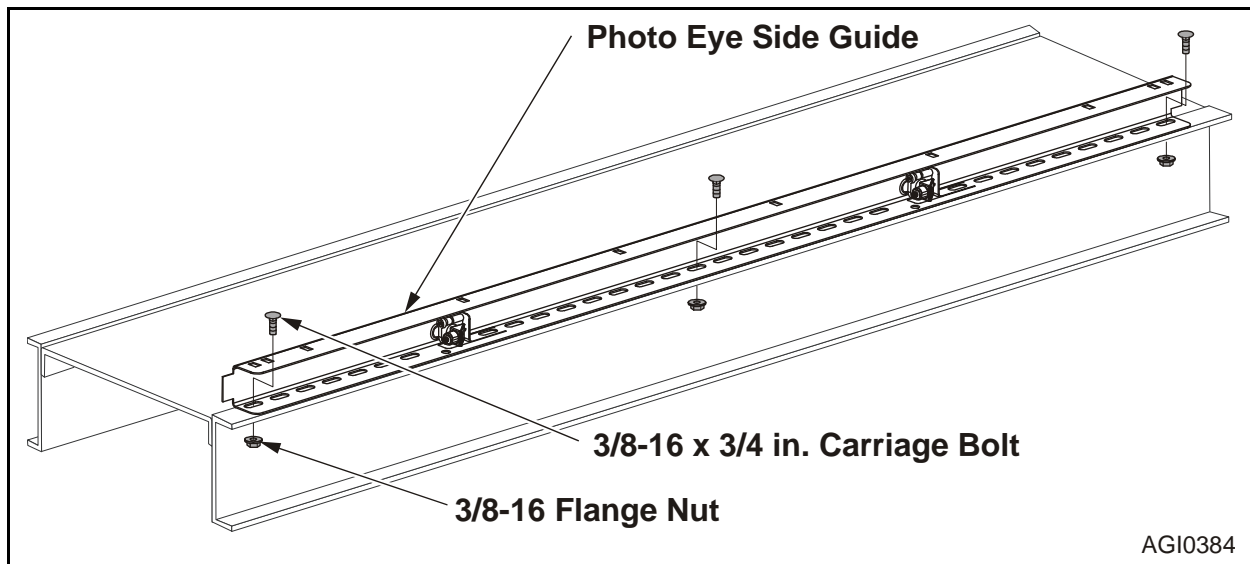


Figure 5 - 68 Direct-Mounting the Photo-Eye Side Guides

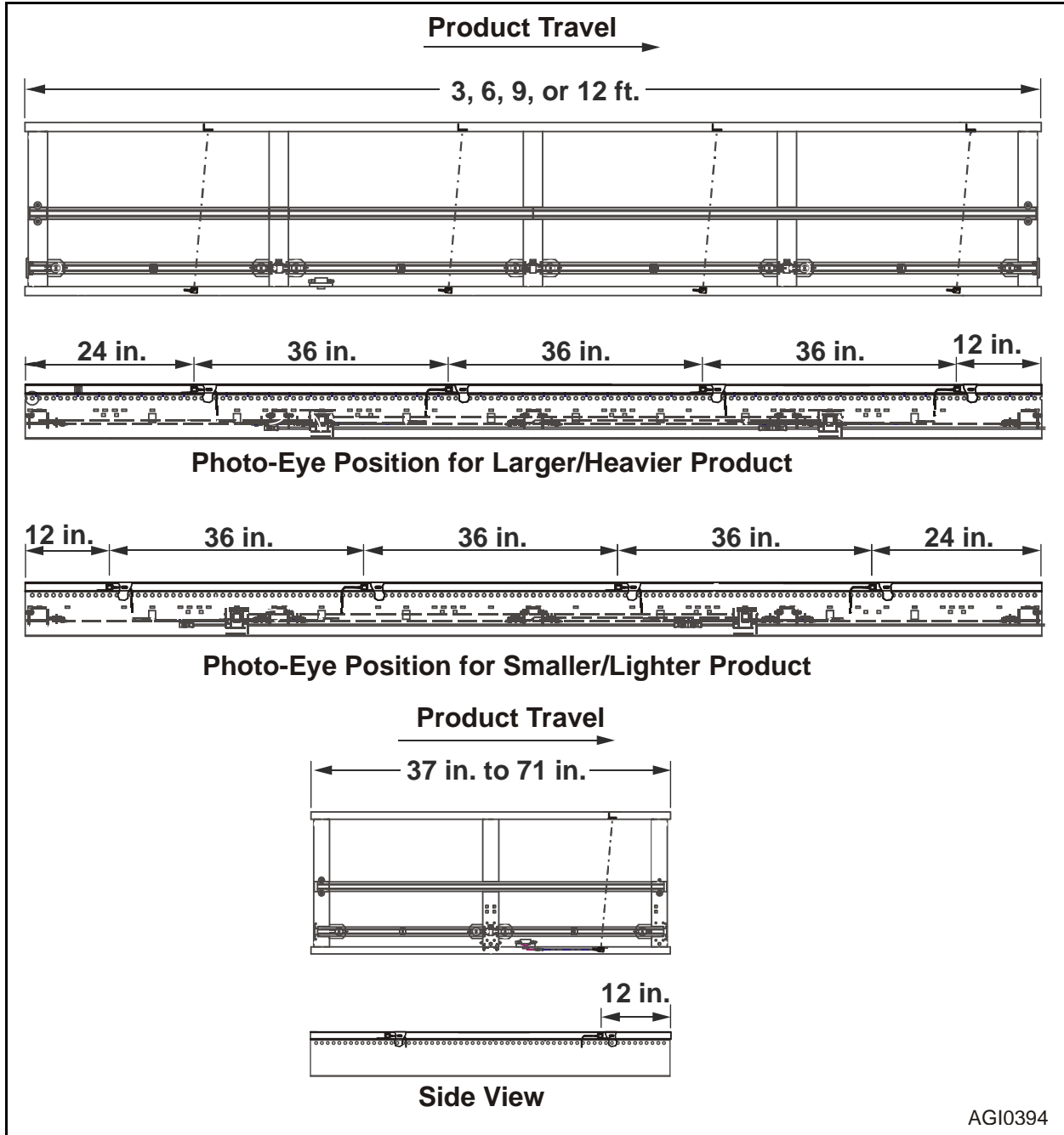


Figure 5 - 69 Photo-Eye Positions in Side Guides

***Direct-Mounting Reflector Side Guides***

In installations with Photo-Eye Side Guides, a Reflector Side Guide is mounted across from each Photo-Eye Side Guide at a certain distance downstream.

The installation drawings list the photo-eye-to-reflector distance. Each reflector in the side guide is placed at a specific distance downstream from a corresponding photo-eye.

- For boxes, the default distance (“D”, see Figure 5 - 71) between the photo-eye and the reflector (along the direction of travel) is two inches.
- For tapered totes, the default distance (“D”, see Figure 5 - 71) between the photo-eye and the reflector (along the direction of travel) is six inches. The allowed distance between the photo-eye and the reflector is 2-18 inches.

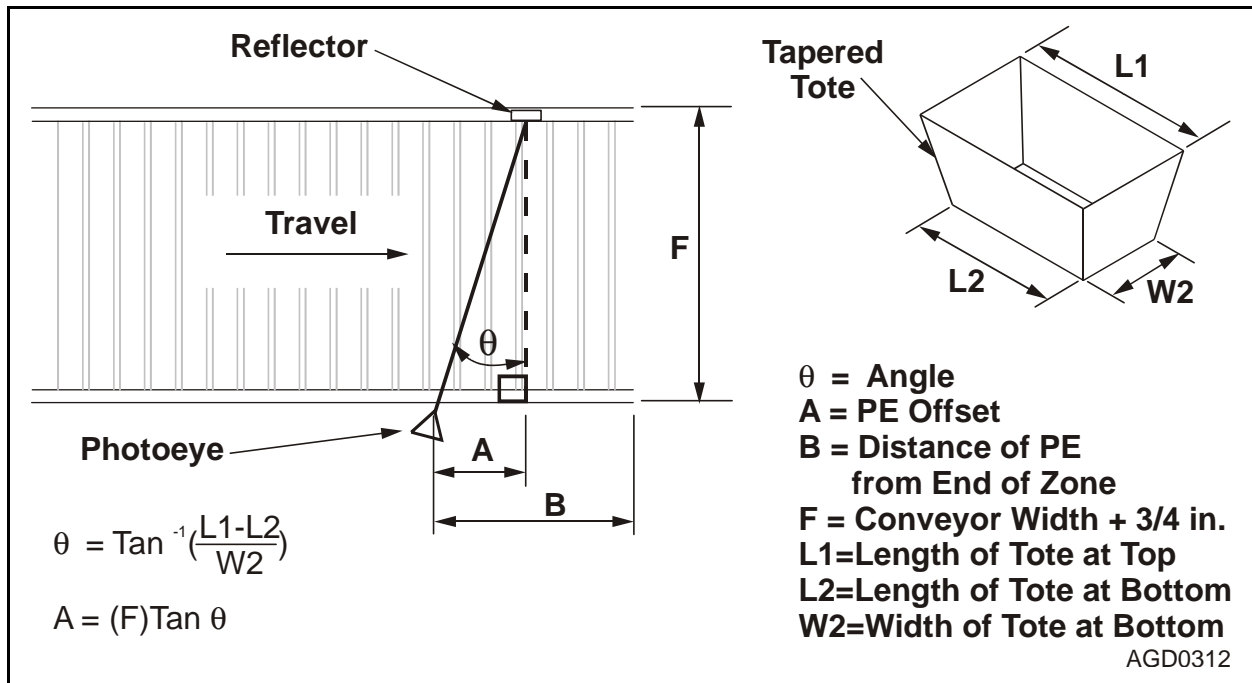


Figure 5 - 70 Reflector Placement for Sequential Zone Control - Tapered Totes



To direct-install the Reflector Side Guides:

1. Make sure all Photo-Eye Side Guides are installed.
2. Refer to the installation drawings, or contact Intelligrated for reflector locations.
3. Starting at the furthest upstream location, place a Reflector Side Guide on the conveyor frame.
4. Orient the side guide correctly, see Figure 5 - 72.
5. Slide the side guide until each reflector is the correct distance downstream from a corresponding photo-eye.
6. If the side guide butts against a previously installed side guide, follow the procedure in “Overlapping the Side Guides” on page 89.
7. Bolt the side guide to the frame at each end and at every three feet in the middle. Use the hardware shown in Figure 5 - 72.
8. Repeat steps 3 through 7 as needed.

**NOTE:** The Direct-Mounting Kit contains enough hardware to mount one 12-foot long straight side guide.

**NOTE:** For Offset-Mounted side guide installation instructions, see “Offset-Mounting Side Guides” on page 87.

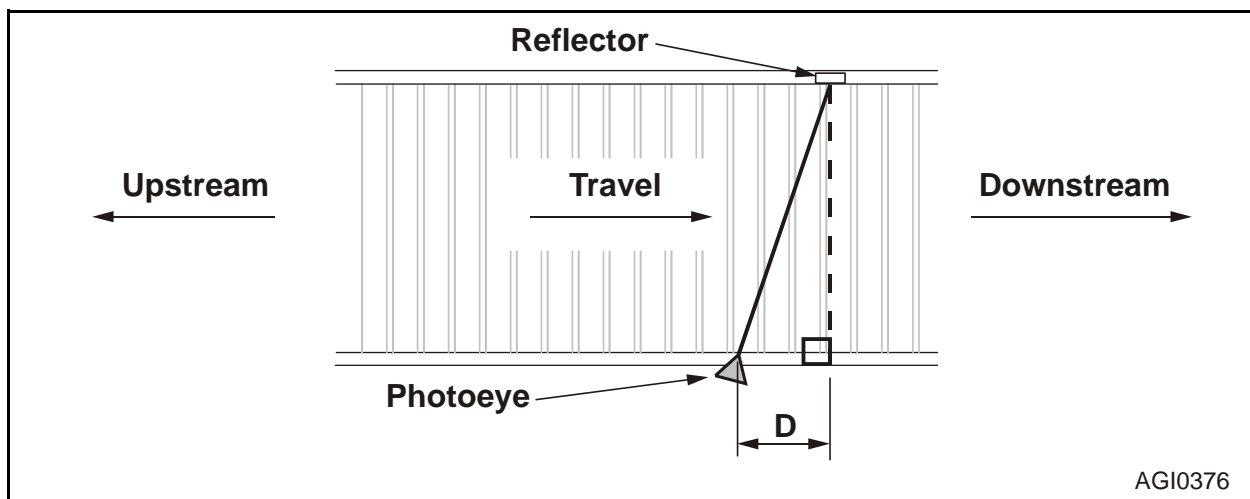


Figure 5 - 71 Photo-Eye to Reflector Distance

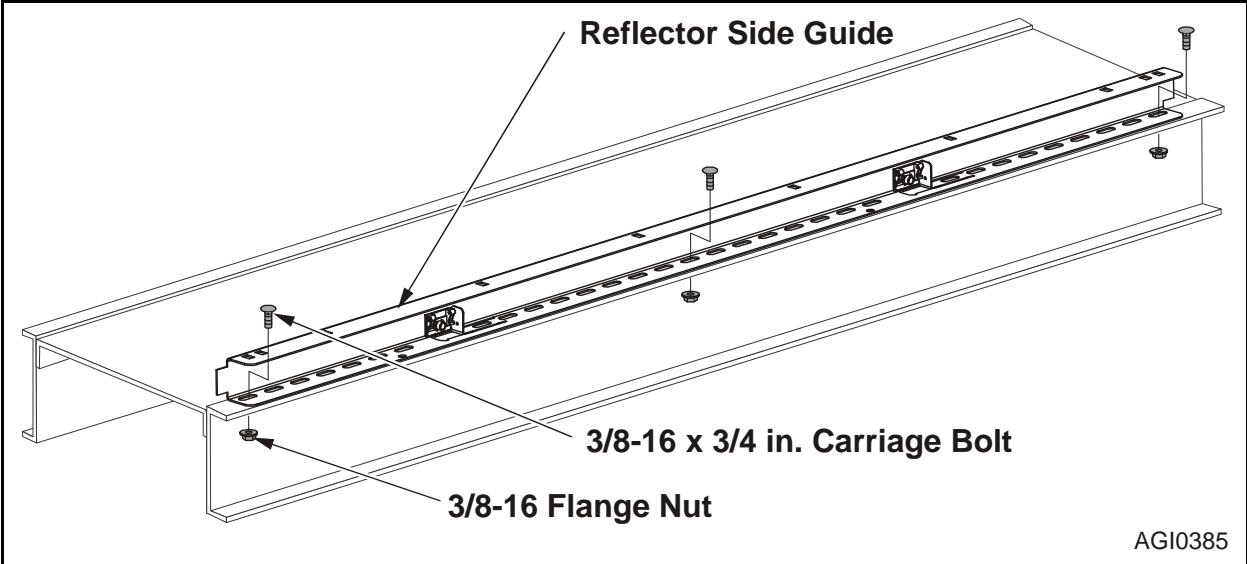


Figure 5 - 72 Direct-Mounting the Reflector Side Guides

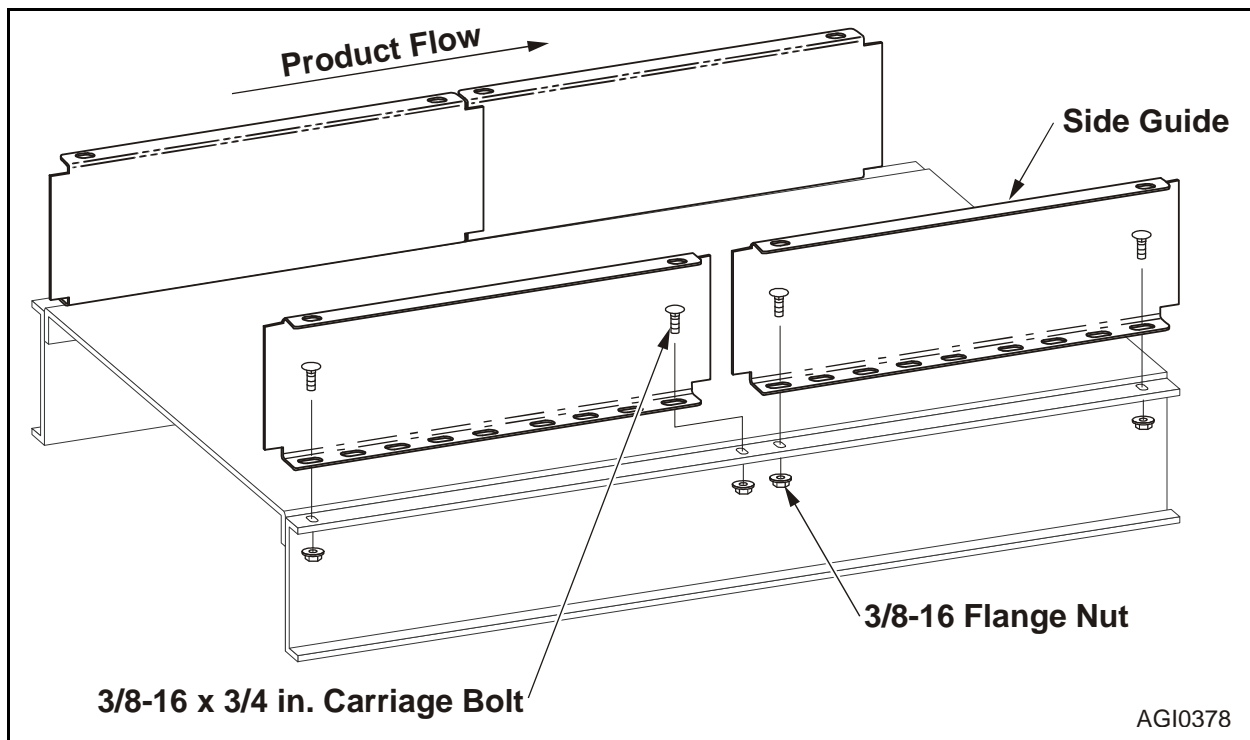
### **Direct-Mounting Straight Side Guides**

To install Straight Side Guides:

1. Refer to the installation drawings for Straight Side Guide locations.
2. Place the Straight Side Guide on the conveyor frame. Orient the guide correctly, see Figure 5 - 73.
3. If the side guide butts against a previously installed side guide, follow the procedure in “Overlapping the Side Guides” on page 89.
4. Bolt the side guide to the frame at each end and at every three feet in the middle. Use the hardware specified.
5. If the side guide height is more than 4 inches, connect side guides as needed, following the procedure in “Connecting the Side Guides” on page 90.

**NOTE:** The Direct-Mounting Kit contains enough hardware to mount one 12-foot long straight side Guide.

**NOTE:** For Offset-Mounted side guide installation instructions, see “Offset-Mounting Side Guides” on page 87.



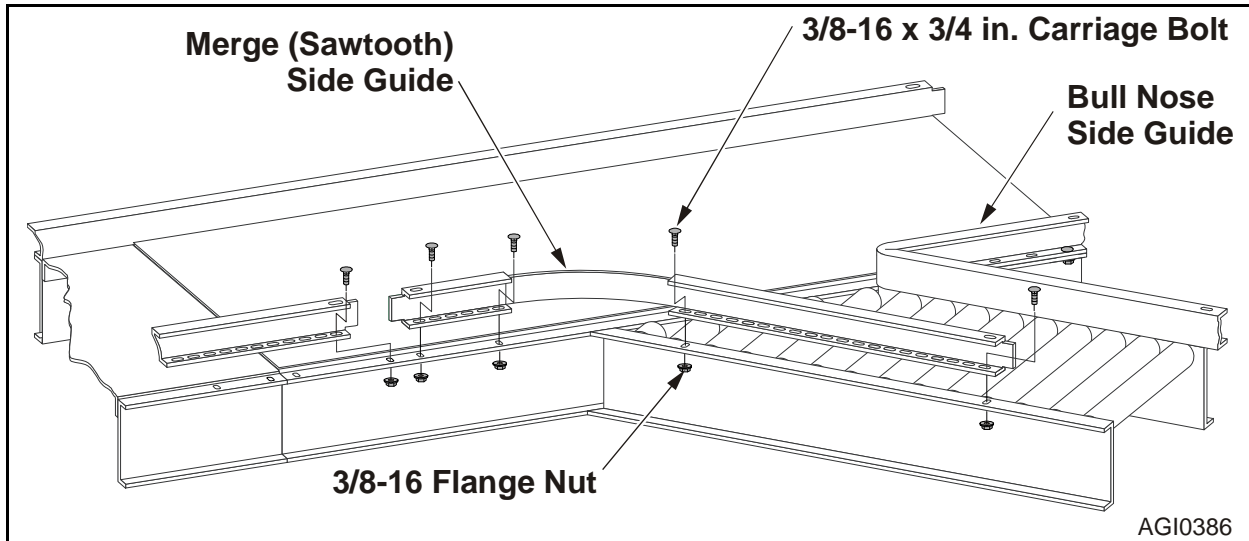
*Figure 5 - 73 Direct-Mounting Straight Side Guides*

***Direct-Mounting Merge (Sawtooth) Side Guides***

The Merge (Sawtooth) sections require two side guide styles: a Bull Nose Side Guide and a Merge (Sawtooth) Side Guide, see Figure 5 - 74.

To install the Bull Nose Side Guide or the Merge (Sawtooth) Side Guide:

1. Place the Side Guide on the conveyor frame. Orient the side guide correctly, see Figure 5 - 74.
2. If the side guide butts against a previously installed side guide, follow the procedure in “Overlapping the Side Guides” on page 89.
3. Bolt the side guide to the frame at the locations shown, using the hardware specified.
4. If the side guide height is more than 4 inches, connect side guides as needed, following the procedure in “Connecting the Side Guides” on page 90.



*Figure 5 - 74 Direct-Mounting Side Guides on a Merge (Sawtooth) Section*

### ***Direct-Mounting Curve Side Guides***

The Curve Side Guides are available in a variety of heights, lengths, and radius dimensions. Refer to *Chapter 4 - Accessories* in this manual for a full list of available Curve Side Guides. Two Curve Rails of different length, radius, and orientation are needed for each conveyor Curve Section: one for the inside radius, and one for the outside radius.

**NOTE:** Use two 90° Curve Side Guides on each side (inside/ outside radius) of a 180° Curve.

To install a Curve Side Guide on the inside or outside radius of a Curve:

1. Refer to the installation drawings for Curve Side Guide locations.
2. Place the Side Guide on the conveyor frame. Orient the side guide correctly, see Figure 5 - 75.
3. If the side guide butts against a previously installed side guide, follow the procedure in "Overlapping the Side Guides" on page 89.
4. Bolt the side guide to the frame at the pre-drilled holes, using the hardware specified.
5. If the side guide height is more than 4 inches, connect side guides as needed, following the procedure in "Connecting the Side Guides" on page 90.

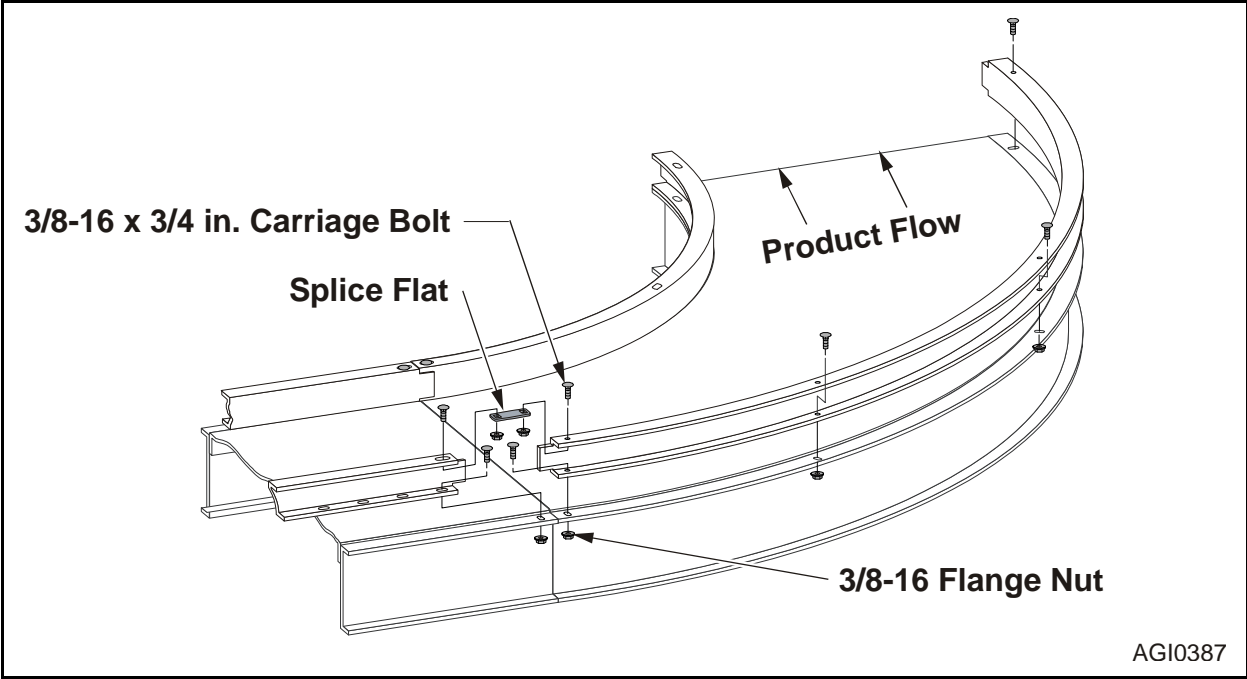


Figure 5 - 75 Direct-Mounting Curve Side Guides

### **Direct-Mounting Side Guide Transitions at the Ends**

The Side Guide Transition-Ends are placed at each end of the conveyor on each side. They protect personnel from contacting exposed side guide edges.

To install a Side Guide Transition - End at each corner of the conveyor:

1. Place a Side Guide Transition - End at the end of the conveyor. Make sure the Side Guide Transition - End is oriented correctly, see Figure 5 - 76.
2. Follow the procedure in “Overlapping the Side Guides” on page 89 to correctly overlap the side guide tabs.
3. Install the hardware.
4. If the taller end of the side guide is more than 4 inches in height, connect the Side Guide Transition to adjacent side guides, following the procedure in “Connecting the Side Guides” on page 90.

**NOTE:** For Offset-Mounted side guide installation instructions, see “Offset-Mounting Side Guides” on page 87.

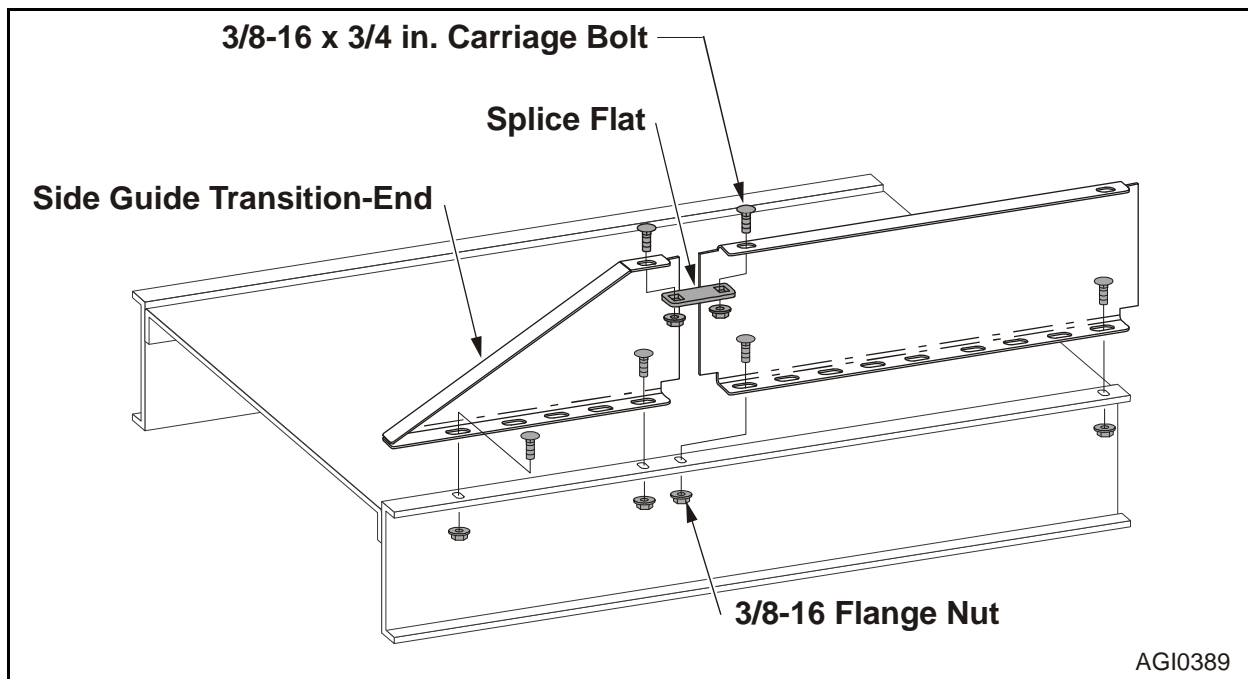


Figure 5 - 76 Direct-Mounting Side Guide Transition - Ends

***Direct-Mounting Side Guide Transitions Mid-Conveyor***

The Side Guide Transitions are placed between side guides of differing heights. They protect personnel from contacting exposed side guide edges.

1. Place the Side Guide Transition on the conveyor frame next to an installed side guide, in places where the next side guide to be installed is a different height. Orient the side guide correctly, see Figure 5 - 77.
2. Follow the procedure in “Overlapping the Side Guides” on page 89 to correctly overlap the side guide tabs.
3. Bolt each end of the Side Guide Transition to the frame. Use the hardware specified.
4. At each end of the side guide more than 4 inches in height, connect the Side Guide Transition to adjacent side guides, following the procedure in “Connecting the Side Guides” on page 90.

**NOTE:** For Offset-Mounted side guide installation instructions, see “Offset-Mounting Side Guides” on page 87.

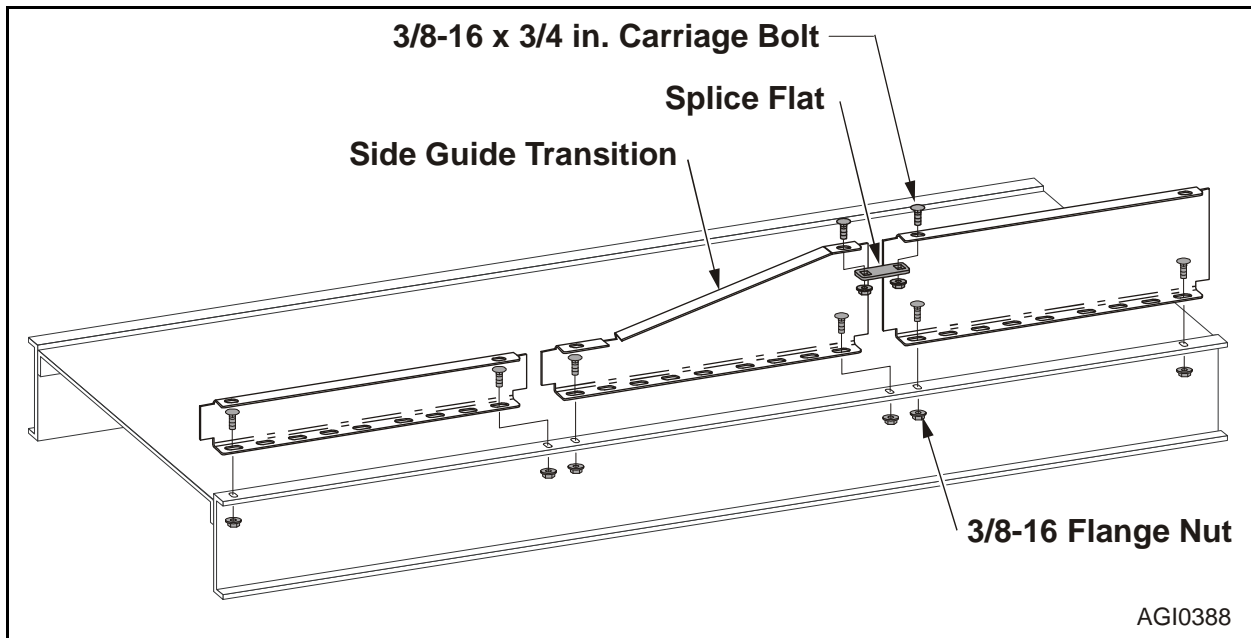


Figure 5 - 77 Direct-Mounting Side Guide Transitions Mid-Conveyor



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***Direct-Mounting Skate Wheel Side Guides***

The Skate Wheel Side Guide consists of two changnels within s single row of wheels in the middle, see Figure 5 - 78. The rows of wheels provide a low-friction surface for guiding product.

To install Skate Wheel Side Guides directly onto the conveyor frame:

1. Refer to the installation drawings for Skate Wheel Side Guide locations.
2. Place the Skate Wheel Side Guide on the conveyor frame. Orient the side guide correctly.
3. If the side guide butts against a previously installed side guide, follow the procedure in “Overlapping the Side Guides” on page 89.
4. Install the bolts and nuts to the conveyor frame.
5. If the side guide height is more than 4 inches, use Splice Flats to connect the Skate Wheel Side Guide to adjacent side guides.

**NOTE:** Do not stack Skate Wheel Side Guides.

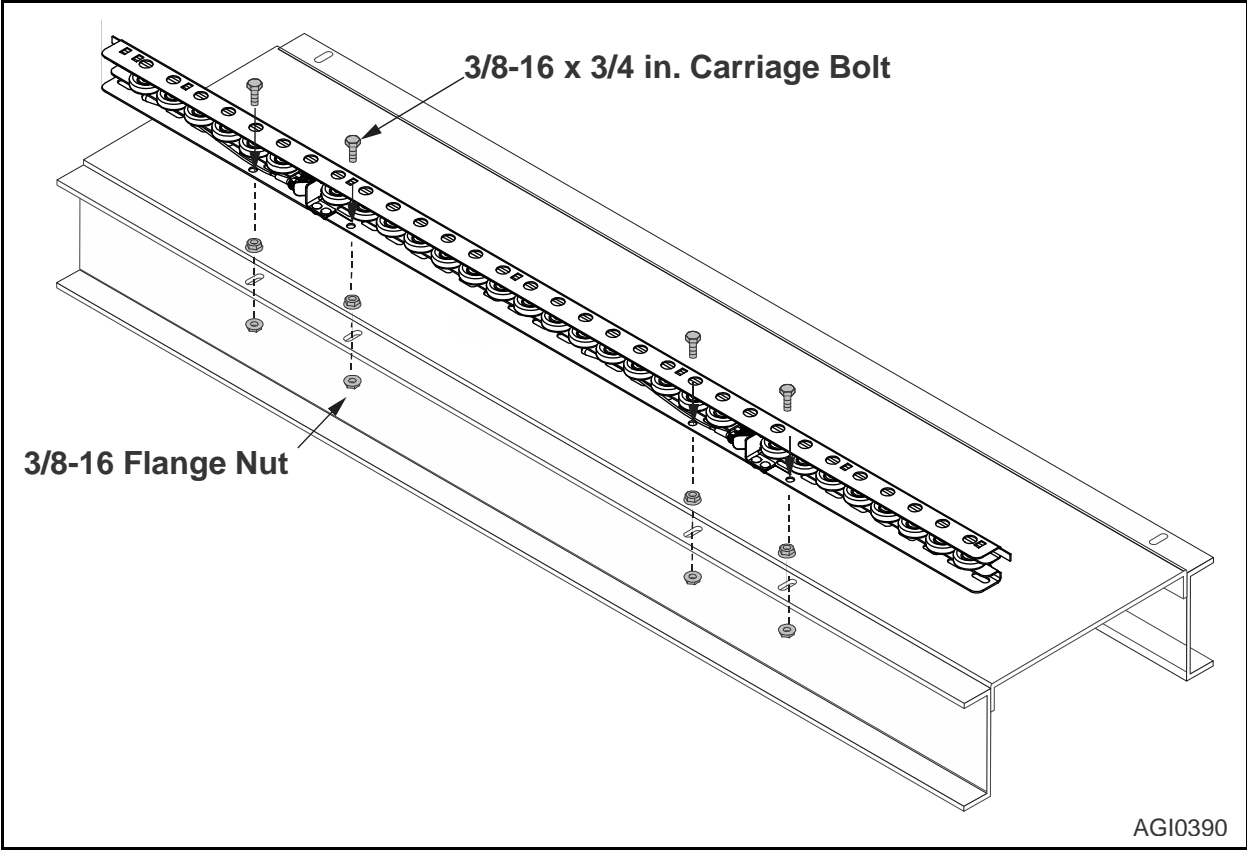


Figure 5 - 78 Direct-Mounting Skate Wheel Side Guides

## **Offset-Mounting Side Guides**

Follow these instructions for offset-mounting side guides.

Some mounting styles are not available for all side guide types, see Table 5 - 5 on page 73.

### **Offset-Mounting Standard Side Guides**

The following standard side guides may be offset-installed:

- Reflector Side Guide
- Straight Side Guide
- Side Guide Transition
- Side Guide Transition - End

The following standard side guides may NOT be offset-installed:

- Photo-eye Side Guide
- Curve Side Guide
- Merge (Sawtooth) Side Guide
- Bull Nose Side Guide

The offset bracket allows for offsets distances of 1 to 1-1/2 inches. The side guide is bolted to offset brackets, and the brackets are bolted to the conveyor frame.

To install standard side guides on offset bracket:

1. Refer to the installation drawings for side guide locations.
2. At the same locations where the side guide would be direct-mounted (see page 74), bolt one end of the offset bracket to the bottom of the side guide, using the hardware specified, see Figure 5 - 79.
3. Place the other end of the offset bracket on the conveyor frame. Orient the side guide correctly.
4. If the side guide butts against a previously installed side guide, follow the procedure in “Overlapping the Side Guides” on page 89.
5. Bolt each offset bracket to the frame, using the hardware specified.
6. Make sure each end of the side guide is the same horizontal distance from the conveyor frame. If needed, loosen the bolts in the offset bracket slots, slide the side guide, and re-tighten the bolts.
7. If the side guide height is more than 4 inches, connect side guides as needed, following the procedure in “Connecting the Side Guides” on page 90.

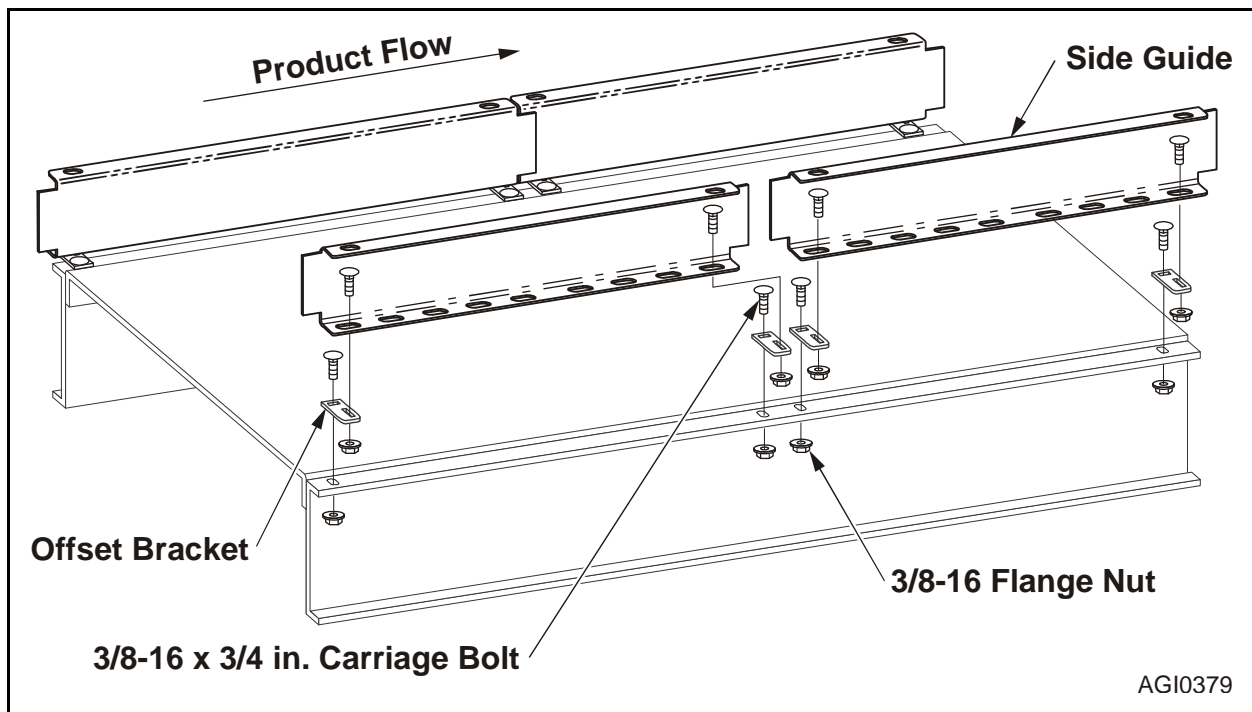


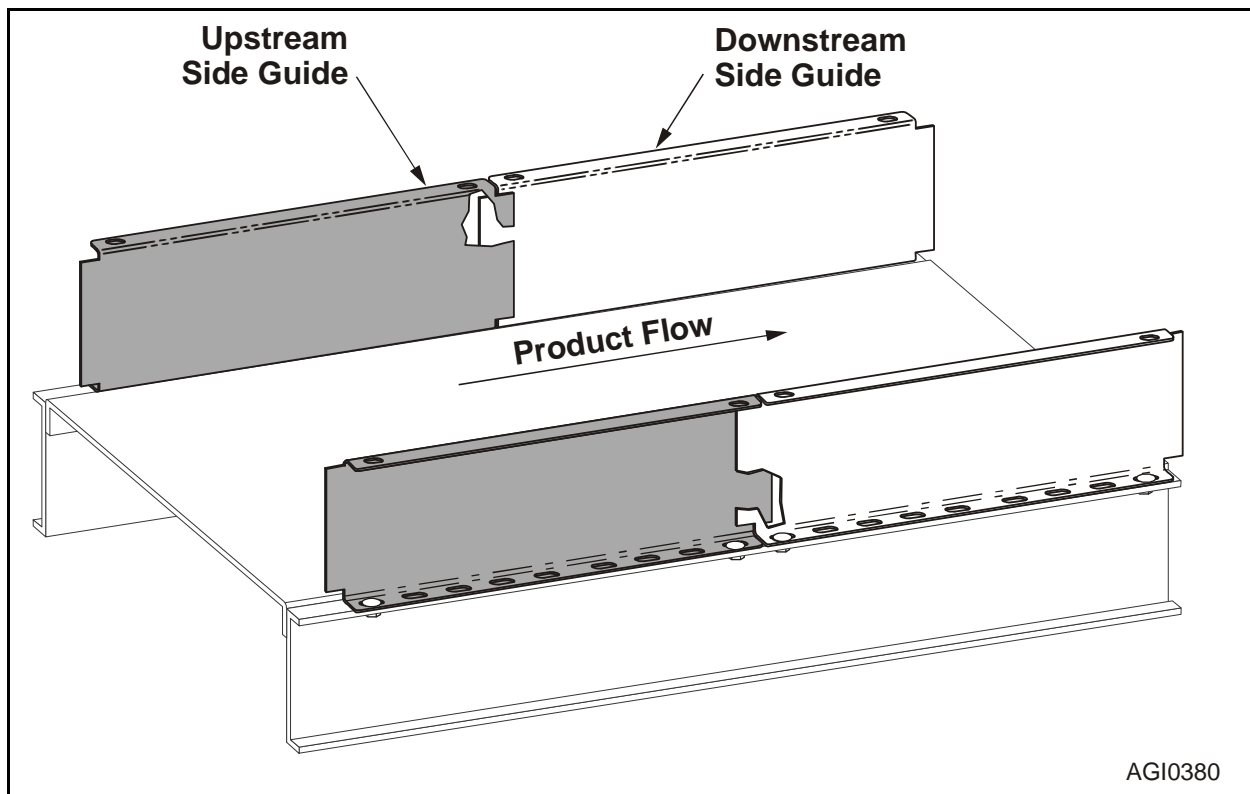
Figure 5 - 79 Offset-Mounting Standard Side Guides

## Overlapping the Side Guides

Each point where two side guides meet is configured to allow product to move past without being snagged or blocked. The side guide tabs are overlapped to provide the smooth surface needed for unobstructed product travel.

After installing the first side guide on a conveyor line, overlap all subsequent upstream and downstream side guides as they are installed.

When the side guide tabs are overlapped correctly, the upstream tab is the closest tab to the inside (or belt/roller side) of the conveyor, see Figure 5 - 80.



*Figure 5 - 80 Correct Side Guide Tab Overlapping*

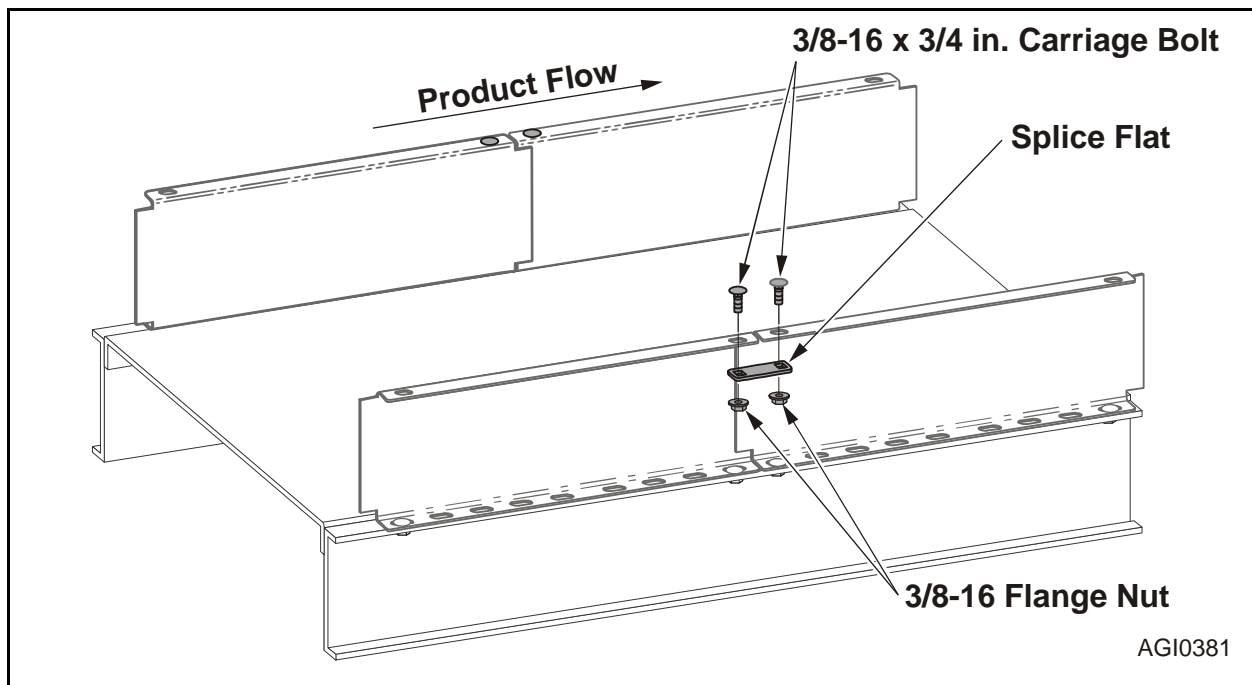
**Connecting the Side Guides**

Connect all adjacent side guides as follows:

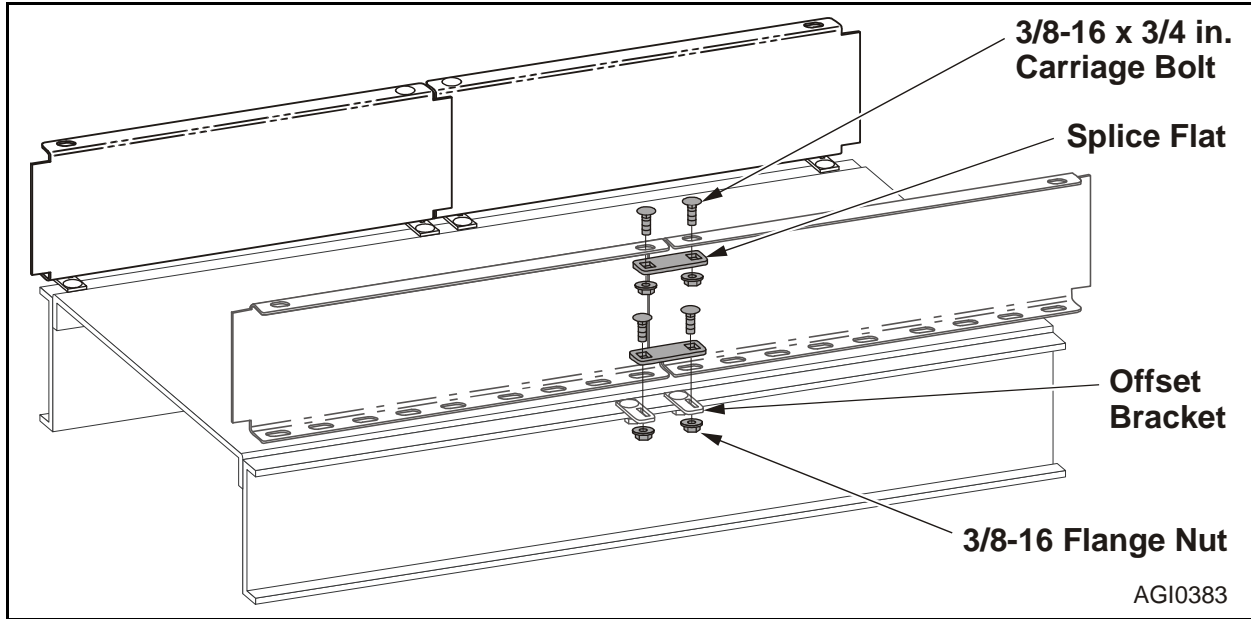
- If no side guides are stacked above:
  - For Direct Mount, bolt a splice flat to the underside of each top flange, see Figure 5 - 81.
  - For Offset Mount, bolt a splice flat to the underside of each top flange, and to the top of each bottom flange, see Figure 5 - 82.
- If there are side guides stacked above, bolt a splice plate to the top side of each upper side guide’s flange, and to the underside of each lower side guide’s flange, see Figure 5 - 83.

**NOTE:** These instructions do not apply to Straight Side Guides shorter than 4 inches high; shorter side guides are rigid enough to stay in place without being connected.

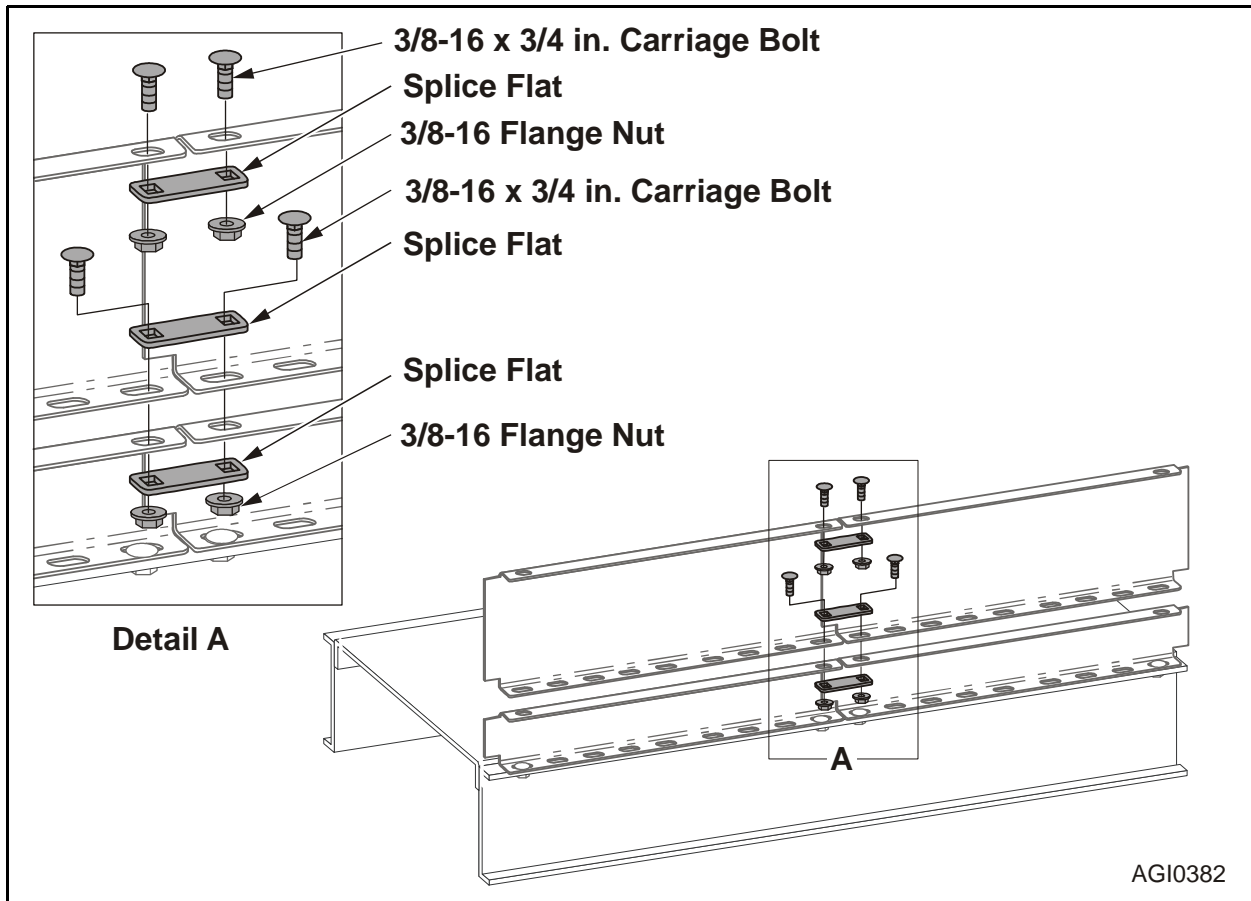
**NOTE:** These instructions do not apply to Skate Wheel Side Guides. For information on connecting Skate Wheel Side Guides, refer to “Direct-Mounting Skate Wheel Side Guides” on page 85.



*Figure 5 - 81 Connecting Direct-Mounted Standard Side Guides*



*Figure 5 - 82 Connecting Offset-Mounted Standard Side Guides*



*Figure 5 - 83 Connecting Stacked Standard Side Guides*

## Checking Zone Control Components

Each Solenoid control Module has two (2) dual-color LED indicators that show the status of the modules two (2) solenoid valves.

Check the “color” of each indicator.

**NOTE:** An “amber” LED indicates that all Power/Communication cords between the module and the Power Supply are properly connected and the module is receiving power (24VDC) from the power supply; a “green” LED indicates that its associated solenoid-valve is actuated and its associated operational zone is in the “powered” state.

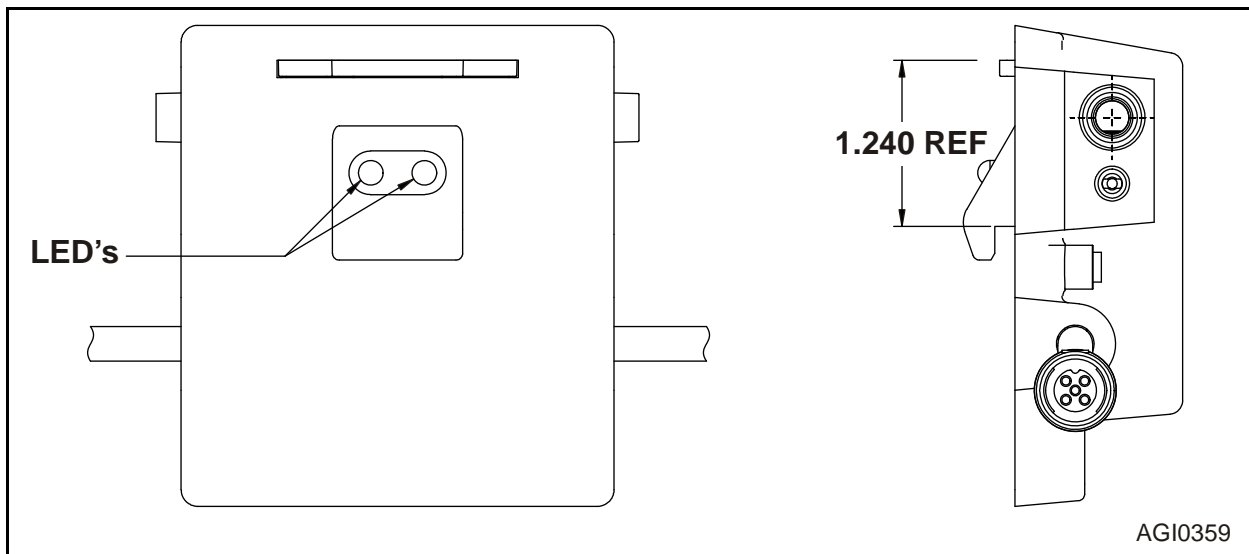


Figure 5 - 84 LED Indicators (As seen from outside of Conveyor)

Each Photo-eye Sensor has one or more LEDs that indicate the sensor’s current operational condition and status. Depending on the model/brand of photo-eye supplied, the color(s) of the LEDs may vary from those described in the following step.

Check each photo-eye’s LED indicators.

**NOTE:** A “green” LED indicates that the photo-eye is properly connected to the Solenoid Control Module and receiving power; a “yellow” LED indicates that the photo-eye is properly aimed and receiving a reflective beam back from its reflector.



## Pre-Startup Preparation

Check-out all of the following before turning the electrical power “ON” and running an Accuglide Conveyor for the first time.

- Check that the conveyor is level (across its width) and that adjoining sections are aligned.
- Check that the conveyor’s elevation is correct.
- Check that the drive chain / pad’s path is correct
- Check that the drive chain / pad is properly tensioned.
- Check that the reducer’s lubricant is up to the oil level plug opening.

**NOTE:** If additional lubricant is required, refer to the manufacturer’s tag (attached to the reducer) before adding.  
Before re-installing the reducer plugs, wrap “thread-tape” around the plugs to prevent oil leakage.

- Check that the Track Lubricator’s Oil Reservoir is filled with SAE 10 motor oil.
- Check that all tools and installation materials are removed from the conveyor.
- Check that all safety guards are installed.
- Check other wiring connections and test all of the conveyor / system electrical control for proper operation.
- Review Safety Precautions listed in this section.

## Initial Startup/Checks

To start the Accuglide Conveyor for the first time:

1. Turn on the conveyor's air supply and electrical power.
2. Jog the power unit motor's "starter" to check that the rotation is correct for the required direction of travel. Change motor wiring if necessary.
3. Check that the Drive Chain / Pad does not jump a tooth on the drive sprocket when the power unit is turned on.
4. Check the power unit motor and reducer for any unusual noises, leakage or other condition(s) that might cause a problem.

**NOTE:** The reducer will run hot when first put into operation, and for approx. 120 hours thereafter (until the maximum break-in efficiency is reached).

## Checking Transportation Function

Check that product conveys positively and smoothly along the full length of the conveyor.

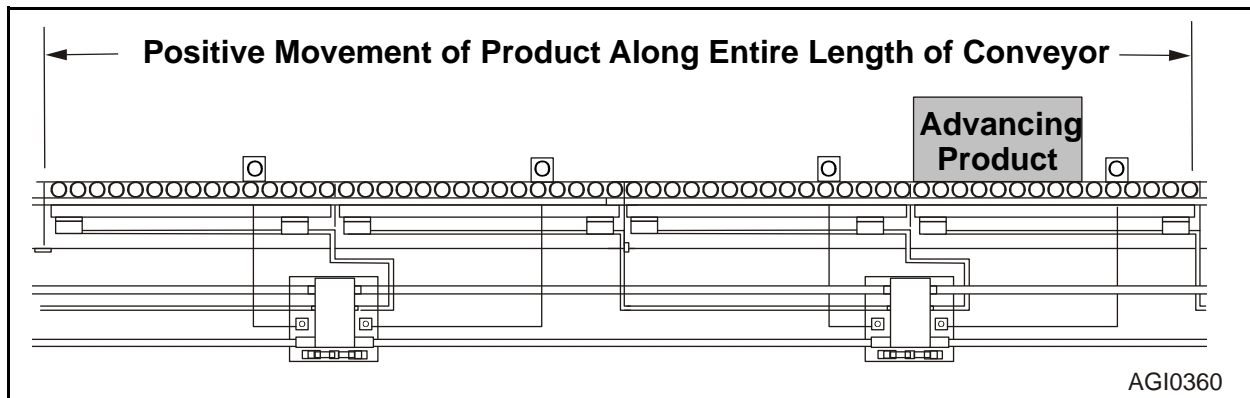


Figure 5 - 85 Product(s) Travel Positively Along Conveyor

## Checking Accumulation Function

### Checking Accumulation Function - Straight Sections

Make sure the first product coasts to a stop in the first operational-zone at the conveyor's discharge-end and that trailing products accumulate rearward without a buildup of line pressure.

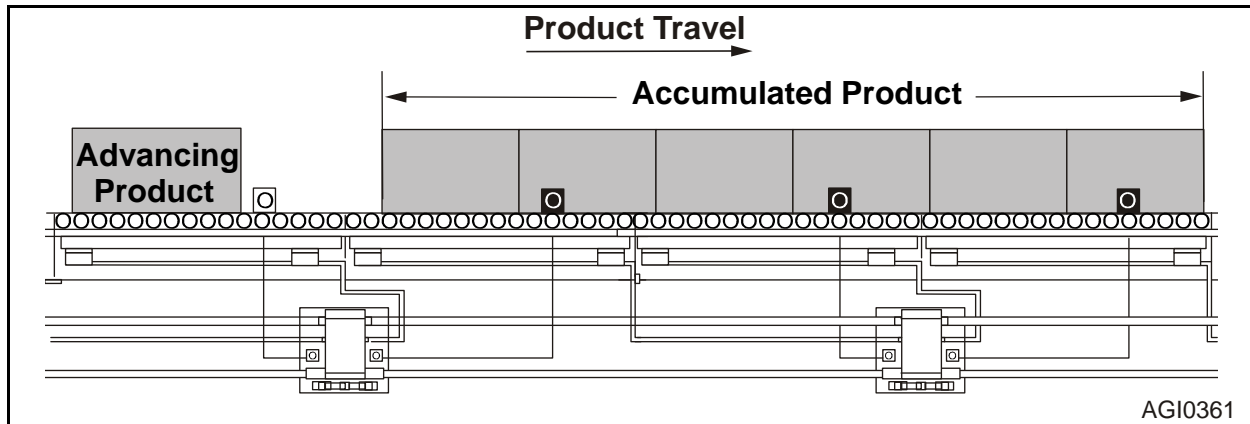


Figure 5 - 86 Product Accumulation

### Checking Accumulation Function - Single Operational-Zone

1. Confirm that product “stops” in operational-zone “CZ1” when: 1) sensor “DS1” is blocked by accumulated product; and 2) sensor “CS1” is blocked by advancing product.
2. Confirm that operational-zone “UZ1” (not shown in Figure 5 - 87) becomes non-powered when operational-zone “CZ1” stops.

### Checking Accumulation Function - Dual Operational-Zones

1. Confirm that product “stops” in operational-zone “CZ1” when: 1) sensor “DS1” is blocked by accumulated product; and 2) sensor “CS1” is blocked by advancing product.
2. Confirm that trailing product stop in operational-zone “CZ2” when sensor “CS2” is blocked.
3. Confirm that operational-zone “UZ1” (not shown in Figure 5 - 88) becomes “non-powered” when the operational-zone “CZ2” stops.

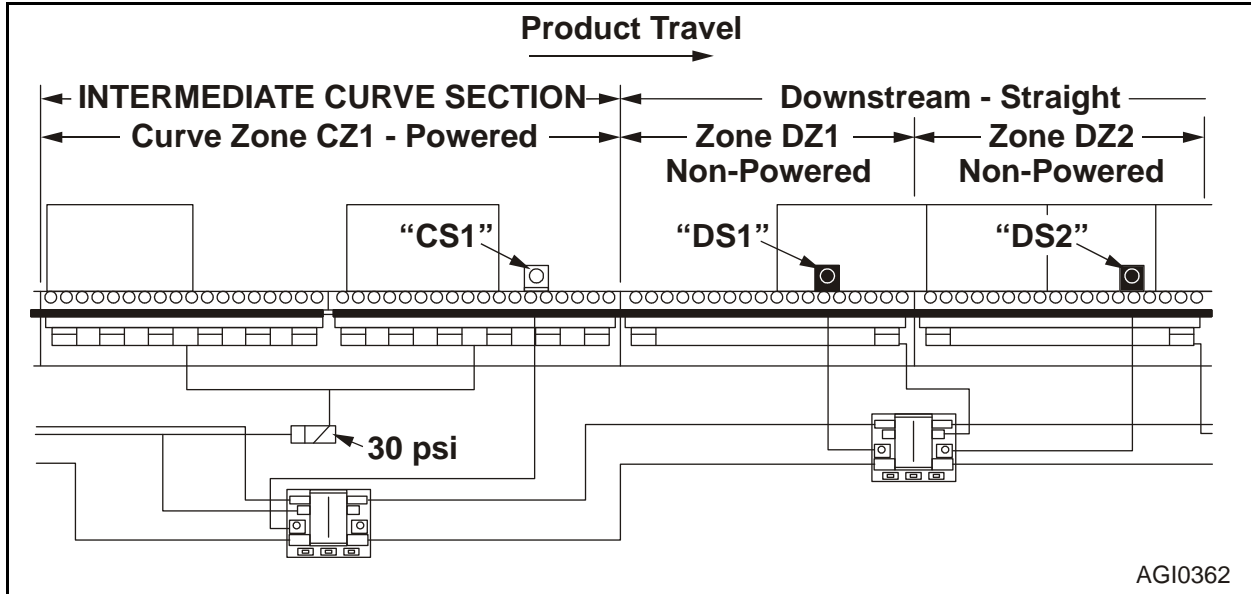


Figure 5 - 87 Intermediate Curve Section - Single Zone Accumulation

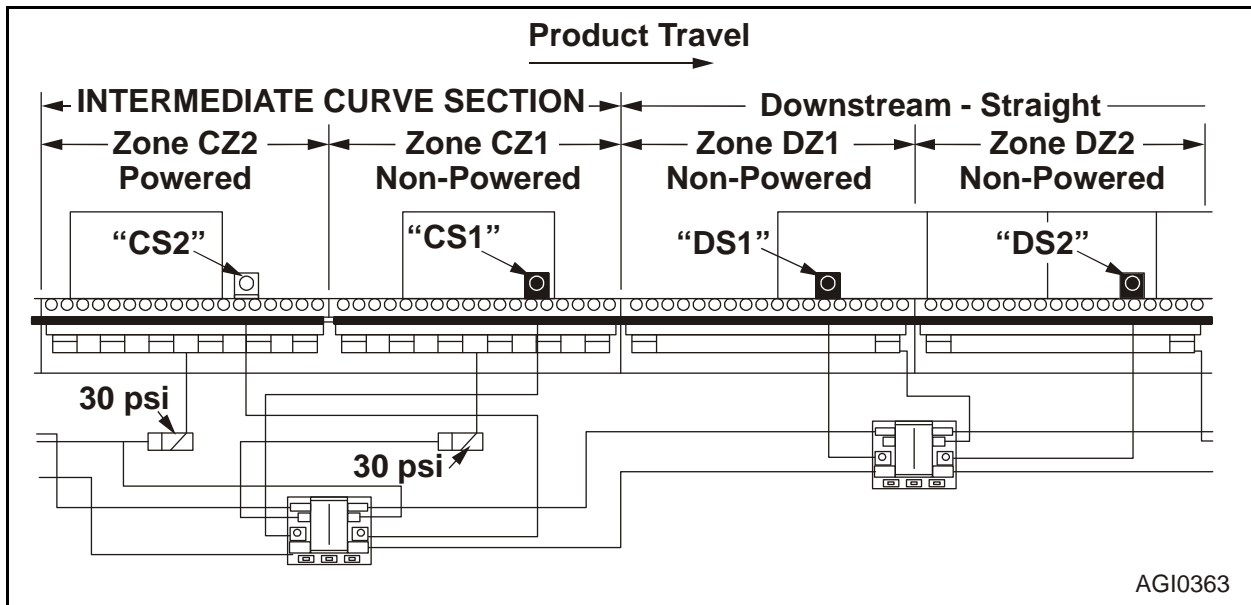


Figure 5 - 88 Intermediate Curve Section - Dual-Zone Accumulation

## Checking Operational Mode

### Checking Operational Mode - Singulation

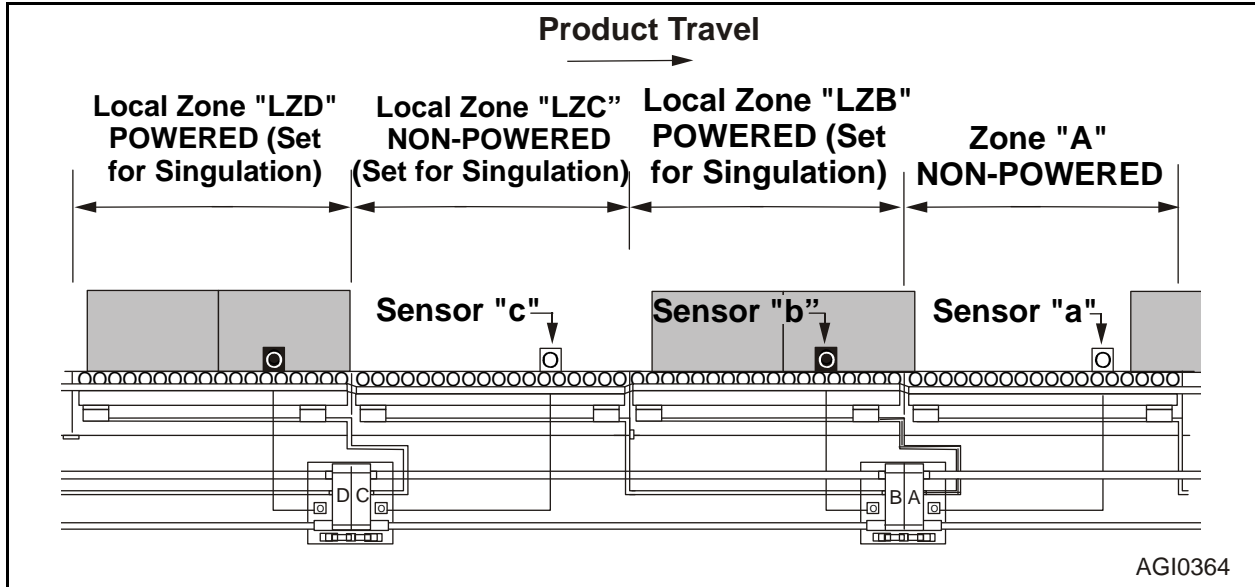
A Solenoid-Control Module (SCM) that is set for the “singulation” operational-mode responds to its associated photo-eye sensor mounted in the next downstream zone.

Example - Solenoid Valve “A” actuates (raises and powers “L2B”) when photo-eye sensor “a” is unblocked; Solenoid Valve “B” actuates in response to photo-eye sensor “b”.

To make sure the “singulation” mode is operating properly:

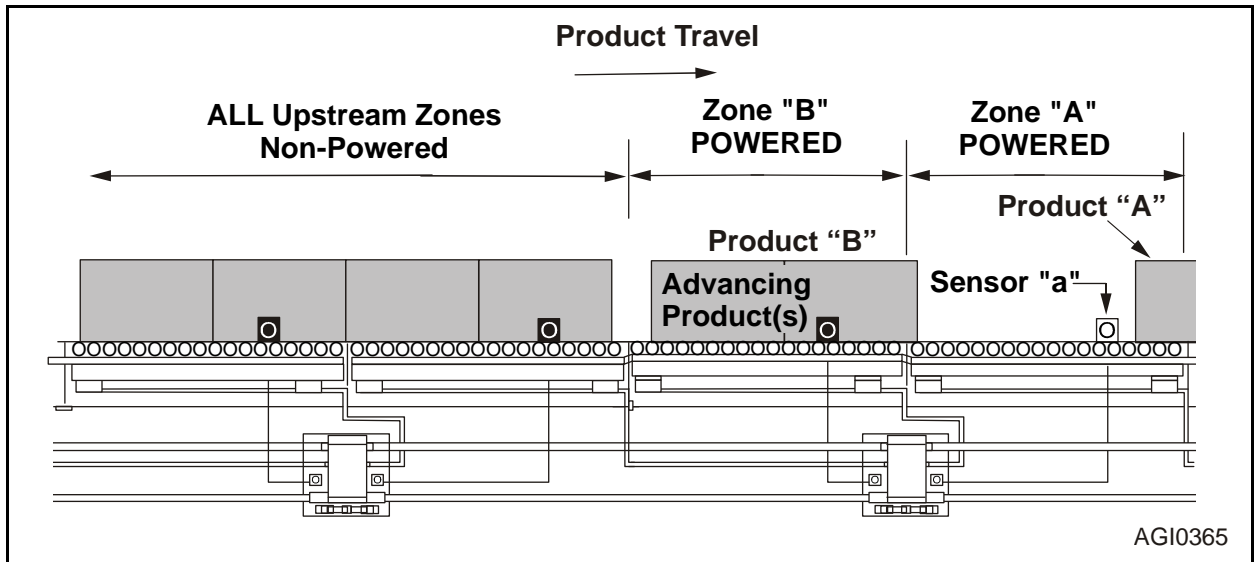
1. Product Acceptance: Check that the volume of product being fed onto the conveyor properly advances on the conveyor with gaps (approx. 3 feet long) between each product (or groups of smaller products).
2. Product Release: Provide a “release” signal to the SCM and confirm that:
  - a. accumulated product “A” (sitting in the first operational zone “A”) advances; and
  - b. accumulated product “B” (sitting in the second operating zone “B”) advances when the first zone’s photo-eye sensor “a” is cleared by product “A”.

Confirm that this process continues rearward until all product is moving forward with approx. 3-foot gaps between products.



AGI0364

Figure 5 - 89 Singulation Operational Mode



AGI0365

Figure 5 - 90 Singulation Release

**Checking Operational Mode - Auto-Slug**

A conveyor may consist of one or more “Auto-Slug Zone(s)”. Each “Auto-Slug Zone” consisting of a “first-zone” set for “singulation” operational-mode followed by any desired number of zones set “auto-slug” operational-mode. An “Auto-Slug Zone” may extend the entire length of a conveyor.

A Solenoid Control Module Valve that is set for the “auto-slug” operational-mode responds to either:

- Its associated photo-eye sensor (in next downstream zone); or
- The operational state of the next downstream zone

Example - when Sensor “c” is unblocked, Solenoid Valve “A” actuates (raises and powers “LZB”); Solenoid Valve “B” will actuate (raises and powers “LZC”) due to the powered state of “LZB”

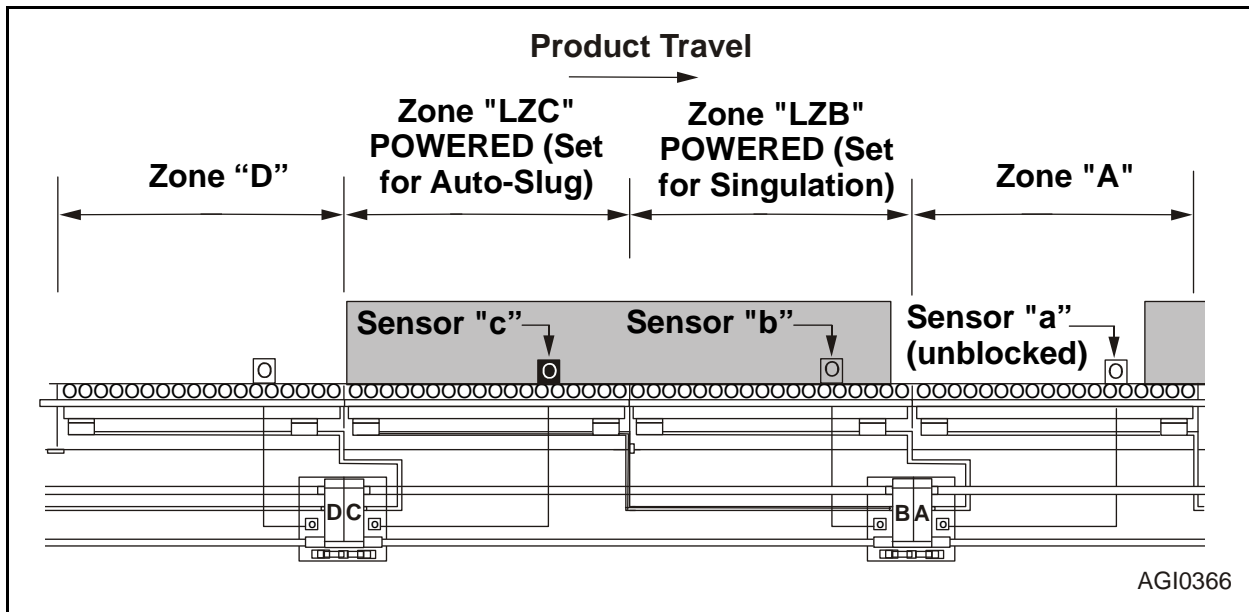


Figure 5 - 91 Auto-Slug Operational Mode

To make sure the “auto-slug” mode is operating properly:

1. Product Acceptance: Check that the volume of product being fed onto the conveyor advances with no change in the spacing between product as long as the “first-zone’s” sensor is clean (non blocked).
2. Product Release: Provide a “release” signal to the first operational-zone and confirm that:
  - a. the first accumulated product in the downstream “singulation” zone advances; and
  - b. all trailing product in zones, set for “auto-slug” operating mode, advance as a group when the sensor in the “first-zone” is cleared by the first product.

Example - Solenoid Valve “A” actuates (raises and powers the first Auto-Slug zone) when Sensor “a” is unblocked. Solenoid Valve “B” actuates (raises and powers the next upstream Auto-Slug zone) when Sensor “b” is unblocked or Solenoid Valve “A” is actuated.
3. Repeat steps 1 and 2 upstream until all product advances as a group with a gap (approx. 3 feet long) between groupings.

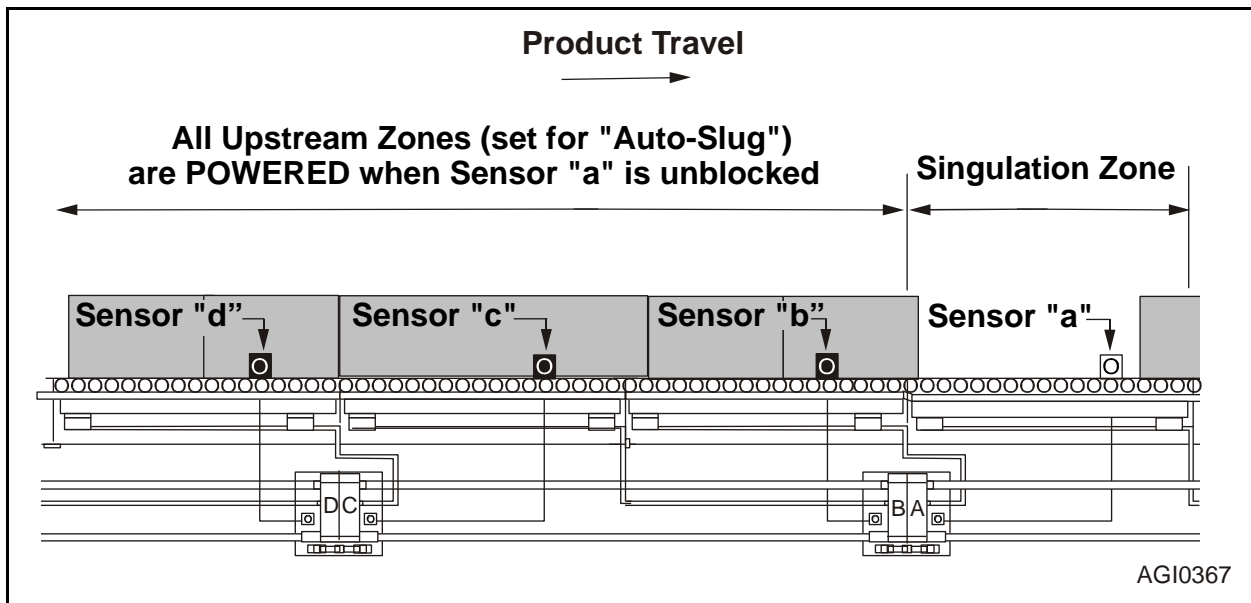


Figure 5 - 92 Auto-Slug Operational Mode



**Checking Operational Mode - Dual-Zone**

A Solenoid Control Module that is set for the “dual-zone” operational-mode responds to either:

- its associated photo-eye sensor in the first downstream zone; or
- the photo-eye sensor in second downstream zone.

Example - Solenoid Valve “B” actuates (raises and powers “LZC”) when either photo-eye Sensors “b” or “a” are “unblocked”.

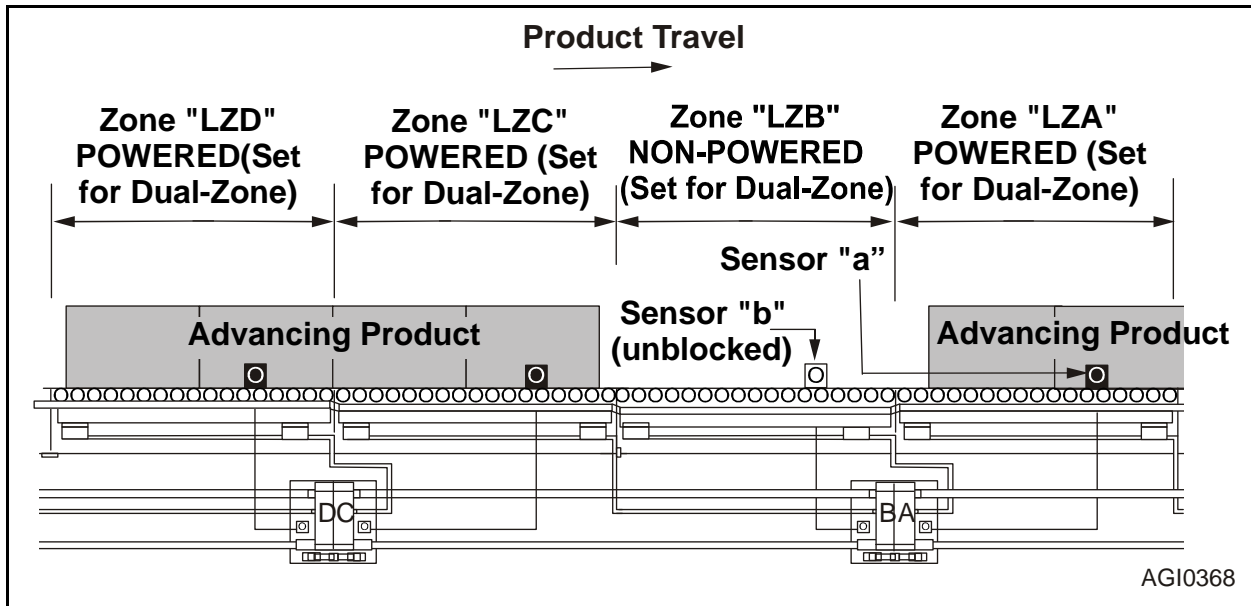


Figure 5 - 93 Dual-Zone Release

To make sure the “dual zone” mode is operating properly:

1. Product Acceptance: Check that the volume of product being fed onto the conveyor properly advances on the conveyor in groups (approx. 6 feet long) with gaps (approx. 3 feet long) between each group.
2. Product Release: Provide a “Zone-Release” signal to the first operational-zone and confirm that:
  - a. a group of accumulated product (6 feet long) advances from the first and second downstream operational zones; and
  - b. trailing product in zones 3 & 4 advance as a 6-foot-long group when first zone’s sensor is cleared by the first product.

Example - Solenoid Valve “A” actuates (raises and powers Zone “B”) when Sensor “a” or the next upstream sensor is unblocked. Solenoid valve “B” actuates (raises and powers Zone “c”) when Sensor “a” or Sensor “b” is unblocked.

3. Repeat steps 1 and 2 upstream until all product advances as a group with a gap (approx. 3 feet long) between 6-foot-long groups.

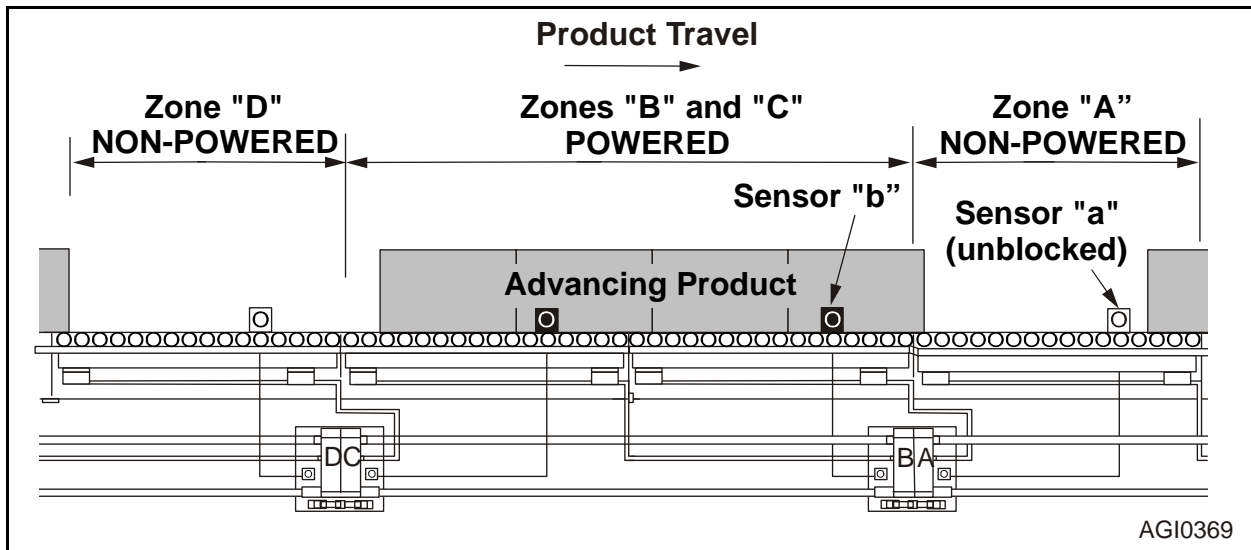


Figure 5 - 94 Releasing Product in Dual-Zone Operational-Mode

## Checking Operational Mode - Slug

All Solenoid Control Modules within a defined “slug-zone” will respond to an external “Slug-Release”. When a “Release” signal is received, all solenoid Control Modules within the “slug-zone” override their primary operational-mode setting (singulation, auto-slug, or dual-zone) and function in the secondary “slug” operational-mode.

When the Slug Module ceases receiving the “Slug-Release” signal, the Solenoid control Modules will again function per their primary operational-mode setting.

To make sure the “slug” mode is operating properly, Provide a “Slug-Release” signal to the Power Supply or “Slug Module” and confirm that all accumulated product within the defined (“slug-zone”) advances in a single grouping. If the required “slug-zone” length is less than the conveyor’s length, the zones upstream of the “slug-zone” will release per their primary operational mode setting.

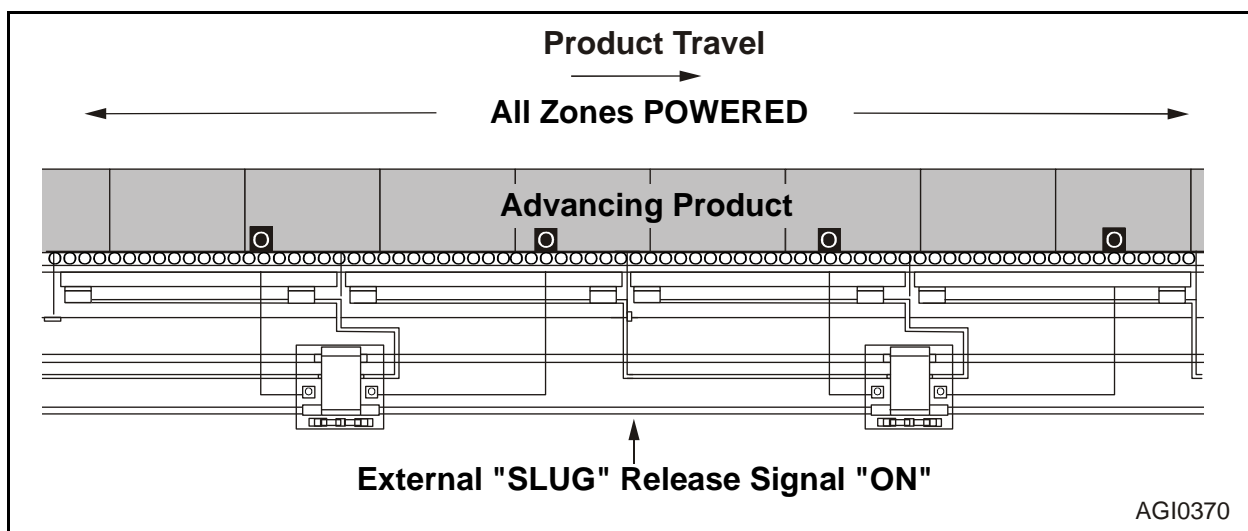


Figure 5 - 95 Releasing Product in “Slug” Operational-Mode

## Put Conveyor Into Service

At this point, the Accuglide Conveyor’s mechanical components and operational-zone control components have been fully checked-out. The conveyor is ready to be put into operation.

## Inline Conveyor Connection (Optional)

When the length of an accumulation conveyor line requires that two (2) conveyors function as a single, continuous unit, the mating terminal-end sections (Idler Section and Drive Section) of two (2) adjoining conveyors must be equipped with zone-control components that provide the transportation, accumulation and released operational-modes that match the rest of the conveyor.

To make two (2) accumulation conveyors function as a single, continuous unit:

1. Position and install the photo-eye/reflector components approx. 12 inches from the discharge end of the downstream conveyor's Drive Section.
2. Position and mount the Solenoid Control Module (w/bracket) approx. 18 inches upstream of the photo-eye.
3. Remove the air-line (yellow, 1/4-inch O.D.) that connects the air-actuators and solenoid-valve in the Idler Section.
4. Connect the air-actuators to the Solenoid Control Module using the new tubing (yellow, 1/4-inch O.D., approx. 6 feet long).
5. Install the main air supply line tubing (red, 1/2-inch O.D.).
6. Connect the Solenoid control Module's Power/Communication Cord to the cord of the downstream module.
7. Connect the Solenoid Control Module to the upstream module using a 3-foot-long P/C Cord Extension.

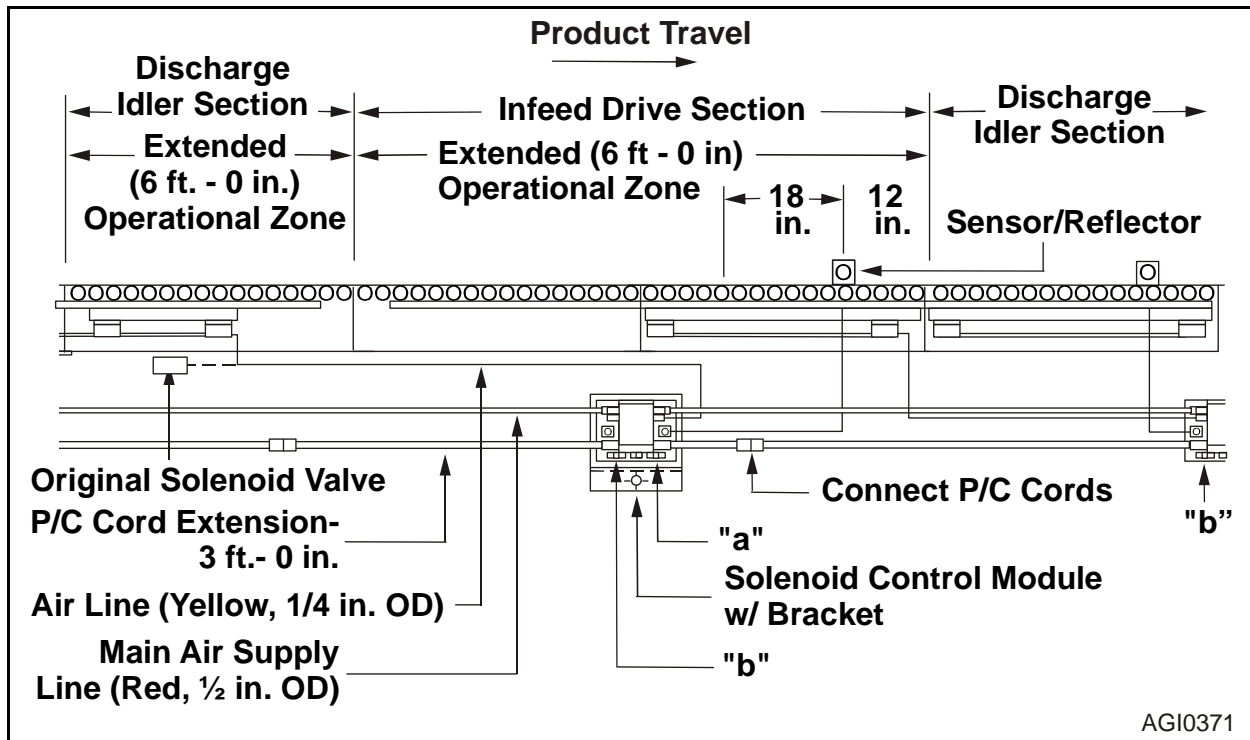


Figure 5 - 96 Connecting Two (2) Inline Conveyors

## Solenoid-Chain Track Lubricator - Timing Adjustment (Optional)

For Accuglide Conveyors with the optional “solenoid-actuated” chain track lubricator, it will be necessary to “set” the frequency and the duration of time that the lubricator is turned-on.

The “ON/OFF” state of the lubricator is controlled by:

### Initial Programming

1. Programming the lubricator’s controller software, timer’s, etc. to cycle (turn on and off) the lubricator every eight (8) hours of operation.
2. Set the lubricator’s “ON” time to allow the entire drive chain to make three (3) complete cycles.
3. Example: 100-foot-long Accuglide Conveyor running 180 fpm.  
Length of Chain: 2 x 100 feet = 200 feet

Time required for one (1) complete cycle of the chain:  $\frac{200ft}{180fpm} = 1.11minutes$

Time for three (3) cycles. 3 x 1.11 min. = 3.33 minutes.

Program the solenoid-lubricator’s controller to turn-on and dispense oil (10-weight, non-detergent motor oil) for a period of three minutes and twenty seconds for every eight (8) hours of conveyor operation.

### Checking Chain/Track Lubrication

1. After an eight (8) hour cycle, stop the conveyor\* and observe the condition of the chain and track.
2. If the chain and track appear to be to “dry”, either increase the length of time that the lubricator is “ON”, or decrease the time between the “ON” cycles.
3. If the chain and track appear to be too “wet”, either decrease the length of time that the lubricator is “ON”, or increase the time between the “ON” cycles.



# 6 Service and Repair

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## Introduction

### **WARNING**

Before performing any maintenance or lubrication services, follow the Lockout/Tagout Procedure in the Chapter 1 Safety Instructions to ensure that the equipment is safe to work on. Failure to follow this instruction may result in serious personal injury and/or equipment damage.

There may be occasions when various mechanical components must be replaced or repaired due to damage or wear. This section contains instructions for removing, replacing, and adjusting various components of the Accuglide system. Be sure to follow all safety precautions and lockout/tagout procedures when servicing and repairing this or any conveyor.

Only qualified Maintenance specialists should maintain the mechanical, electrical, and pneumatic portions of the conveyor.

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## Maintenance Precautions

### **WARNING**

You must read and understand these precautions completely before operating, setting up, running, or performing maintenance on the equipment. Failure to follow this instruction may result in serious personal injury and/or equipment damage.

1. When testing operating performance, do not start the equipment until all operations and maintenance personnel are notified and clear of the unit being tested.
2. Be certain that required safety guards are never removed without authorization.
3. Never run the equipment under production conditions without safety guards in place.
4. Do not make any equipment repairs while the conveyor is running.
5. Keep hands, hair, and clothing clear of any moving parts.
6. Never attempt to clear load jams while equipment is running.
7. Always use appropriate tools when making repairs or adjustments.
8. Observe all warning labels and follow plant safety rules.
9. Make sure all connectors are secure and all wires are free from interference, obstruction, and any moving parts.



## Roller Removal and Replacement

### **⚠ WARNING**

You must read and understand these precautions completely before operating, setting up, running, or performing maintenance on the equipment. Failure to follow this instruction may result in serious personal injury and/or equipment damage.

### **⚠ WARNING**

Before attempting to repair or replace a drive roller, drive card, controller device, or any other device connected to these components, be sure that the power to the controls is locked out to prevent premature or accidental start-up. Failure to follow this instruction may result in serious personal injury, equipment damage or death may result.

### **Idler Roller (Carrier Rollers)**

#### ***Inspection***

Carrier rollers should have 1/16- to 1/8-inch end play. A bent frame or bracket may cause tight rollers. If the rollers are too tight, make sure the between frame (BF) dimension is correct, and adjust as necessary. If the roller is free in the frame but still sluggish in operation, replace the roller.

#### ***Replacing Carrier Rollers***

1. Turn off and lock out/tag out all power to the conveyor section.
2. Use an appropriate tool to push in the spring-loaded axle on the roller and free that side of the axle from the frame of the conveyor.
3. Carefully disengage the opposite end of the roller from the frame. Make sure the axle is not pinched on the frame causing damage during removal. If there is an O-belt, roll the O-belt off the end.
4. Remove the disengaged roller entirely from the frame section.
5. Insert the axle of the replacement roller through the conveyor frame.
6. Use an appropriate tool to push in the spring-loaded axle and lower the roller into position, aligning the axle with the hex hole in the conveyor frame.
7. Unlock and turn on the power to the conveyor section.

## O-Belt Removal and Replacement for Roller

### **WARNING**

Before attempting to repair or replace O-belts driving the rollers, be sure that the power to the controls is locked out to prevent premature or accidental start-up. Failure to follow this instruction may result in serious personal injury, equipment damage or death may result.

There are times that the O-belts driving the rollers will need to be replaced due to wear or damage. Check all the O-belts to be sure that they are in place and have sufficient tension. If they become discolored or opaque, replace them.

1. Turn off and lockout/tagout all power to the conveyor section.
2. Remove rollers as necessary to remove the defective O-belt.
3. Remove old/damaged O-belts.
4. Place new O-belts on the correct rollers.
5. Re-install the rollers as described in the topic *Roller Removal and Replacement* in this chapter.
6. Unlock and turn on the power to the conveyor section.

## Photo Eye Removal and Installation

### **⚠ WARNING**

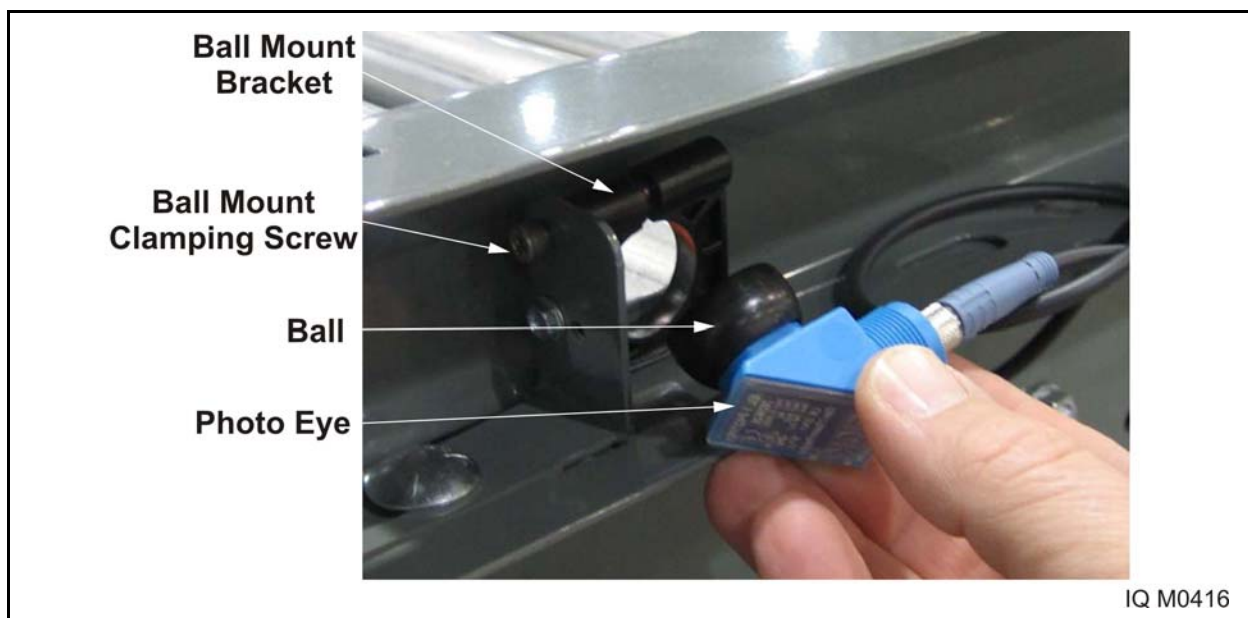
Before performing any maintenance services, follow the Lockout/Tagout Procedure in the Safety section to ensure that the equipment is safe to work on. Failure to follow this instruction may result in serious personal injury and/or machine damage.

LED - There are two colors in the photo eyes: green (power) and amber (alignment).

- Green - Power. When lit, indicates the photo eye is powered. If not lit, check power supply.
- Amber - Alignment. Should be steady light. If flashing, check photo eye alignment or clean photo reflective lens to remove dust, etc.

### **Removal**

1. Turn off and lockout/tagout all power and air supply to the conveyor section, including the photo eye power source.
2. Disconnect the photo eye cable.
3. Loosen the Ball Mount Clamping Screw, see Figure 6 - 1.
4. Pull the Photo Eye out of the ball mount.
5. Remove the Ball from the Photo Eye.



*Figure 6 - 1 Photo Eye Removal*

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## **Installation**

1. Install the Ball onto the Photo Eye, see Figure 6 - 1.
2. Insert the Photo Eye into the Ball Mount Bracket.
3. Tighten the Ball Mount Clamping Screw.
4. Connect the photo eye cable.
5. Remove locks and tags and restore power and air supply to the conveyor section.

## Photo Eye Ball Mount Removal and Installation

### **⚠ WARNING**

Before performing any maintenance services, follow the Lockout/Tagout Procedure in the Safety section to ensure that the equipment is safe to work on. Failure to follow this instruction may result in serious personal injury and/or machine damage.

### **Removal**

1. Turn off and lockout/tagout all power and air supply to the conveyor section.
2. Remove the Ball Mount Clamping Screw from the Ball Mount and remove the Mounting Screw, see Figure 6 - 2.
3. Remove the Ball Mount and Photo Eye from the side guide.
4. Pull the Photo Eye out of the Ball Mount.

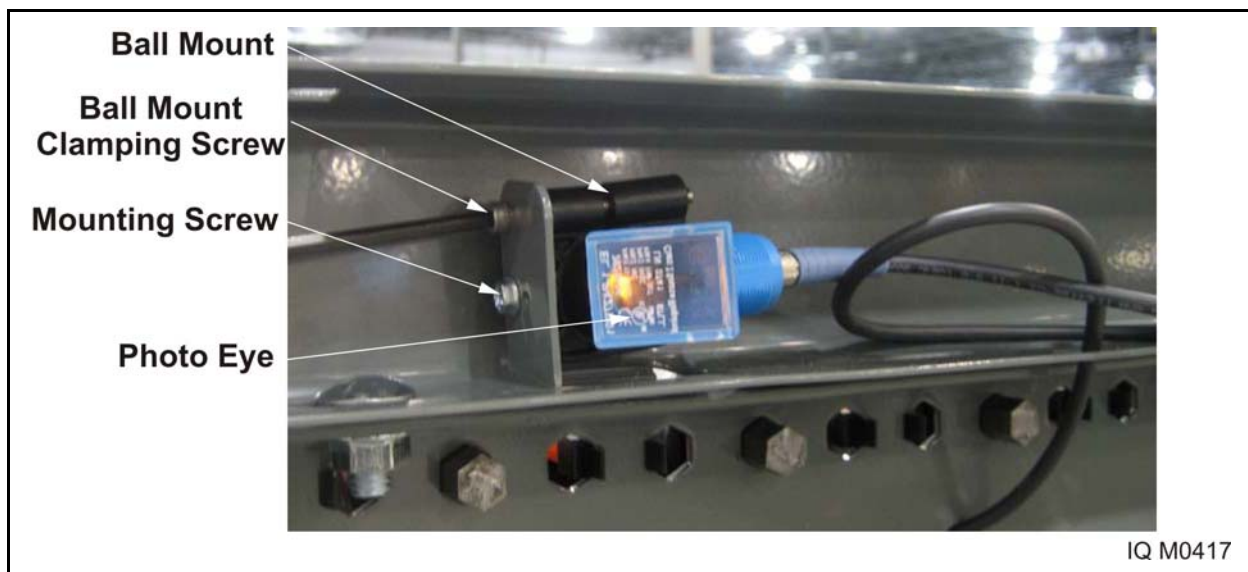


Figure 6 - 2 Photo Eye Ball Mount

### **Installation**

1. Align the Ball Mount with the mounting holes on the bracket in the side guide and insert the Ball Mount Clamping Screw and the Mounting Screw, see Figure 6 - 2.
2. Tighten the Mounting Screw but leave the Ball Mount Clamping Screw loose.
3. Insert the Photo Eye into the Ball Mount and tighten the Ball Mount Clamping Screw.
4. Remove locks and tags and restore power and air supply to the conveyor section.
5. Align the Photo Eye to the reflector.

---

## Reflector Removal and Installation

### Inspection

#### ***Diffused Type***

Diffused type sensors are sensors that do not need a reflector, and are usually located between rollers. The sensor has an indicator light that illuminates when it senses product. Nothing is illuminated in the ready state. To test this type of sensor, hold your hand or some other obstruction in front of the sensor “eye.” If the indicator light illuminates, the sensor is functional. If the indicator light does not illuminate, replace the sensor with a spare.

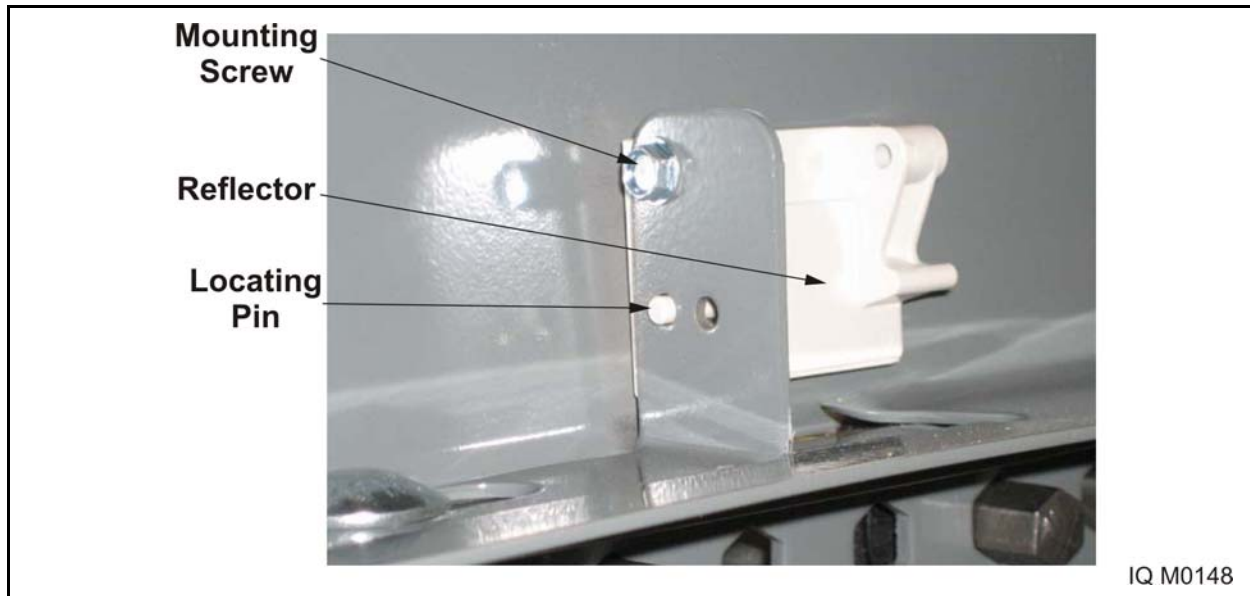
**NOTE:** There is a sensitivity adjustment potentiometer on the top of the sensor. When replacing the sensor, the sensitivity setting may need to be adjusted.

#### ***Retro-reflective Type***

Retro-reflective sensors require a reflector mounted in-line with the transmitter beam. The sensor has a “power-on” indicator light, a “target-lock” indicator light, and a sensing indicator light. The power-on light should be on at all times while the system is operational. If not, make sure power is being supplied to the sensor and replace the sensor with a spare, as necessary. The target-lock light will illuminate when a reflector has been acquired. The sensing light will illuminate, and the target-lock light will go out, when the sensor senses product. To test this type of sensor, hold a hand or some other obstruction in front of the sensor “eye.” If the sensor light illuminates, the sensor is functional. If the sensor light does not illuminate, replace the sensor with a spare.

## **Removal**

1. Remove the Mounting Screw and remove the Reflector from the side guide bracket, see Figure 6 - 3.
2. Check the reflector for cleanliness or damage and replace if necessary.



*Figure 6 - 3 Reflector Replacement*

## **Installation**

1. Place the Locating Pin in the lower hole of the bracket and secure the Reflector to the bracket with the Mounting Screw, see Figure 6 - 3.
2. Realign the line photo eye with the Reflector if required.

## Photo Eye Alignment

Once power has been supplied to the 24VDC power supply, the photo eyes may be aligned with their reflectors. The photo eyes are mounted using ball mount brackets. These brackets allow for easy alignment of the photo eyes.

Use the following procedure to align each photo eye:

1. If needed, clean the photo eye lens and the reflector with a soft cloth dampened with water or isopropyl alcohol. Do not use any other type of solvent.
2. Make sure that the photo eye can “lock on” to the reflector. The easiest method of doing this is to hold a reflector close to the photo eye and make sure the indicator light stays on without flashing.

If this doesn't work, use a different reflector, flip the reflector, or, if the reflector works on other photo eyes, replace the photo eye.

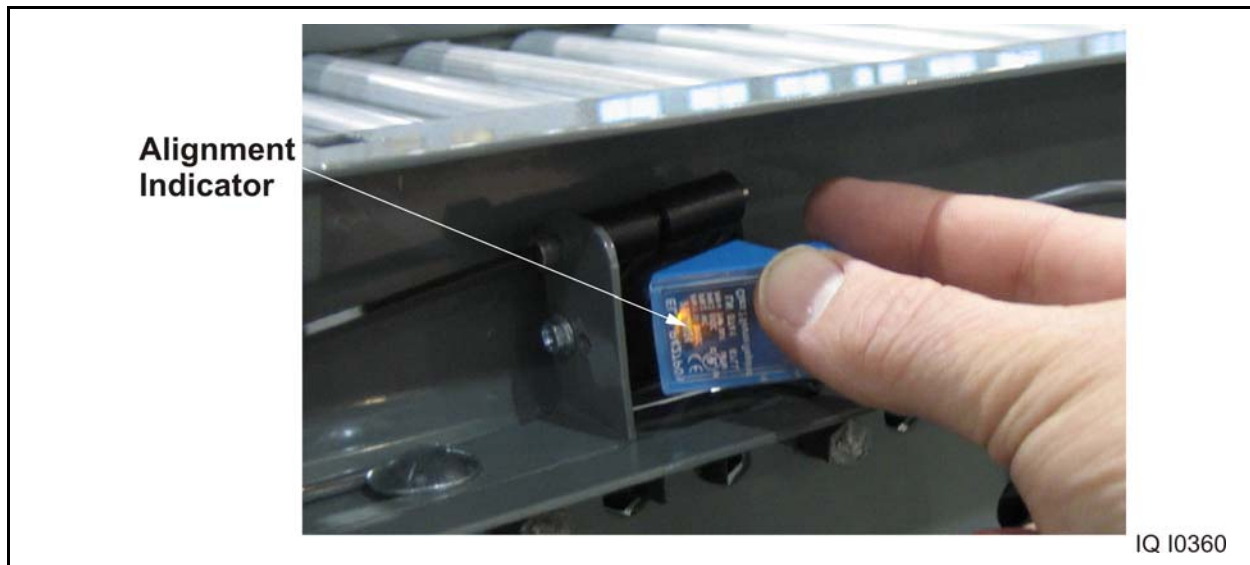
3. Make sure that the Mounting Screw is snug and holds the Ball Mount firmly in place, see Figure 6 - 4.
4. Loosen the Ball Mount Clamping Screw using a 9/64-inch hex key.
5. Pre-orient the ball mount bracket so the Photo Eye tends to aim high (the same position it would tend to “jiggle” into if it were loose).



*Figure 6 - 4 Photo Eye Mounting*



6. While holding the bracket in this position, begin aiming the photo eye until the Alignment Indicator comes on solid, see Figure 6 - 5.



*Figure 6 - 5 Photo Eye Alignment*

7. Tighten the ball mount clamping bolt until the ball mount is snug. It is not necessary to tighten the ball mount clamp bolt until the ball mount is squeezed as tight as it can get. This will actually cause the photo eye to go out of alignment.
8. Repeat this procedure for the remaining photo eyes.

---

## Replacing Carrier Rollers

### **WARNING**

Before performing any maintenance or lubrication services, follow the Lockout/Tagout Procedure in the Safety section to ensure that the equipment is safe to work on. Failure to follow this instruction may result in serious personal injury and/or machine damage.

1. Turn off and lockout/tagout all power to the conveyor.
2. Disconnect the air supply to release the pressure shoes and subsequent pressure on the carrier rollers.
3. Use a tool to push in the spring loaded axle on the roller to free one end of the axle from the frame of the conveyor.
9. Carefully disengage the opposite end of the roller from the frame and remove. Make sure the axle is not pinched on the frame causing damage during removal.
10. Insert the axle of the replacement roller through the hole on the conveyor frame.
11. Use a tool to compress the spring loaded axle on the roller and lower the roller into its proper position.
12. Release the spring loaded axle and make sure it fully engages in the hole in the frame.
13. Reconnect the air supply.

## Drive Chain / Driver Pad Maintenance

### ⚠ WARNING

#### Exposed Moving Parts

Checking the chain tensioner's proximity switch blade position requires that the conveyor be running. Keep clear of moving parts while performing this monthly inspection. Failure to follow this instruction may result in serious personal injury.

Drive chain and driver pad maintenance involves checking the chain tensioner's Position Indicator to determine if it is necessary to adjust or remove chain links, see Figure 6 - 6. As part of the monthly inspection period, check the position of the Position Indicator to determine if it is necessary to remove chain links.

- The Green Zone indicates safe operation.
- The Yellow Zone indicates the tensioner will soon need adjustment.
- The Red Zone indicates the tensioner must be reset or chain links must be removed. The conveyor system will shut down when the Position Indicator is within the Red Zone.

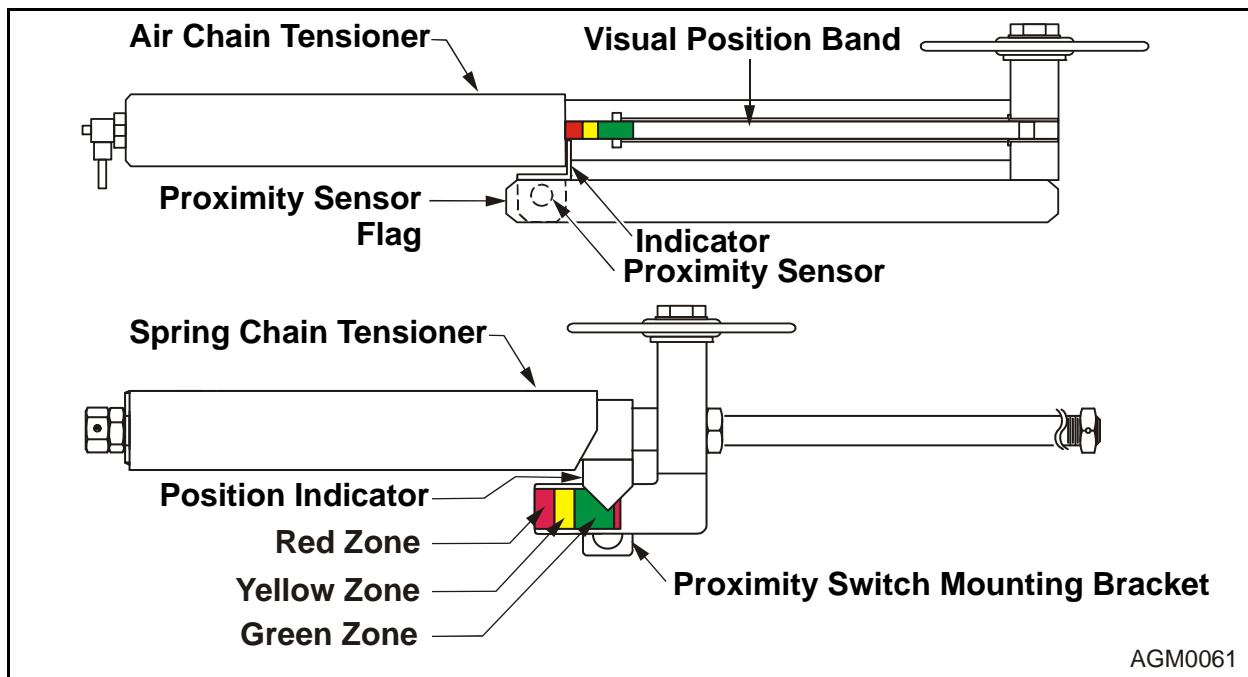


Figure 6 - 6 Tensioner Adjustment Status Color Coding

## Restoring Chain Tensioner to Green Zone

### **WARNING**

#### **Drive Chain and Driver Pad Maintenance**

Turn the conveyor off and perform lockout/tagout procedures before starting drive chain and driver pad maintenance. Failure to follow this instruction may result in serious personal injury.

When the Chain Tensioner is at the end of its stroke and can't be adjusted into the safe operation-or Green-Zone, chain links must be removed.

The chain tensioner maximum travel strokes are:

- Six inches for the standard spring tensioner,
- Ten inches for the optional air tensioner.

### **Removing Chain Links**

1. Remove sufficient carrier rollers in the drive section to access the chain tensioner from above.

**NOTE:** Connector links are typically installed within (12 inches) of the driver pad splice.

2. Jog the conveyor until the connector link is located in the open area immediately downstream of the drive sprocket.

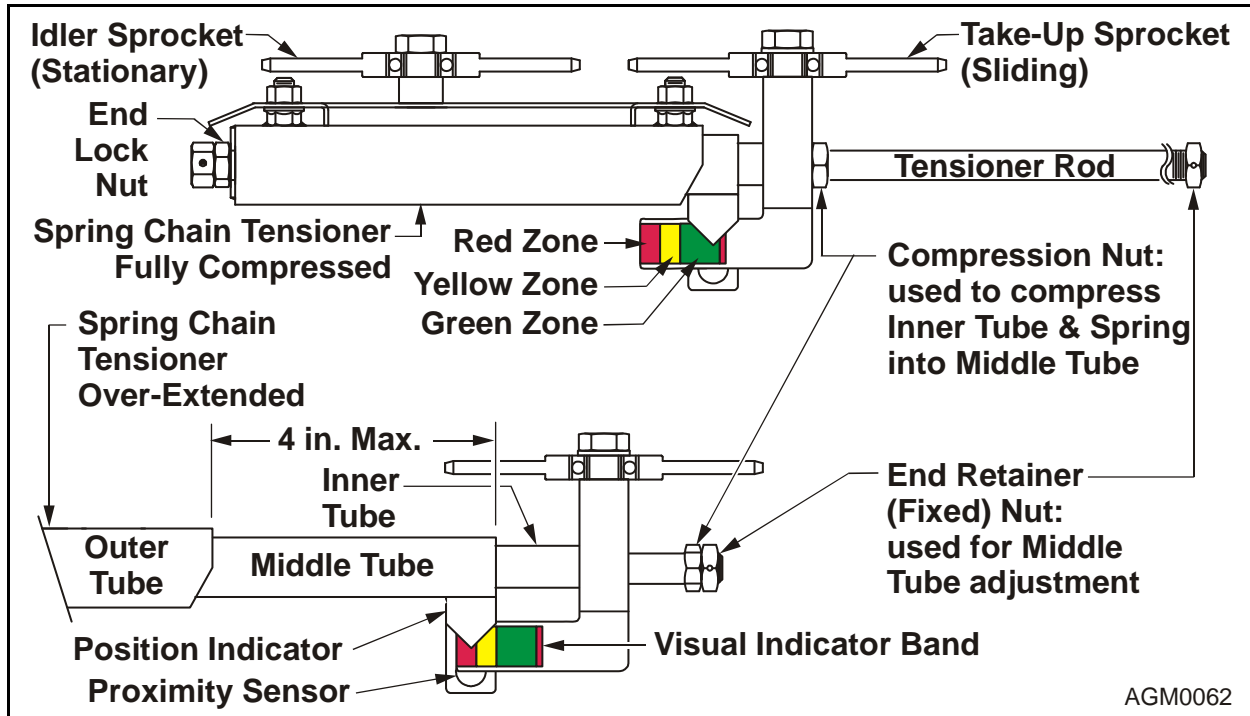


Figure 6 - 7 Spring Chain Tensioner Engagement

3. Fully compress the Chain Tensioner.

- For Spring Chain Tensioners, loosen the Lock Nut, turn the End Retainer (Fixed) Nut to collapse the Middle Tube, then turn the Compression Nut to compress the Inner Tube into the Middle Tube. This positions the Take-Up Sprocket all the way in to its minimum travel distance, see Figure 6 - 7.
  - For air tensioners, turn off the air supply at the filter / regulator and disconnect the air line to the air tensioner.
4. Starting at the splice, lift the driver pad from the chain's extended pins to expose the connecting link.
5. Remove the chain's Spring Clip, Connecting Plate, and Connecting Link, see Figure 6 - 8. Pull the excess slack out of the chain and determine number of links to remove.
6. Using a chain break tool, remove the necessary links. One link is defined as being the center distance (1.25 inches) between two extended pins.
- For spring tensioners, if the tensioner is at or near its fully extended position, remove approximately eight link (10 inches) of chain.
  - For air tensioners, if the tensioner is at or near its fully extended position, remove approximately 12 links (15 inches) of chain.

7. Record the number of chain links removed. This information is needed to determine when the chain is over 2% elongated, and must be replaced. Refer to “Maximum Chain Elongation Limit” on page 19 for more information.
8. Orient and install the Connecting Link with the Extended Pin matching the chain’s 1.25-inch Extended Pin centers.
9. Install the Connecting Plate.
10. For best results, use a chain holder tool (not provided) to pre-tension the chain.
11. Orient and install the Spring Clip with its closed end facing the chain’s direction of travel. This prevents the clip from being pulled from the Connecting Link.

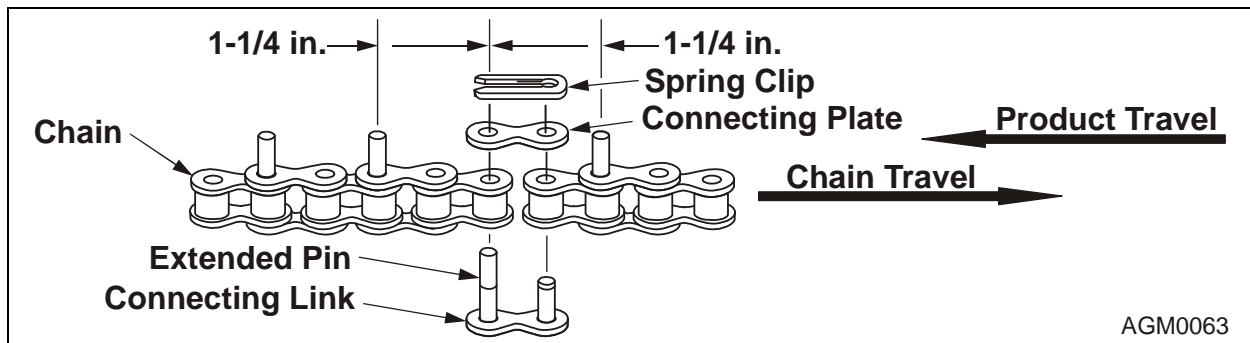


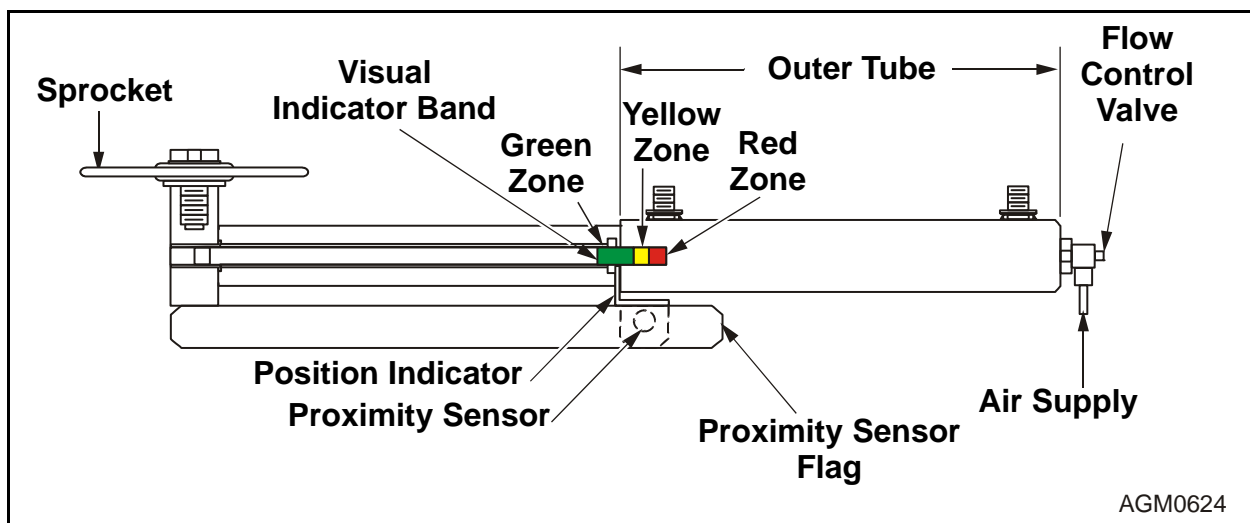
Figure 6 - 8 Removing/Installing the Chain Connector Link

**Setting the Chain Tensioner**

1. Make sure the chain teeth are properly aligned in all sprockets.
2. Engage the chain tensioner.
  - For Spring Chain Tensioners:
    - a. Turn the Compression Nut to remove all slack from the chain, see Figure 6 - 7. Continue turning the Compression Nut until it is tight against the End Retainer (Fixed) Nut.
    - b. Turn the End Retainer (Fixed) Nut/Tensioner Rod, compressing the Inner Tube into the Middle Tube until the Position Indicator is fully in the Green Zone.
  - For Air Chain Tensioners:
    - a. Connect the Air Supply Line to the air tensioner, see Figure 6 - 9.
    - b. Turn on the air supply at the filter / regulator.
    - c. Set the air pressure to 60-80 psi.
    - d. Make sure the air pressure at the input to the tensioner is above 60 psi.

**NOTE:** The air chain tensioner will fulfill all functional requirements at less than 80 psi, but 80 psi air supply pressure is recommended for optimum performance.

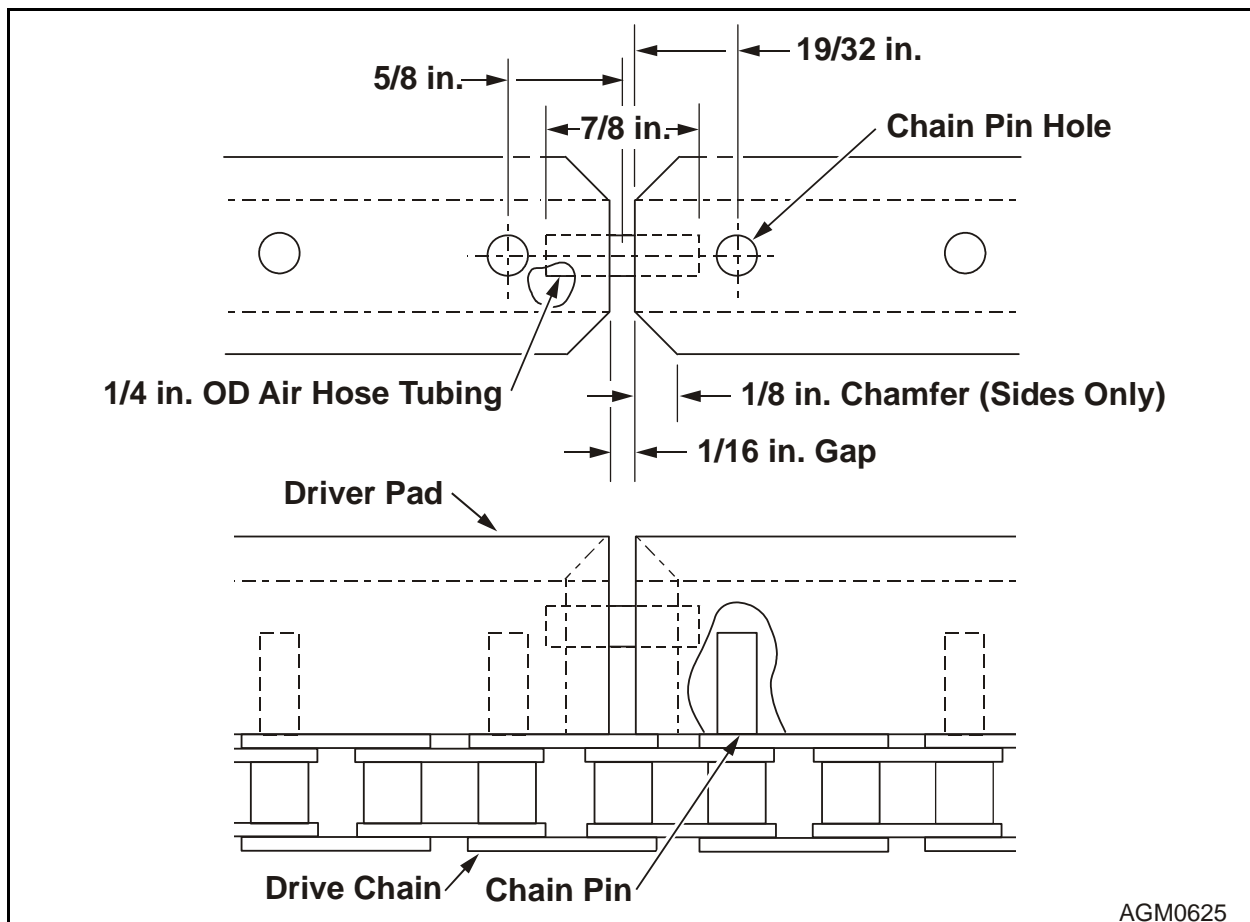
- e. Make sure the Position Indicator is in the Green Zone.
- f. Make sure the air Flow Control Valve is set to two full turns open from the closed position.



*Figure 6 - 9 Setting the Air Chain Tensioner*

### ***Adjusting the Driver Pad Length***

1. Select the location where the Driver Pad is to be cut. Make sure the location is at least 12 inches from the chain connecting link, see Figure 6 - 8.
2. On either side of the splice:
  - a. Make a square cut  $19/32$  inch from the centerline of the Chain Pin Hole, see Figure 6 - 10.
  - b. Chamfer the edges  $1/8$  inch at a  $45^\circ$  angle.
3. Make a splice connection by inserting a  $7/8$ -inch long piece of  $1/4$ -inch OD Air Hose Tubing into both ends of the Driver Pad.
4. Firmly push the pad (and splice connection) onto the Chain Pins.
5. Install the carrier rollers.
6. Apply power and start the conveyor.
7. Make sure the Driver Chain and Driver Pad are operating correctly.



*Figure 6 - 10 Cutting and Re-Splicing the Driver Pad*



## Maximum Chain Elongation Limit

Over time, a chain's length will increase (elongate) due to wear between the chain's pins and bushings. As the length increases, the chain will no longer mesh properly with the sprocket teeth, causing sprocket wear and possible chain slippage.

For proper chain drive operation, the maximum amount of chain elongation is limited to a 2% growth over its original (new) length.

### *Relationship: Chain Link Removal and Chain Elongation*

When chain links need to be removed in order to keep the chain tensioned properly, it is a sign that the chain is becoming elongated. To estimate when the chain elongation is approaching 2%, and needs to be checked, calculate the quantity of removed chain links that signals it's time to check the chain elongation.

Refer to the following example:

For a 100-foot conveyor, the chain is approximately 200 feet long.

One chain link (center-to-center distance between two extended pins) is 1.25 in.

Multiply  $200 \times 12 = 2400$  inches

Multiply  $2400 \times 2\% = 48$  inches

Divide  $48 \times 1.25 = 38$  (links)

In this example, after removing approximately 30 chain links, it's time to check chain elongation.

**NOTE:** Record the number of chain links removed during every chain tensioning, and keep a running total of all chain links removed from the chain. This information is helpful in determining if the chain is close to 2% elongation.

### **Measuring Chain Elongation**

To measure Chain Elongation:

- Remove enough rollers and driver pad to provide a work zone approximately three feet long.
- Lift the driver pad from the extended pins and lay it next to the chain.
- Measure the total length of the 20 Link Spaces between Extended Pin #1 and Extended Pin #21, see Figure 6 - 11.

The total length of 20 Link Spaces on a new chain is 25 inches. When the total length of 20 Link Spaces measures 25-1/2 inches, the chain's elongation is 2% and should be replaced. Refer to "Drive Chain / Driver Pad Replacement" on page 21 for more information.

**NOTE:** Always replace the driver pad when replacing the driver chain.

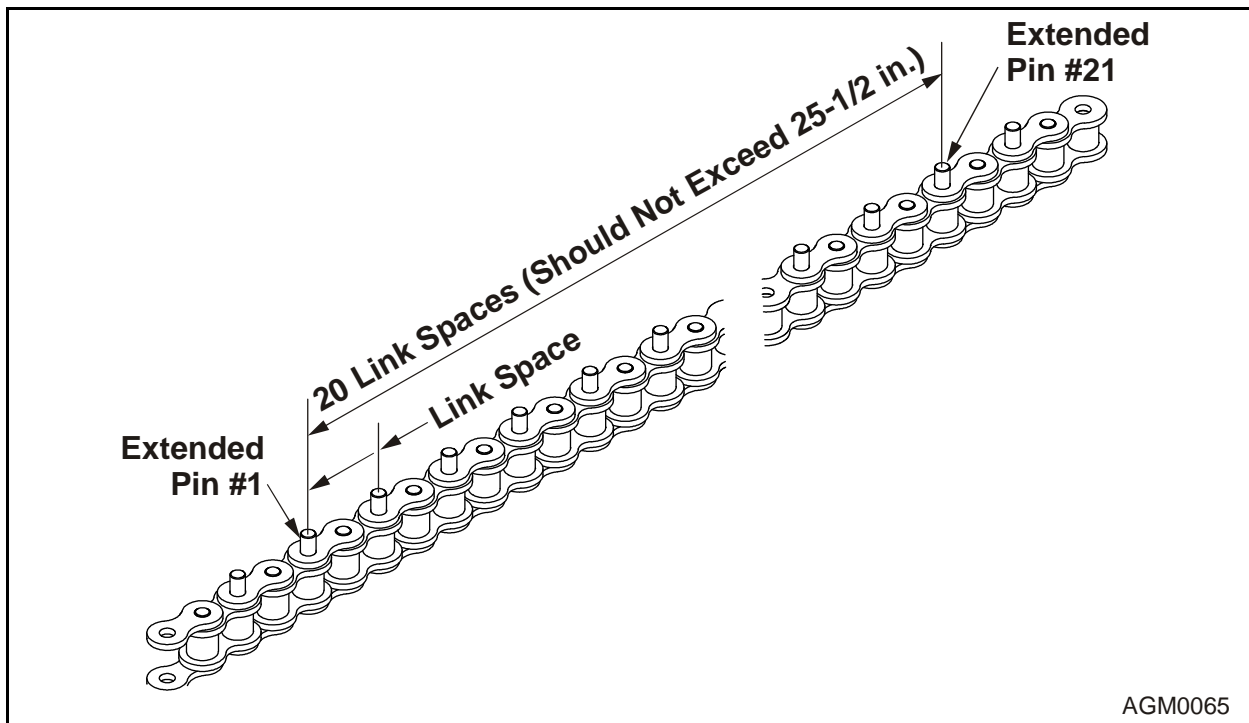


Figure 6 - 11 Checking for Chain Elongation

## Drive Chain / Driver Pad Replacement

### **⚠ CAUTION**

#### **Exposed Moving Parts**

The following maintenance procedures may require operating the conveyor with exposed moving parts. As the conveyor is jogged to index the chain/pad, keep clear of the conveyor. Do not perform any work as the conveyor is being jogged. Failure to follow this instruction may result in personal injury.

Whenever the conveyor is stopped, perform the lock-out/tag-out procedure at the power source.

If Drive Chain / Driver Pad replacement is required:

- Inspect all sprockets in the drive, curve, and idler sections for signs of wear. Replace any sprocket showing signs of excessive wear.
- Install the new Drive Chain.
- Install the new Driver Pad, refer to “Driver Pad Replacement” on page 29

## Drive Chain Replacement

### Preparation

To prepare for new chain installation:

1. Remove all carrier rollers.
2. Orient the chain spool so the extended pins on the chain point upward.
3. Unroll a manageable length of chain from the spool, keeping the spool axis vertical to avoid twisting or distorting the chain.
4. Fully compress the Chain Tensioner.
  - For Spring Chain Tensioners, turn the End Retainer (Fixed) Nut to collapse the Middle Tube, then turn the Compression Nut to compress the Inner Tube into the Middle Tube, see Figure 6 - 12.
  - For air tensioners, the turn off the air supply at the filter / regulator and disconnect the air line to the air tensioner.

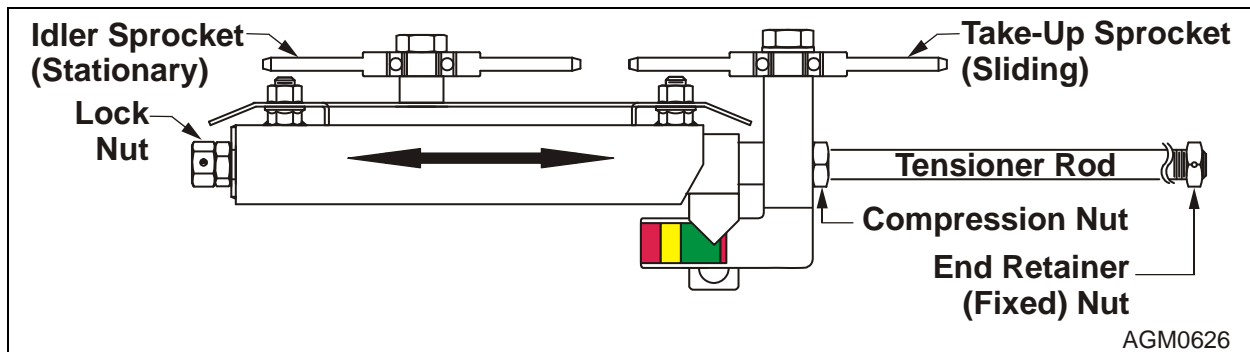
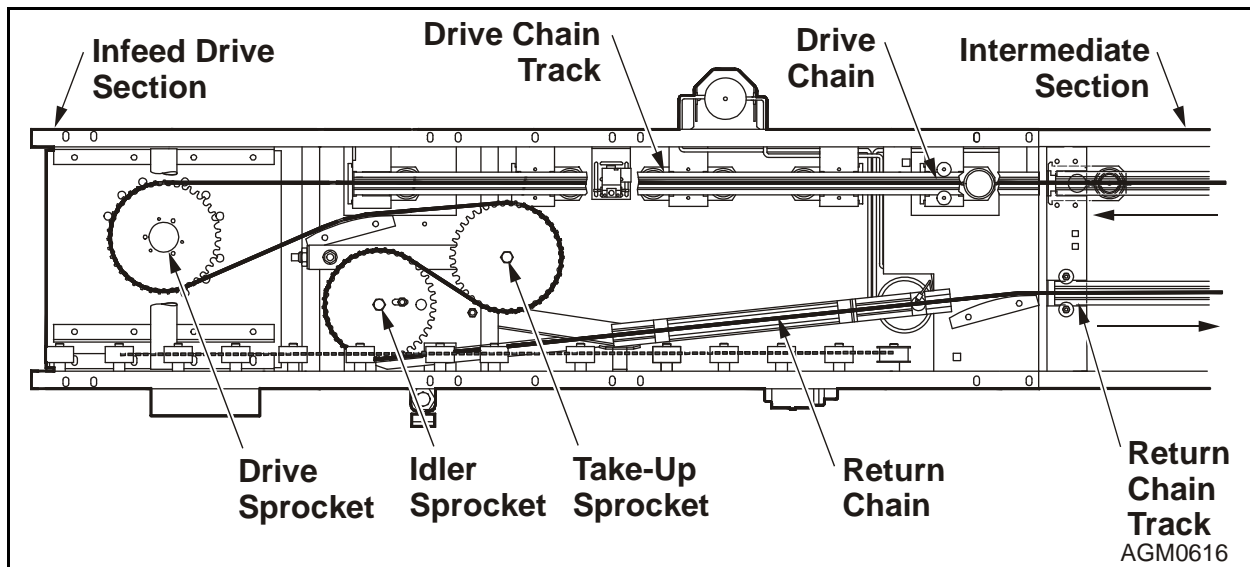


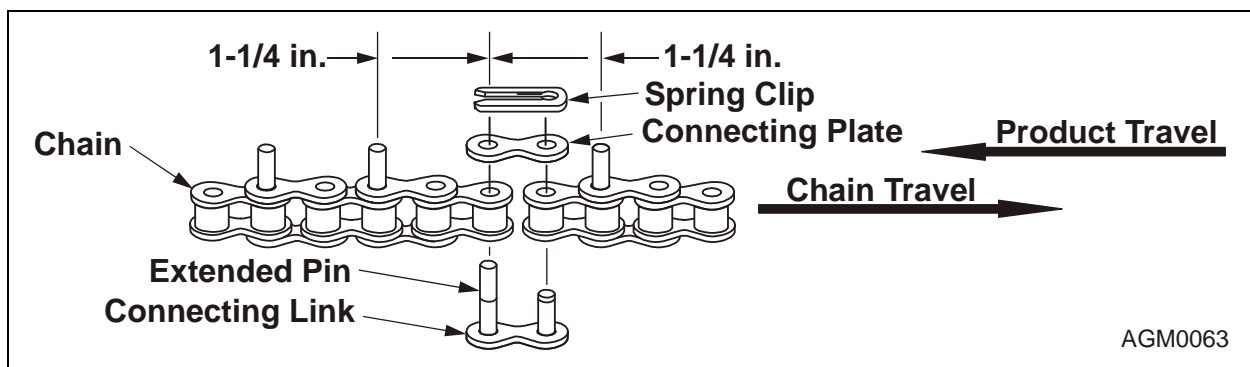
Figure 6 - 12 Compressing the Spring Chain Tensioner

***Chain Installation Procedure - Drive / Straight Sections***

1. Beginning at the Drive Section, unreel and lay the first chain segment (100 feet) into the extruded, green Drive Chain Track with the leading end of the chain downstream of the Drive Sprocket, see Figure 6 - 13.
2. Pull sufficient chain towards the Drive Sprocket to allow the chain to be routed through all of the drive components (Drive, Take-Up, and Idler Sprockets, chain track lubricator, guides, etc.) with the leading end laying in the Return Chain Track of the next downstream Intermediate Section.
3. Make sure the chain is properly engaged with the teeth of all sprockets, and free of kinks.
4. Working from either end of the first chain segment, lay the next chain segment into the chain tracks.
5. Connect the chain segment ends using the Connecting Link, see Figure 6 - 14.



*Figure 6 - 13 Chain Installation - Infeed Drive Section*



*Figure 6 - 14 Installing the Chain Connector Link*

### ***Chain Installation Procedure - Curve Section***

To install the chain into the Curve Section:

1. Lay chain segments into the Chain Tracks ahead of the Idler Sprockets see Figure 6 - 15.
2. Pull the chains through the Idler Sprocket assemblies and ensure that they are properly aligned/engaged with the sprocket teeth.
3. Install the Connecting Link between this chain segment and the segment previously installed. Make sure the closed end of the Spring Clip is facing the chain's direction of travel. This prevents the Spring Clip from being pulled from the Connecting Link.

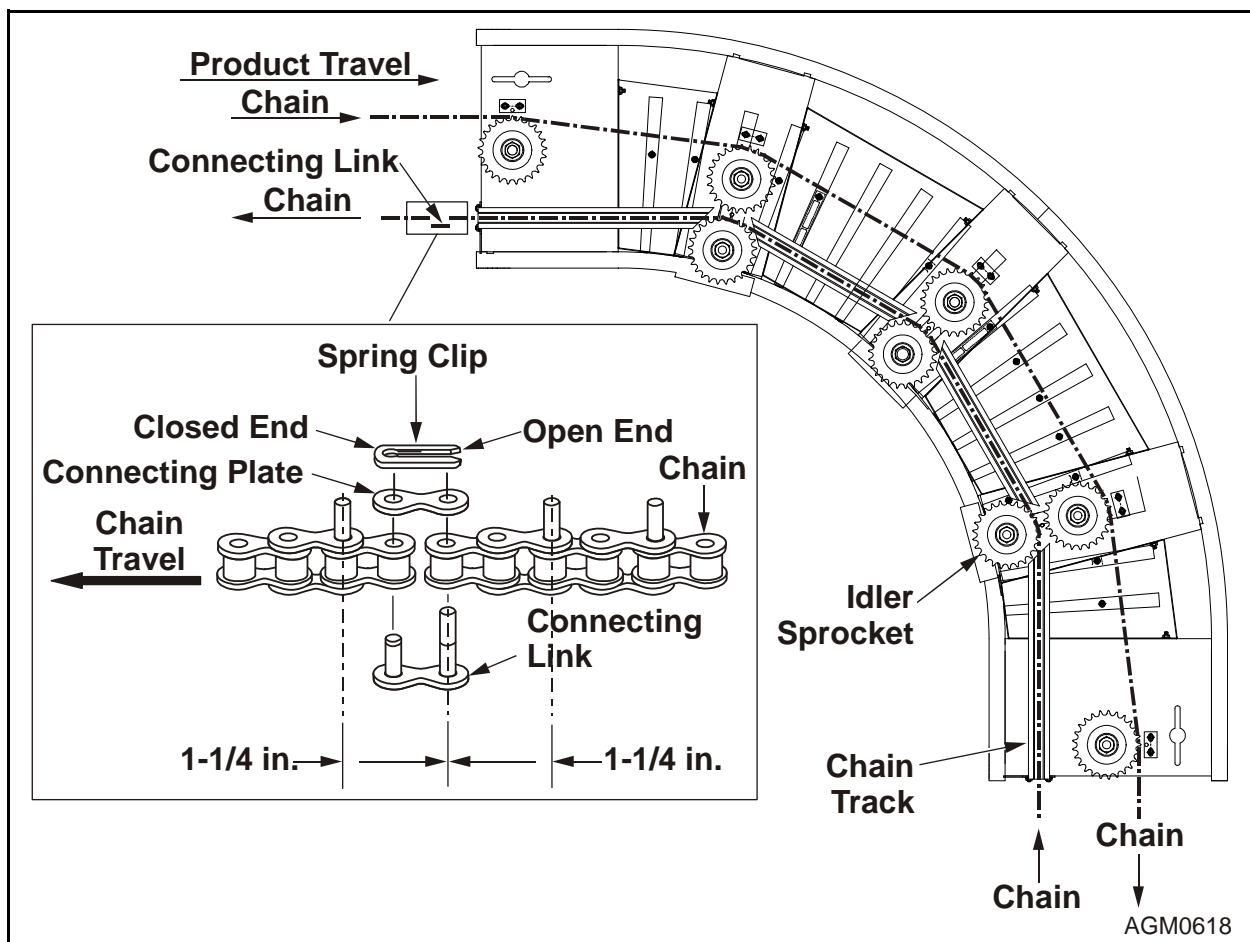
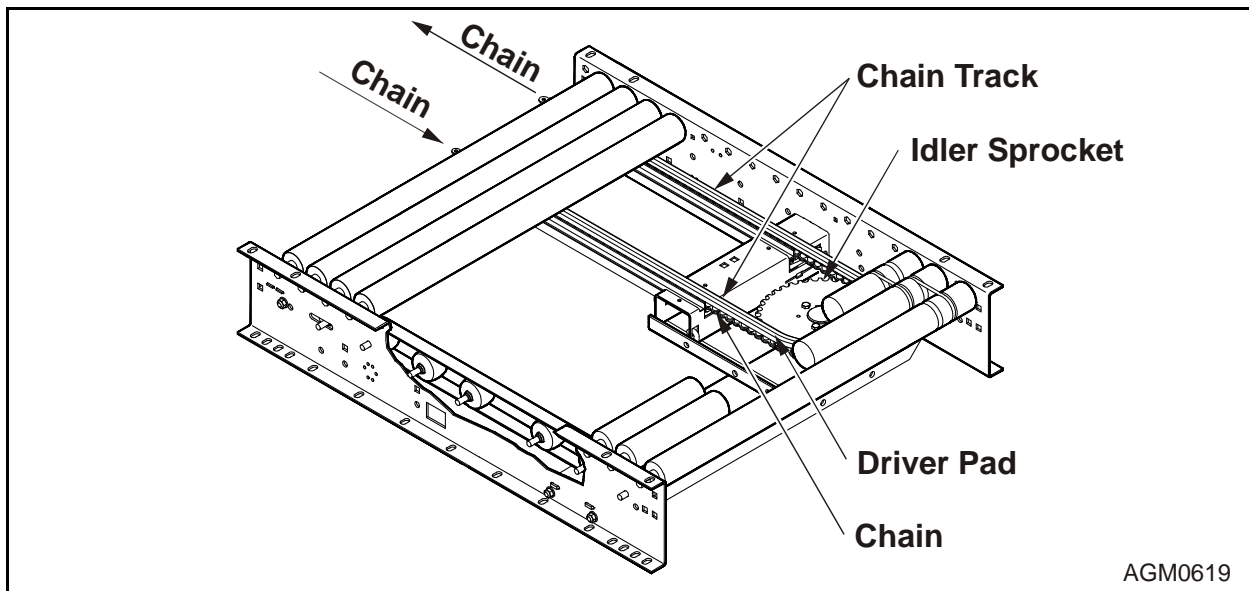


Figure 6 - 15 Chain Installation - Curve Sections

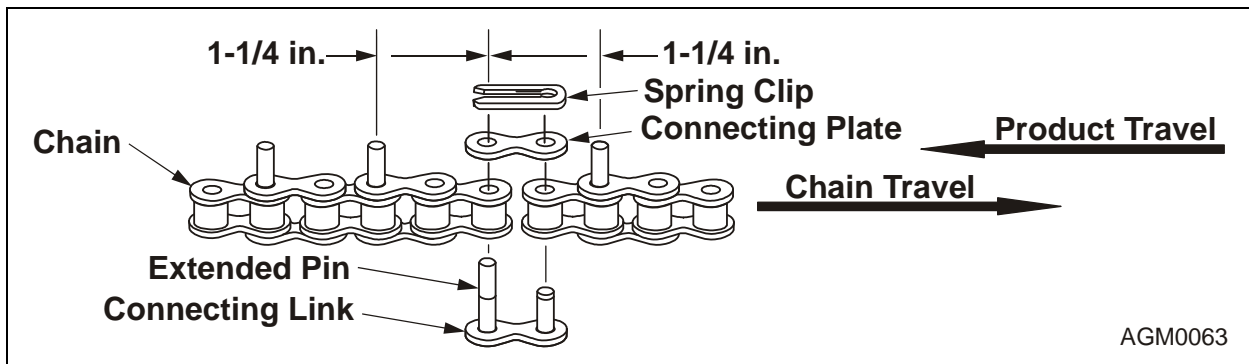
**Chain Installation Procedure - Idler Section**

To install the chain into the Idler Section:

1. Lay the chain segment into the Chain Track ahead of the Idler Sprocket.
2. Pull the chain around the Idler Sprocket and ensure that it is properly aligned/engaged with the sprocket teeth, see Figure 6 - 16.
3. Install the connecting link between this chain segment and the segment previously installed, see Figure 6 - 17. Make sure the closed end of the Spring Clip is facing the chain's direction of travel. This prevents the Spring Clip from being pulled from the Connecting Link.



*Figure 6 - 16 Chain Installation - Idler Section*

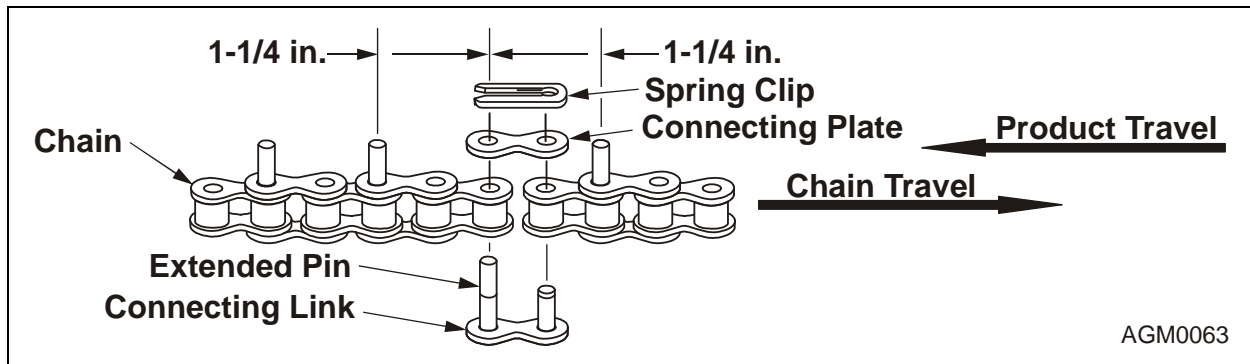


*Figure 6 - 17 Installing the Chain Connector Link*

***Chain Installation Procedure - Final Connection***

To complete the installation of the chain:

1. When the last chain segment is placed in the chain track, install the connecting link between this chain segment and the segment previously installed, see Figure 6 - 18. Make sure the closed end of the Spring Clip is facing the chain's direction of travel. This prevents the Spring Clip from being pulled from the Connecting Link.
2. Pull the non-connected end of the chain to remove any slack.
3. Make sure that the chain is aligned and engaged with the teeth of all sprockets.
4. Overlap the chain's two non-connected ends and break the chain at the correct length.
5. Install the connecting link between the two chain ends.



*Figure 6 - 18 Installing the Chain Connector Link*

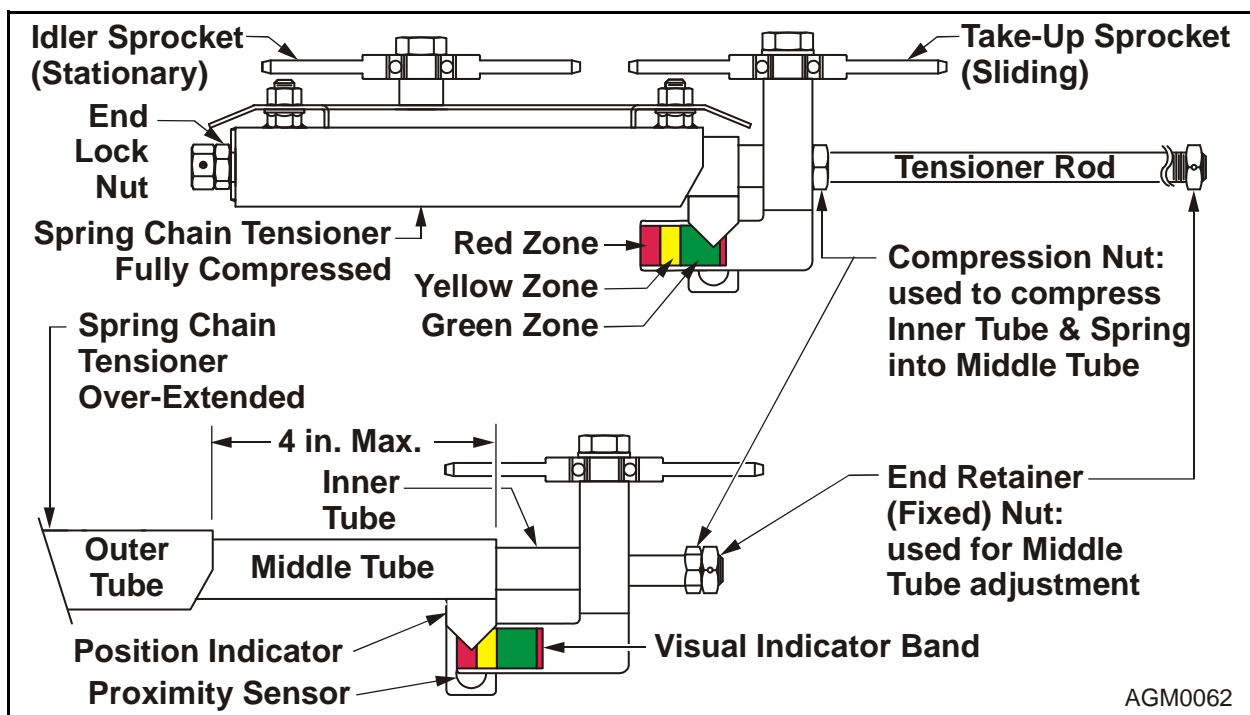


**Setting the (Standard) Spring Chain Tensioner**

1. Make sure the chain teeth are properly aligned in all sprockets.
2. Engage the chain tensioner, see Figure 6 - 19:
  - a. Turn the Compression Nut to move it towards the End Retainer (Fixed) Nut, and remove all slack from the chain. Continue turning the Compression Nut until it is tight against the End Retainer (Fixed) Nut. This is the normal position for the Compression Nut after initial tensioning.
  - b. Turn the End Retainer (Fixed) Nut/Tensioner Rod to compress the Inner Tube into the Middle Tube until the Position Indicator is fully in the Green Zone.

If, while turning the End Retainer (Fixed) Nut, it suddenly requires much more torque to turn, stop turning the nut. The Inner Tube is now compressed as far as it will go into the Middle Tube. Continuing to turn the nut may damage the spring tensioner.

If the Position Indicator stays in the Yellow or Red Zone, and the Middle Tube is at its 4-inch maximum extension, follow the procedures in “Restoring Chain Tensioner to Green Zone” on page 14.



*Figure 6 - 19 Spring Chain Tensioner Engagement*

### **Setting the (Optional) Air Chain Tensioner**

1. Make sure the air supply to the chain tensioner is still turned off at the filter/regulator and the air line is still disconnected.
2. Make sure the tensioner is fully retracted.
3. Make sure the chain teeth are properly aligned in all sprockets.
4. Connect the Air Supply Line to the air tensioner, see Figure 6 - 20.
5. Turn on the air supply at the filter / regulator.
6. Make sure the air Flow Control Valve is set to two full turns open from the closed position.  
The Flow Control Valve keeps constant tension on the chain at start up.
7. Set the air pressure to 60-80 psi.
8. Make sure the Position Indicator is in the Green Zone.  
If the Position Indicator stays in the Yellow or Red Zone, follow the procedures in "Setting the Chain Tensioner" on page 17.

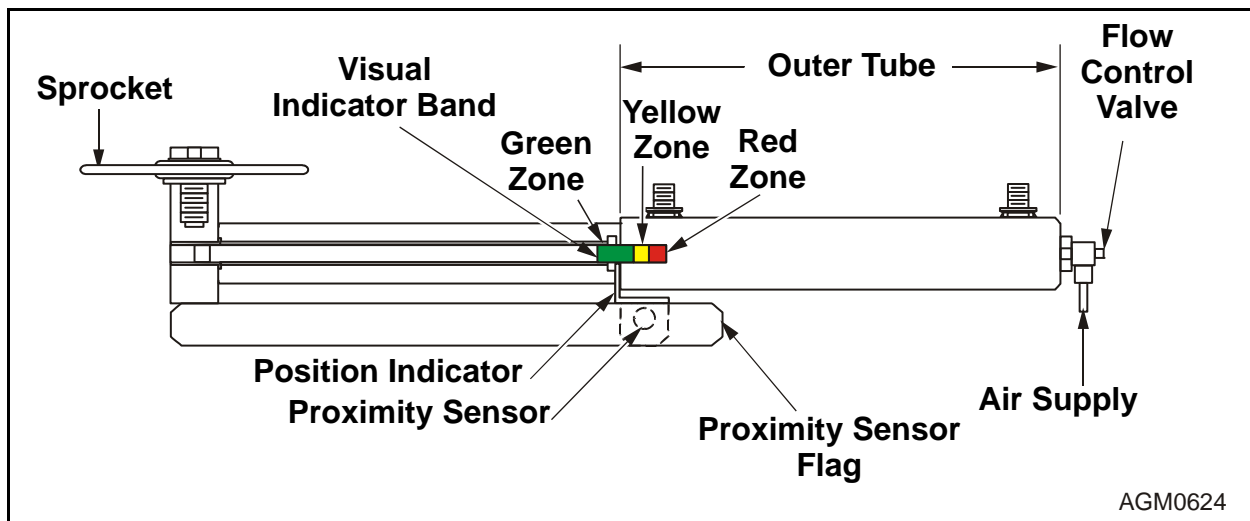


Figure 6 - 20 Setting the Air Chain Tensioner

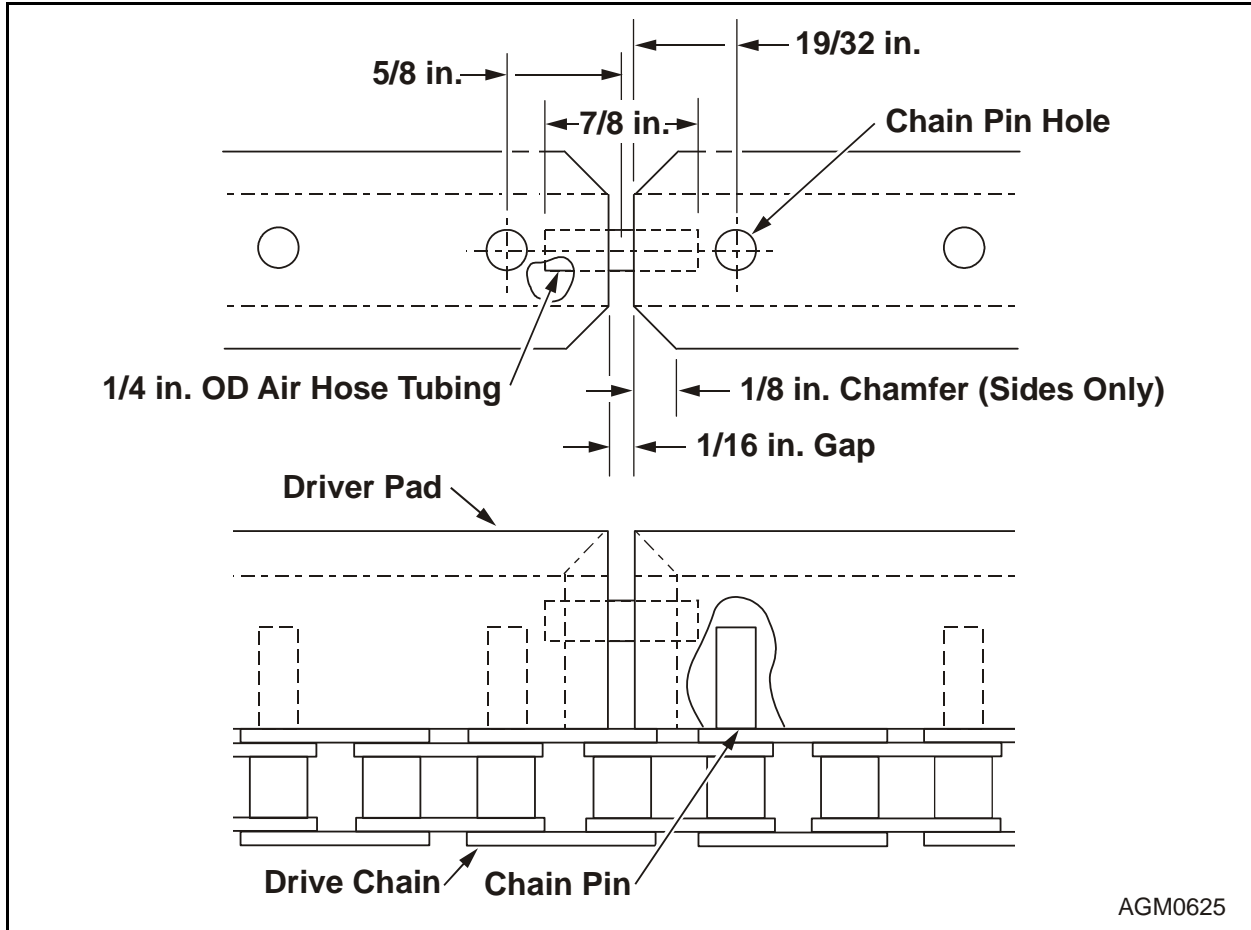
## Driver Pad Replacement

The Driver Pad, supplied in lengths up to 500 feet, is installed by pushing it onto the chain's extended pins. It is usually installed in one continuous length; however multiple shorter lengths can be pieced together. The minimum length is 10 feet. To install the Driver Pad:

1. At one end of the pad, make a square cut centered between two holes.
2. Chamfer the edges 1/8 inch at a 45° angle, see Figure 6 - 21.
3. Start installing the Driver Pad with the cut/chamfered end of the pad located 12 inches from a Connector Link.  
This location keeps the Driver Pad splice away from the Connecting Link high spot, and makes it easier to find a link assembly in the future.
4. Firmly push the entire pad fully onto the Chain Pins, until it seats against the side links of the chain.
5. Continue installing the pad along the entire length of the chain.
6. Mark the pad where it overlaps the pad's other end.
7. Cut the pad at the mark.
8. Chamfer the edges 1/8 inch at a 45° angle.
9. Make a splice connection by inserting a 7/8-inch long piece of 1/4-inch OD Air Hose Tubing into both ends of the Driver Pad.

**NOTE:** If preferred, use air tubing cutters for a straight, clean cut.

10. Firmly push the pad (and splice connection) onto the Chain Pins.
11. Remove all dirt and oil from the pad using a clean shop towel and a suitable cleaner such as a good glass/window cleaner. Avoid harsh chemicals or oil, which will degrade the pad.
12. Install the carrier rollers.
13. Apply power and start the conveyor.
14. Make sure the Driver Chain and Driver Pad are operating correctly.



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Figure 6 - 21 Replacing the Driver Pad

## Chain Tensioner Maintenance

Refer to the following information for terminology as well as inspection, adjustment, and maintenance procedures for the Spring Tensioner or the Air Tensioner.

### Chain Tensioner Overview

The Chain Tensioner compensates for Drive Chain Elongation that occurs because of the wear between a chain's pins and bushings. It causes the Idler Sprocket to extend and increase the length of the chain's travel path, providing constant, uniform tension.

### Spring Tensioner

The Spring Tensioner consists of three telescoping tubes, see Figure 6 - 22:

- A fixed Outer Tube mounted to the drive section's frame. It houses the other tubes,
- A screw-adjusted Middle Tube housing a Compression Spring, and including a Position Indicator and Proximity Sensor bracket,
- A spring-loaded Inner Tube, to which the idler sprocket and Visual Indicator Band are mounted.

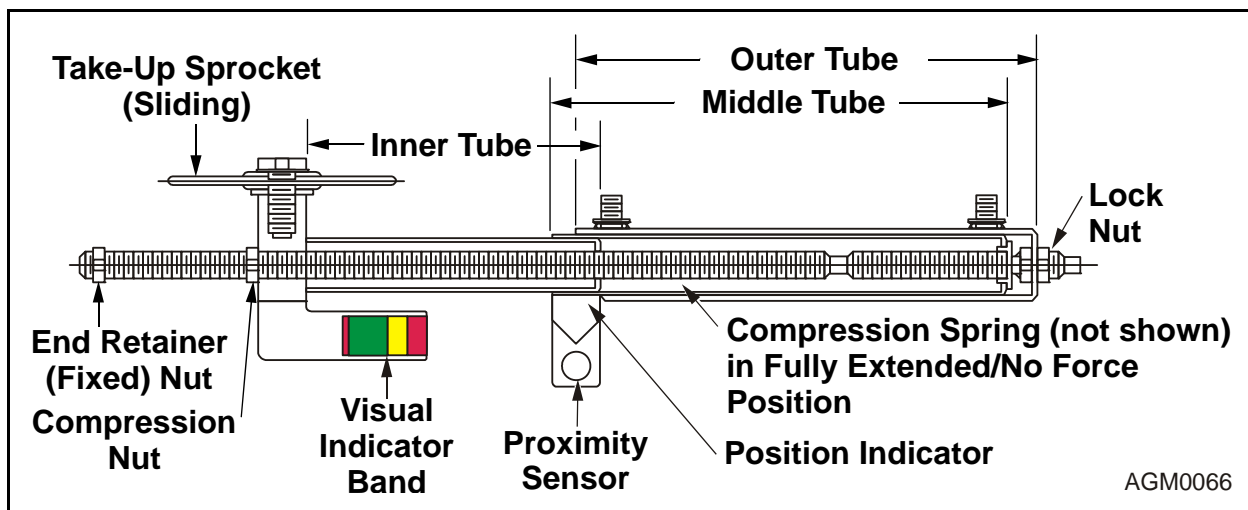


Figure 6 - 22 Spring Tensioner

## Spring Tensioner Inspection

### **⚠ WARNING**

#### **Exposed Moving Parts**

The following procedure requires operating the conveyor with exposed moving parts. Keep clear of the conveyor while it is running. Failure to follow this instruction may result in serious personal injury.

Inspect the Spring Tensioner monthly. To inspect the Spring Tensioner:

1. Make sure the conveyor is running.
2. Check the position of the Position Indicator in the Visual Indicator Band (Green, Yellow, or Red Zone), see Figure 6 - 23.
3. Measure the amount of extension of the Middle Tube.
4. Refer to Table 6 - 1 on page 33 to see if the Spring Tensioner needs to be adjusted.
5. If the Spring Tensioner needs to be adjusted, follow the instructions in "Spring Tensioner Adjustment" on page 33.

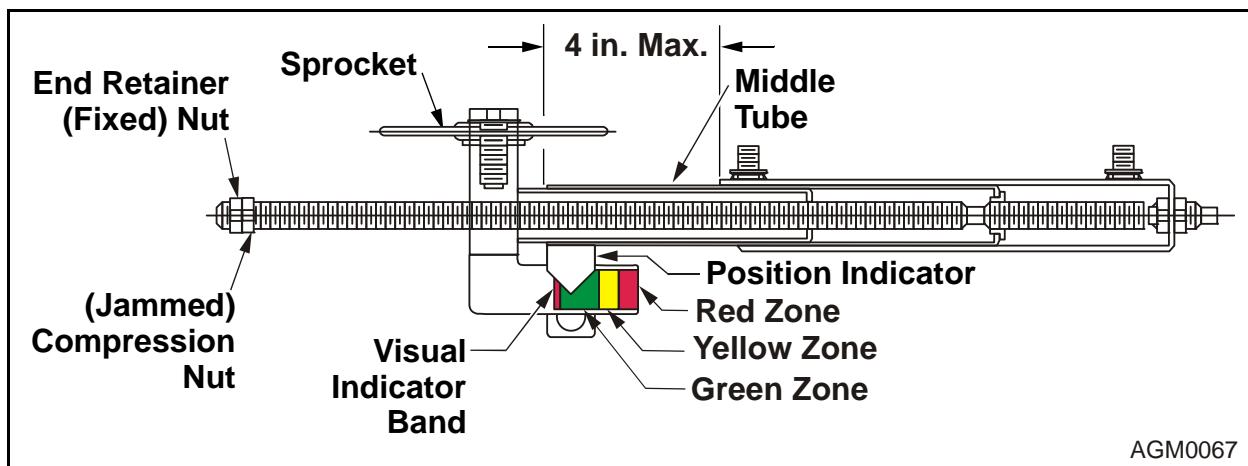


Figure 6 - 23 Spring Tensioner Inspection

Table 6 - 1 Spring Tensioner Adjustment Requirements

Position Indicator Arrow Position	Middle Tube Extension Dim. (Figure 6 - 23)	
	Less than 4 inches	4 inches
Green Zone	None	Tighten the Chain Tensioner
Yellow Zone	Perform steps 1 and 2 of “Spring Tensioner Adjustment” on page 33, then re-inspect, following the steps in “Spring Tensioner Inspection” on page 32.	Follow steps 2-7 in “Spring Tensioner Adjustment” on page 33, and remove approximately 8 chain links.
Red Zone (see Note below)	Perform steps 1 and 2 of “Spring Tensioner Adjustment” on page 33, then re-inspect, following the steps in “Spring Tensioner Inspection” on page 32.	Follow the steps in “Spring Tensioner Adjustment” on page 33, and remove approximately 12 chain links.

**NOTE:** When the Position Indicator is in the red zone, the proximity sensor flag is about to move past the proximity sensor and cause the conveyor to shut down.

**Spring Tensioner Adjustment**

To adjust the Spring Tensioner:

1. Loosen the Lock Nut, see Figure 6 - 24.
2. Turn the End Retainer (Fixed) Nut clockwise, extending the Middle Tube, until the Position Indicator is near the left end of the green zone, making sure the Compression Nut stays tight against the End Retainer (Fixed) Nut. **DO NOT** allow the Middle Tube to extend more than 4 inches, see Figure 6 - 23 on page 32.
3. Inspect the Spring Tensioner:
  - If the Position Indicator is in the Green Zone and the Middle Tube is not fully extended, the Spring Tensioner is now correctly adjusted, and no more steps need to be taken.
  - If the Position Indicator is not in the Green Zone and the Middle Tube is fully extended, proceed to step 4.

4. Turn the Compression Nut clockwise until the Position Indicator is near the left end of the green zone, making sure the Compression Nut stays tight against the End Retainer (Fixed) Nut.

**NOTE:** Turning the Compression Nut clockwise moves the Inner Tube toward the Middle Tube, and compresses the internal Compression Spring.

5. Remove the appropriate number of chain links; refer to Table 6 - 1 on page 33 and “Restoring Chain Tensioner to Green Zone” on page 14 in this chapter.
6. Make the Drive Chain and Driver Pad connections; refer to “Drive Chain Replacement” on page 22 and “Driver Pad Replacement” on page 29 in this chapter.
7. Re-tension the Drive Chain, refer to “Setting the (Standard) Spring Chain Tensioner” on page 27 and “Driver Pad Replacement” on page 29 in this chapter.

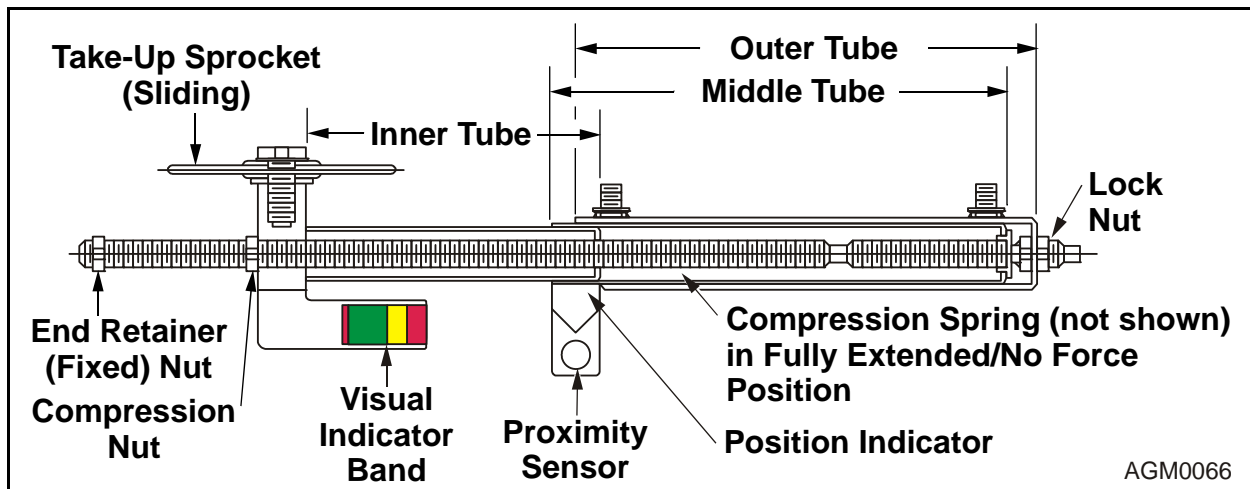


Figure 6 - 24 Spring Tensioner Adjustment

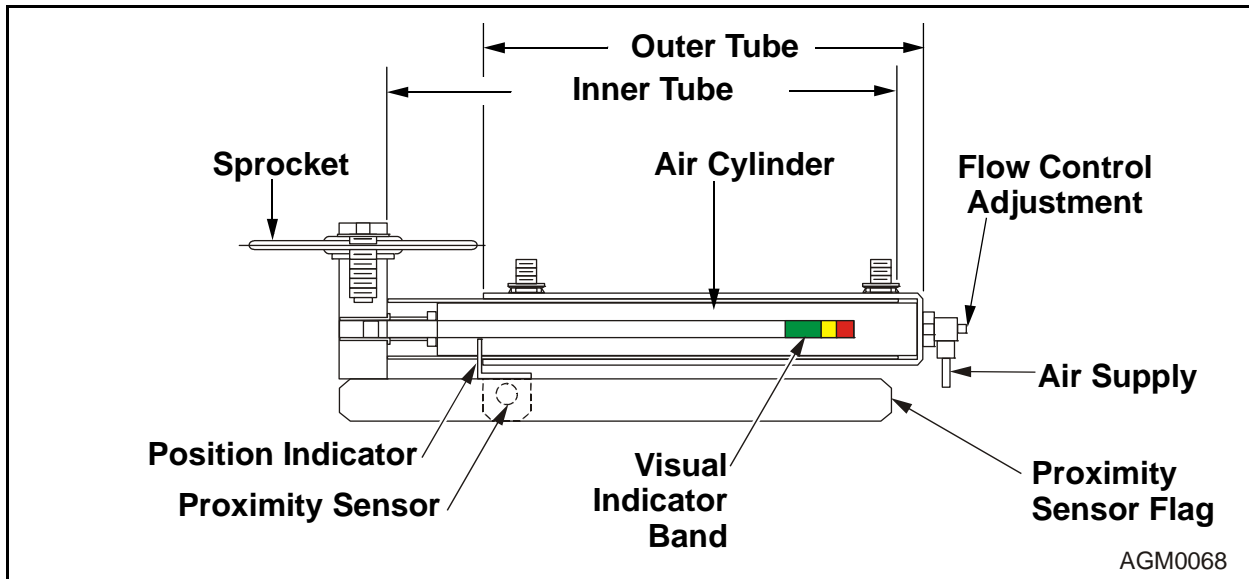


**Air Tensioner**

The Air Tensioner consists of two telescoping tubes, see Figure 6 - 25:

- A frame-mounted, fixed, Outer Tube housing a single-acting Air-Cylinder and including a Proximity-Sensor mounting bracket with a Position Indicator, and
- An Inner Tube to which the Idler Sprocket and Visual Indicator Band are mounted.

The air-cylinder also features a Flow-Control Valve.



*Figure 6 - 25 Air Tensioner*

## ***Air Tensioner Inspection***

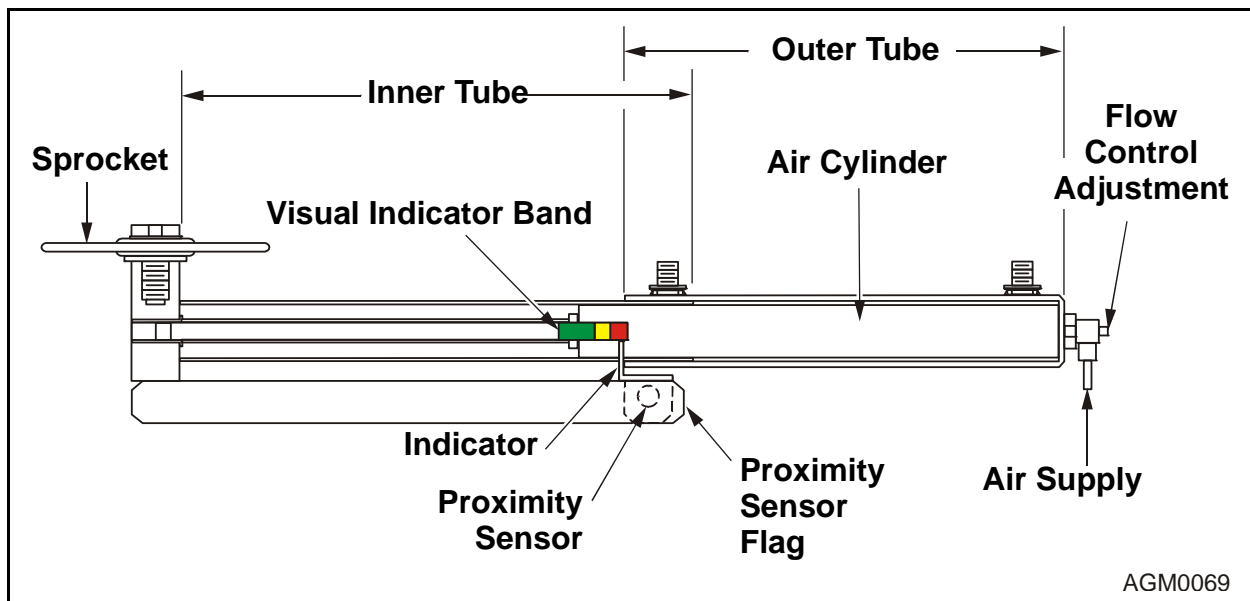
### **⚠ WARNING**

#### **Exposed Moving Parts**

The following procedure requires operating the conveyor with exposed moving parts. Keep clear of the conveyor while it is running. Failure to follow this instruction may result in serious personal injury.

Inspect the Air Tensioner monthly. To inspect the Air Tensioner:

1. Make sure the conveyor is running.
2. Check the position of the Position Indicator in the Visual Indicator Band (green, yellow, or red zone), see Figure 6 - 26.
3. Refer to Table 6 - 2 to see if the Air Tensioner needs to be adjusted.
4. If the Air Tensioner needs to be adjusted, follow the instructions in “Air Tensioner Adjustment” on page 38.



*Figure 6 - 26 Air Tensioner Inspection*

Table 6 - 2 Air Tensioner Adjustment Requirements

Position Indicator Position	Status Indicator	Action Required
Green Zone	Normal Take-Up Operating Band	None
Yellow Zone	Preliminary Warning Band	Increase frequency of inspection. Be ready to take action as soon as the Position indicator moves into the Red Zone.
Red Zone	Take-Up Re-adjustment Band	Remove approximately 12 chain links (15 inches) to adjust the tensioner to the Green Zone. Refer to "Restoring Chain Tensioner to Green Zone" on page 14.

**NOTE:** When the Position Indicator is in the red zone, the Proximity Sensor Flag is about to move past the Proximity Sensor and cause the conveyor to shut down.

---

### ***Air Tensioner Adjustment***

To adjust the Air Tensioner:

1. Turn off the conveyor.
2. Perform lock-out/tag-out procedures at the power source.
3. Turn OFF the tensioner's air supply.
4. Retract the air-tension to its home position.
5. Remove the appropriate number of chain links; refer to "Restoring Chain Tensioner to Green Zone" on page 14.
6. Make the Drive Chain and Driver Pad connections; refer to "Drive Chain Replacement" on page 22 in this chapter.
7. Re-tension the Drive Chain; refer to "Setting the (Standard) Spring Chain Tensioner" on page 27 and "Driver Pad Replacement" on page 29 in this chapter.

**NOTE:** The Air-operated Tensioner has a Flow-Control Valve located in the air-cylinder's inlet port. The valve's purpose is to keep constant tension on the chain at start up.

8. Make sure the Flow Control Adjustment screw is opened two full turns from the full-closed position.
9. Turn ON the tensioner's air supply.
10. Make sure the air supply is 60-80 psi.

**NOTE:** The air supply must remain between 60-80 psi at all times, except during maintenance, and any other lockout/tagout procedure.

11. Make sure the chain is re-engaged on all sprockets.
12. Remove the lock-out/tag-out items.
13. Start the conveyor.

## Chain Track Lubricator Maintenance

A Chain Track Lubricator dispenses lubricant onto the bottom surface of the Drive Chain to minimize the inherent sliding-friction between the chain and its track. This reduces the conveyor’s power unit horsepower requirement.

### Magnetic Type

A Magnetic Type Chain Track Lubricator features a sliding-track sensor that supports the drive chain at a point immediately downstream of the drive sprocket where the chain is under low-tension. The sensor incorporates a ceramic magnetic strip that holds the drive chain against the sensor with a constant force.

An adjustable, light-duty tension spring holds the sensor in non-actuating contact with the oil valve’s actuator ball.

When the sliding-friction between the drive chain and the support is at an acceptable level, the oiler valve will not dispense lubricant. When the sliding-friction increases to a level where the sensor actuates the oiler valve, lubricant is dispensed onto the chain.

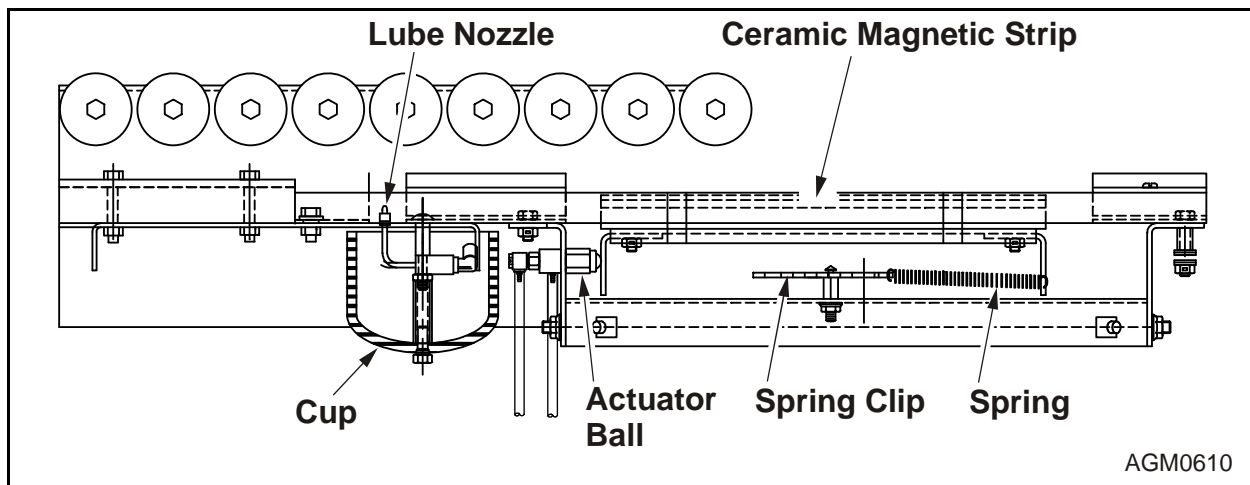


Figure 6 - 27 Magnetic-Type Chain Track Lubricator

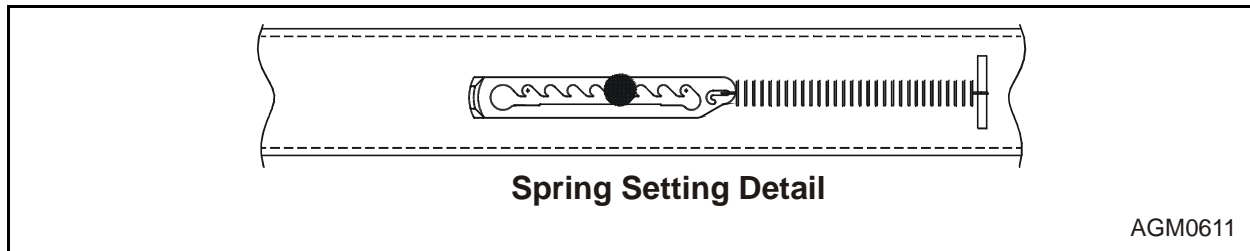
### **Magnetic Type Lubricator Inspection**

Inspect the Chain Track Lubricator monthly. To inspect the Chain Track Lubricator:

1. Check the level of lubricant in the oil reservoir.
2. Check the conveyor's maintenance log to determine whether there has been a problem with the power unit's heaters (replacement or increase in size) indicating a lack of lubrication.
3. Check surrounding area for indications of excessive lubrication.
4. Check that lubricant is being applied evenly to the bottom and side surfaces of the chain.

### **Magnetic Type Lubricator Adjustment**

1. If required, add lubricant to the oil reservoir (10W SAE non-detergent).
2. If the chain/track requires additional lubricant, reset the spring-adjustment clip one (1) notch to increase the tension on the spring.
3. If the chain/track requires less lubricant, reset the spring-adjustment clip one (1) notch to decrease the tension on the spring.



*Figure 6 - 28 Spring Clip Adjustment*

### **Solenoid Type**

A Solenoid Type Chain Track Lubricator provides the controlled dispensing of lubricant onto the drive chain and track in response to a signal from the system's control programming.

The duration and frequency of dispensing can be readily changed as required.

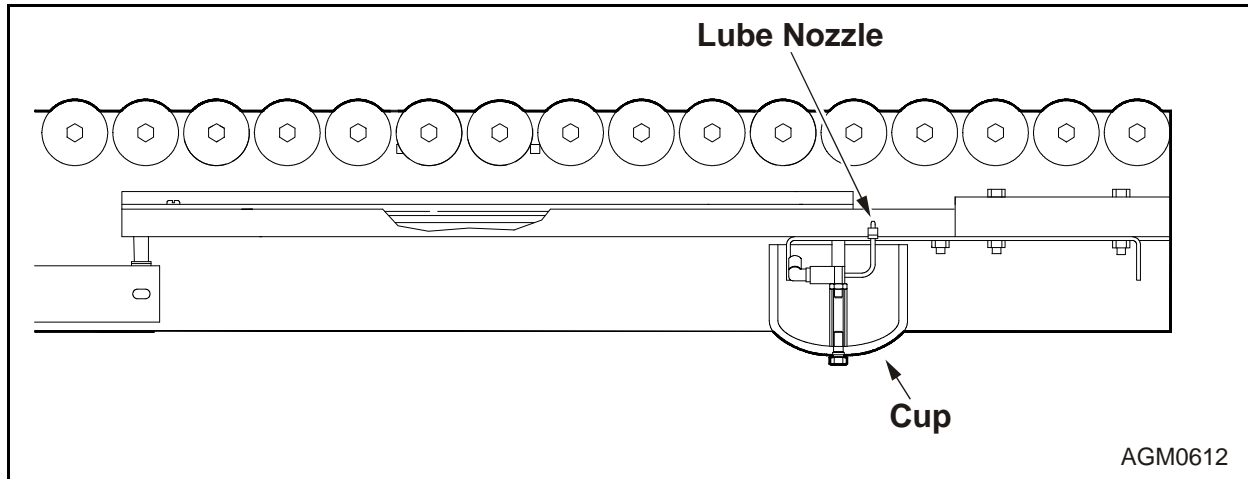


Figure 6 - 29 Solenoid Type Chain Track Lubricator

### **Solenoid Type Lubricator Inspection**

Inspect the Chain Track Lubricator monthly. To inspect the Chain Track Lubricator:

1. Check the level of lubricant in the oil reservoir.
2. Check the conveyor's maintenance log to determine whether there has been a problem with the power-unit's heaters (replacement or increase in size) indicating a lack of lubrication.
3. Check surrounding area for indications of excessive lubrication.
4. Check that lubricant is being applied evenly to the bottom and side surfaces of the chain.

### **Solenoid Type Lubricator Adjustment**

1. If required, add lubricant to the oil reservoir (10W SAE non-detergent).

**NOTE:** The conveyor's system software controls the operation of the lubricator's solenoid-valve. Contact person(s) who are authorized to make changes to the software programming.

2. If the inspection shows that additional lubrication is required: either 1) increase the amount of time that the solenoid-valve is actuated and lubricant is dispensed; or 2) turn ON the solenoid-valve more frequently.
3. If the inspection shows that less lubricant is required: either 1) reduce the amount of time that the solenoid-valve is actuated and lubricant is dispensed; or 2) turn ON the solenoid-valve less frequently.

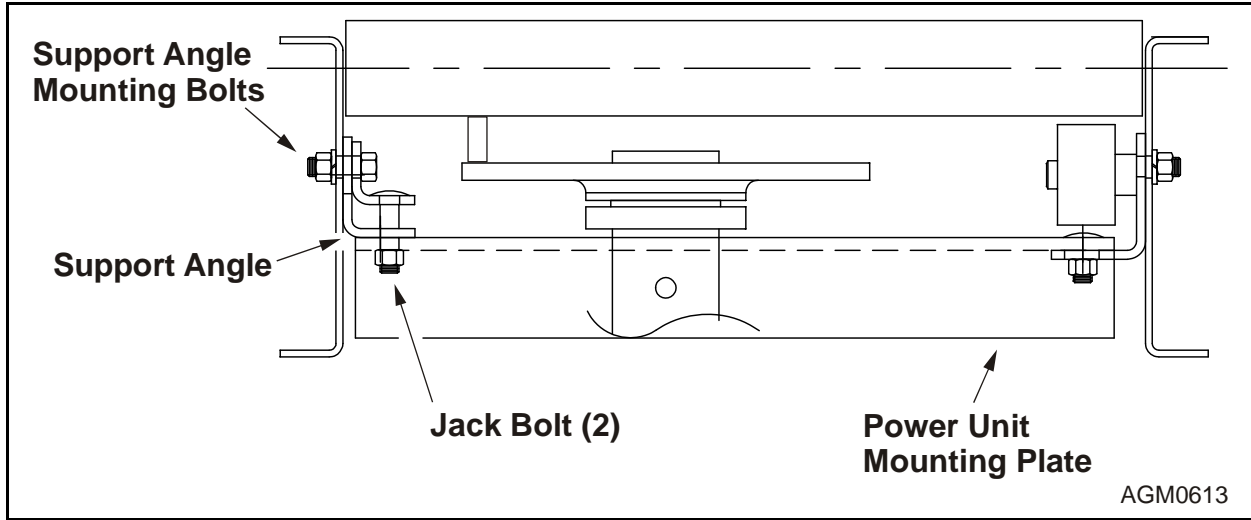
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## Drive Sprocket Removal / Replacement

Remove the Drive Sprocket as needed to allow for reducer access, or for replacement when worn.

1. Turn off conveyor and perform lockout/tagout at the power source.
2. Remove a sufficient number of Carrier Rollers in the Infeed Drive Section to access the chain tensioner, drive sprocket, and/or reducer.
3. Disengage the chain tensioner.
4. Remove the Drive Chain/Pad from the Drive Sprocket.
5. Remove the old Drive Sprocket.
6. At the drive-side frame rail:
  - a. loosen the Support Angle Mounting Bolts;
  - b. loosen the Jack Bolts
  - c. allow the Support Angle and Power Unit Mounting Plate to drop; and
  - d. re-tighten the Support Angle Mounting Bolts, see Figure 6 - 30. Install the new sprocket (bushing-face down) onto the reducer's output shaft.
7. Install one (1) Carrier Roller above the center of the Drive Sprocket.
8. Position the Drive Sprocket on the reducer shaft so that its top surface is approximately 2-11/16 inches below the top of the Carrier Roller.
9. Tighten the bolts to hold the Drive Sprocket position.
10. Tighten (evenly) mounting bolts in the Tapered-Bushing Hub.
11. Install the Drive Chain onto the Drive Sprocket.
12. Engage the Chain Tensioner.
13. Loosen the Support Angle Mounting Bolts and tighten the Jack Bolts to raise the power unit mounting plate until the Driver Pad is within 1/8 inch of the Carrier Roller.
14. Tighten the Support Angle Mounting Bolts.
15. Remove all tools and foreign objects from the conveyor.
16. Install the Carrier Rollers.
17. Remove the lockout/tagout.
18. Restore power to the conveyor.
19. Jog the conveyor to verify proper operation.





*Figure 6 - 30 Drive Sprocket Removal / Replacement*

## Carrier Roller Flat Belt Maintenance

The first/last Carrier Rollers in the conveyor's drive/idler sections are driven by an endless 3/4-inch wide flat-belt that transfers power from powered Carrier Rollers.

### Flat-Belt Inspection

1. Make sure the conveyor is running.
1. Make sure sufficient power is transmitted to the end rollers.
2. Make sure the belt is tracking properly.
3. Make sure the belt is clean and not damaged or worn.

### Flat-Belt Tension Adjustment

1. Turn the conveyor OFF.
2. Perform the lockout/tagout procedure at the power source.
3. Remove the Carrier Roller, located above the adjustable take-up sheave.
4. Loosen the 3/8-inch hex nut/bolt used to secure the sheave to the frame and allow the belt to relax.

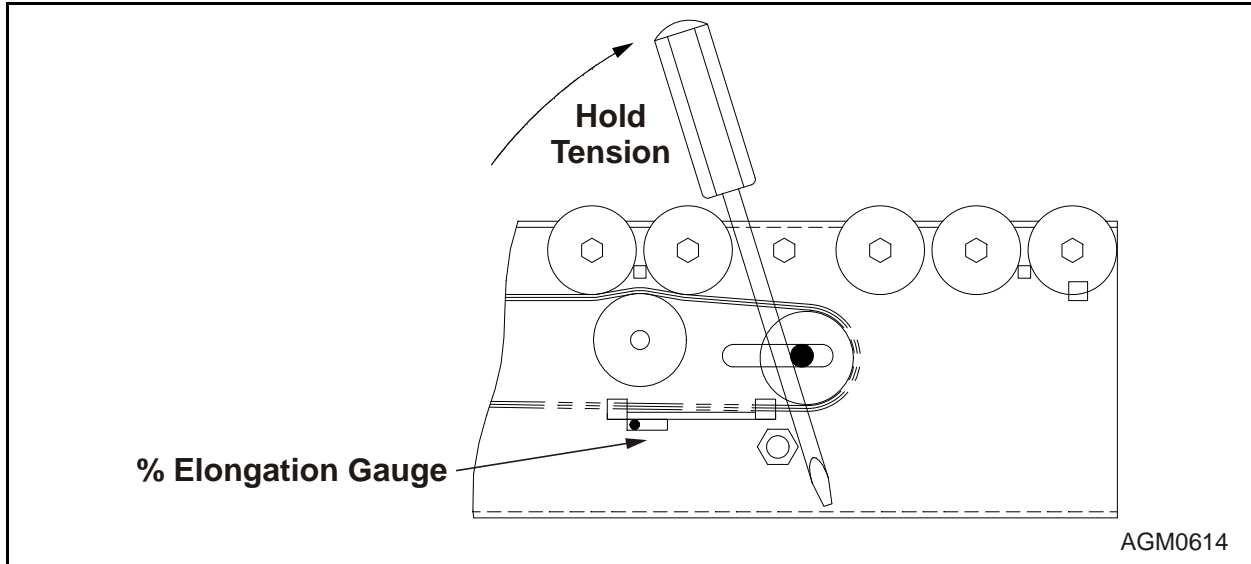
**NOTE:** Belt Tensioning With Gauge  
Install a "Percentage Elongation Gauge" (PN 7035181) to the bottom side of the belt. Set the gauge to "0".  
Belt Tensioning Without Gauge  
Accurately place two (2) marks (10 inches apart) on the bottom side of the belt.

### CAUTION

#### **Belt Tensioning**

Over-tensioning the drive belt may result in premature sheave bearing failure.

5. Apply pressure to the adjustable sheave to tension the belt, see Figure 6 - 31.  
Apply pressure until the gauge reads 0.75%, OR apply pressure until the belt marks measure 10.075 inches (slightly more than 1/16 inch).
6. Securely tighten the sheave's mounting bolt/nut.
7. Remove the lockout/tagout.
8. Prepare the conveyor for startup.



*Figure 6 - 31 Carrier Roller Flat Belt Drive Adjustment*

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## Brake Module Maintenance

Accuglide Brake Modules are used in Intermediate Sections and/or in Discharge Idler Sections.

The Brake Module is engaged and braking-action occurs when the assembly is raised into contact with the Carrier Rollers by internal compression springs. The Brake Module is released when air is supplied to air actuators that lower the O-rings away from the Carrier Rollers.

### **Brake Module Inspection**

1. Make sure the conveyor is running.
2. Make sure sufficient braking action is transmitted to the Carrier Rollers.
3. Make sure the O-rings are taut.
4. Make sure the O-rings are clean and not damaged or worn.

### **Brake Module Adjustment**

The Brake Module(s) are factory settings and should not be changed in an attempt to provide additional braking action.

### **O-Ring Replacement**

An Intermediate Section Brake Module has two (2) O-rings; a discharge Idler Section Brake Module has four (4) O-rings. To replace the O-rings:

1. Turn the conveyor OFF.
2. Perform the lockout/tagout procedure at the power source.
3. Remove the Carrier Rollers above the Brake Module.
4. Snip the old O-rings and remove.
5. Install the new O-rings (P/N 000818 - 1/4 x 13.531 83A).
6. Install the Carrier Rollers.

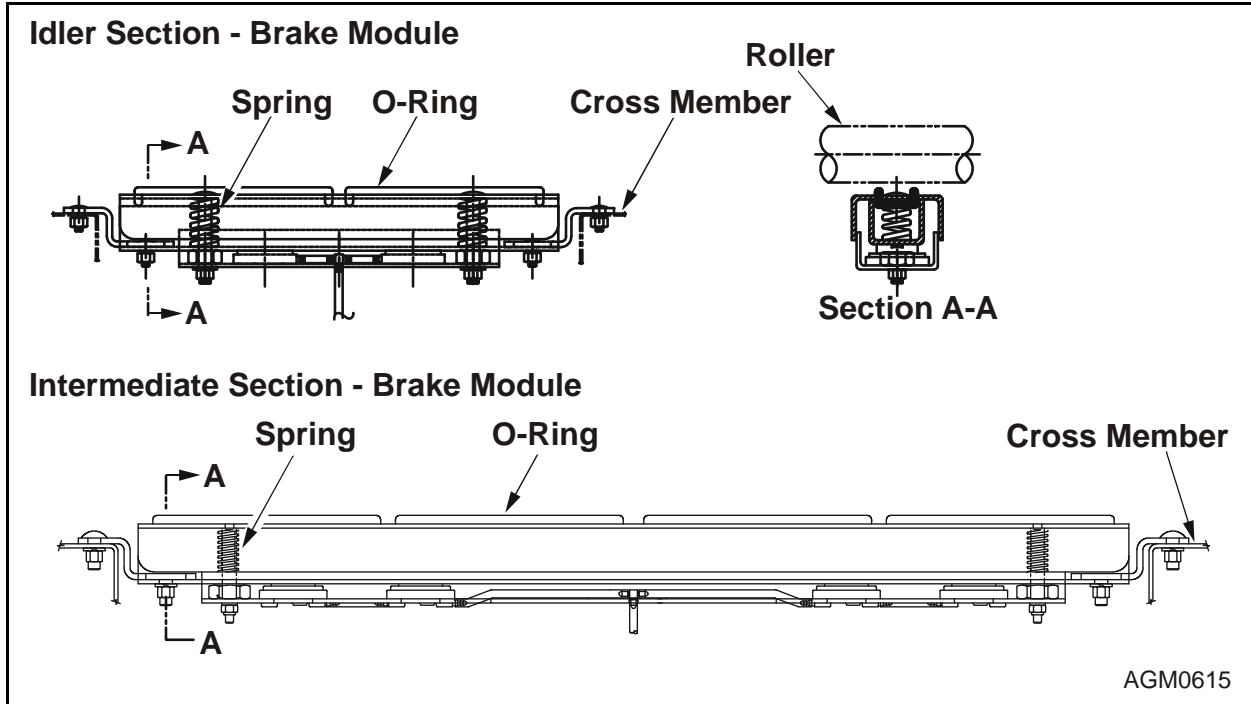


Figure 6 - 32 Brake Module O-Ring Replacement



# 7 Preventive Maintenance

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## **WARNING**

Before performing maintenance on a conveyor, verify that the conveyor's power disconnect is locked in the OFF position and tagged to prevent accidental or unexpected application of power. Do not perform maintenance while the conveyor is running unless specifically instructed to do so in this manual.

Maintenance must be performed only by qualified individuals who are trained in the operation of the conveyor and who are knowledgeable of all safety devices, their locations, and functions. Review the safety information at the front of this manual before performing any maintenance tasks.

Recommended service checks and equipment maintenance are outlined in this section for the standard Accuglide product. Closely observe all newly installed equipment during the first 40 hours of operation; thereafter, establish and follow an appropriate maintenance program.

Maintaining separate service log sheets on each type of conveyor is recommended, particularly for plants operating more than one shift. Each log sheet should show dates, detailed inspection service information, and name or initials of person performing the inspection or service.

Before performing maintenance on a conveyor, verify that the conveyor's power disconnect is locked in the OFF position and tagged to prevent accidental or unexpected application of power. Do not perform maintenance while the conveyor is running unless specifically instructed to do so in this manual.

---

Before restarting the conveyor:

- Remove all foreign objects from the conveyor.
- Verify that all guards and safety devices are properly installed and working.
- Verify that all personnel are clear of the conveyor and that they are aware that the conveyor is about to be restarted.

## Recommendations

It is recommended that a regular inspection schedule is established to monitor the condition and operation of the conveyor to ensure proper performance, reduce downtime and promote long component life.

7 - 1 lists recommended intervals for inspection of specific components of the conveyor and key items of assessment. Additional information in this section provides guidelines for conducting an inspection of the specific component listed.

These recommendations are conservatively based on the conveyor operating during a typical 8 hour per day, 5 days per week, in a reasonably normal environment. Continuous operation and extreme environmental conditions may require an increase in regular conveyor inspections. Therefore, the ideal interval for inspections are best determined from experience by keeping accurate records of inspection or preventative maintenance schedules and adjusting frequencies accordingly.

It is imperative that the recommended intervals for inspection of safety related aspects as specified are not compromised.



## Scheduled Maintenance

Intervals indicated in 7 - 1 for performing recommended maintenance are based on an eight hour per day operation. An application may subject the equipment to conditions that would necessitate more frequent maintenance. This may best be determined by performing maintenance more frequently when the conveyor is first put into operation and then lengthening the intervals based on experience.

Table 7 - 1 Scheduled Maintenance

Interval	Components	Item Check							
		Lubrication	Tension	Wear	Position	Condition	Alignment	Fasteners	Operation
<b>Daily (8 Hours)</b>	Overall System					X			X
	Transportation / Accumulation								X
<b>Weekly (40 Hours)</b>	Rollers - Carrier				X	X			X
	Electrical Devices				X	X	X		X
	Power Unit - Reducer	X				X			X
	General Structure					X	X	X	X
	Safety Guards / Devices				X	X			X
<b>Monthly (160 Hours)</b>	Chain	X				X	X		
	Chain Lubricator								X
	Filter/Regulator	X				X			
	Sprockets			X			X	X	
	Tensioner		X		X	X			X
<b>Semi-Annual (1000 Hours)</b>	Drive Pad					X			X
	Power Unit - Motor					X		X	
<b>Annual (2000 Hours)</b>	Chain			X					
	Electrical Wiring / Voltages					X			X

---

## Scheduled Maintenance Inspections

### Initial Start-Up and Run-In Period

Perform the following checks during the initial startup and run-in periods. Perform the checks on a daily basis for the first week then weekly for the next three (3) weeks.

#### General

Perform a walk-through inspection and observe the following:

- Listen for unusual noises or excessive vibrations.
- Observe the general condition of all floor supports or hangers and other mounting hardware.
- Listen for leaks around all pneumatic connections.

#### Chain Tensioner

Observe the general condition of the chain-tensioner.

- Check that tensioner is operating properly.
- Check that the indicator arrow is in the green zone.
- Observe chain-to-sprocket alignment to ensure the chain is properly aligned with the sprocket teeth.

For air-type tensioners:

- Check that the filter/regulator pressure is set at 60-80 psi.
- Check that the cylinder's Flow-Control Valve is set to allow proper operation.
- Listen for leaks around pneumatic connections.

#### Chain

Observe the general condition of the chain:

- Check the chain for unusual signs of wear or damage.
- Check for mis-alignment at all sprockets in the drive, curve, and idler sections.
- Check the connector link(s) to ensure they are in place.

### **Driver Pad**

Observe the general condition of the driver pad:

- Check the pad to ensure it is properly seated on the chain pins.
- Observe the pad at the drive/idler sprockets to ensure the carrier rollers are not pulling the pad away from the chain.
- Check the condition of all driver pad splices.
- If the purple wear strip is no longer visible, it is time to change the pad.

### **Chain Track Lubricators**

Observe oil consumption during the first four (4) weeks of operation. This will set a bench-mark for future oil consumption needs.

- Check the chain for insufficient or over lubrication.

### **Sensors**

Observe operation of zones controlled by the sensors.

- Ensure photo-eye and reflector are properly aligned.

### **Carrier Rollers**

- Ensure the axles are properly installed into the frame's axle holes or pop-out clips.
- Listen for unusual noise or vibration in the bearings.

### **Motor and Reducer**

- Listen for unusual noises or vibrations around the motor and reducer.
- Monitor the reducer temperature. Reducers tend to run a little hot during initial startup.
- Look for oil leakage around the reducer. This indicates possible seal leakage.

### **Accessories and Options**

- Observe the condition and operation of all installed accessories.
- Observe the condition and operation of all installed options.

---

## **Daily Inspections**

Walk through the system and inspect the conveyor equipment once each shift.

### **Overall System Operation and Appearance**

Observe the conveyor equipment's condition and operation.

### **Product Transportation / Accumulation**

- Confirm that product transports positively (travels along the length of the conveyor without obstruction or hesitation).
- Confirm that product accumulates effectively without build-up of line pressure.

## **Weekly Inspections**

### **Carrier Rollers**

- Ensure the axles are properly installed into the frame's axle holes or pop-out clips.
- Listen for unusual noises or vibrations in the bearings.
- Observe for build up of dirt and debris.

### **Electrical Devices**

- Check all photocells, proximity sensors, limit switches, etc., and adjust as needed.
- Clean lenses and reflectors on photo-eye devices.

**Power Unit - Reducer**

- Check the oil level while the unit is warm.  
If required, add oil through the fill holes until the oil begins to run out the oil level hole. The standard reducer (Reliance) is filled by the manufacturer with a synthetic gear lubricant. When replenishing the oil, be sure to use the same brand and type. DO NOT MIX lubricants. For further information, refer to the instruction tag attached to the unit.

To prevent leakage, apply Teflon tape or Permatex to the threads of the fill plug and oil level plug before re-installing. Properly install and tighten the plugs before putting the conveyor back into operation.

- Check that all fasteners are properly tightened.
- Listen for unusual noises or vibrations in the reducer.
- Observe for build up of dirt and debris.

**General Structure**

- Check the conveyor's physical condition, looking for loose fasteners, damaged or wearing components, and build-up of dirt and/or product spillage.
- Listen for unusual noises coming from bearings, motors, reducers, loose components.

**Safety Guards/Devices**

- Check that safety guards, warning signs, light and alarms are in place and in proper working condition.
- Check that all emergency-stop pull cords and/or push buttons are functioning properly.
- Check equipment safety guards, warning signs, lights and alarms associated with the operation of the conveyor system and keep them in good condition to ensure the safety of all plant personnel.
- Any unusual conveyor noises, oil leaks and operational problems should be reported and promptly corrected.

---

## **Monthly Inspections**

### **Chain**

- Check for signs of wear on the side bars.
- Check for proper lubrication.
- Remove links when tensioner indicator moves into the red zone.

### **Chain Track Lubricator**

- Check level of lubricant in unit's reservoir. If necessary, add SAE 10W non-detergent motor oil.
- Check chain track for adequate lubrication.

### **Filter/Regulator**

- Ensure each unit's air pressure is properly set.
- Clean or replace the filter element (5 micron) if product movement is not positive and uniform along the length of the conveyor.
  - a. If cleaning, use suitable non-flammable cleaning solvent.
  - b. DO NOT bypass the filter for any reason.

### **Sprockets**

- Check teeth for signs of wear or damage.
- Check that fasteners are properly tightened.
- Check alignment.

### **Chain-Tensioner**

- Spring Tensioners
  - a. Check that the chain tensioner is operating properly.
  - b. Check the position of the Position Indicator, and adjust the tensioner when the indicator arrow moves into the yellow zone.
  - c. Remove chain links when the indicator arrow moves into the red zone.\*
- Air Tensioners
  - a. Check that the chain tensioner is operating properly.
  - b. Verify that the air pressure is set at 60 - 80 psi, and the indicator is in the green zone.
  - c. Listen for leaks around the pneumatic connections.
  - d. Remove chain links when the indicator arrow moves into the red zone.\*

**NOTE:** \*See Chapter 4 Service and Repair, topic Maximum Chain Elongation Limit to identify how many links may be removed from the chain before the chain should be replaced.

### **Magnetic Type Lubricator**

Use the following instructions to inspect the Magnetic Lubricator. This inspection should be done monthly.

1. Check the level of lubricant in the oil reservoir.
2. Check the conveyor's maintenance log to determine whether there has been a problem with the power unit's heaters (replacement or increase in size) indicating a lack of lubrication.
3. Check surrounding area for indications of excessive lubrication
4. Check that lubricant is being applied evenly to the bottom of the chain.

---

***Solenoid Type Lubricator***

Use the following instructions to inspect the Solenoid Lubricator. This inspection should be done monthly.

1. Check the level of lubricant in the oil reservoir.
2. Check the conveyor's maintenance log to determine whether there has been a problem with the power-unit's heaters (replacement or increase in size) indicating a lack of lubrication.
3. Check surrounding area for indications of excessive lubrication.
4. Check that lubricant is being applied evenly to the bottom of the chain.



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## **Semi Annual (1000 Hour) Inspections**

### **Driver Pad**

- Ensure the pad is clean and free of oil and/or dirt.
- Observe the strip on the pad's top surface.

**NOTE:** While the width of the strip will diminish as the pad wears, it is not a gauge for indicating useful pad life, etc.

- Check the condition of all splices.

### **Power Unit - Motor**

- Remove any buildup of dirt/dust around the motor vent openings.
- Check that all mounting bolts are securely tightened.
- Check that the motor lead wires are securely connected.

## **Annual Inspections (2000 Hours)**

### **Chain**

- Check for excessive chain elongation.

### **Electrical Wiring / Voltage**

- Verify voltages of control components (power supply/supplies, photo-eyes, solenoid-valves).
- Inspect the wiring for cuts, bare wires, etc.
- Ensure all connectors and screw connections are tight.



# 8 Troubleshooting

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## Introduction

### **WARNING**

Do not clear jams or reach into any unit before first turning the conveyor OFF and performing lockout/tagout at the power source(s). Make certain that all moving parts are fully stopped.

Basic troubleshooting provisions are outlined below. For troubleshooting the specific conveyor system installed, always check the maintenance information. Basic troubleshooting is outlined in Table 8 - 1.

Table 8 - 1 Basic Troubleshooting - Problems, Causes, and Solutions

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Conveyor does not start	Electrical power shut off or control circuit not energized.	Turn on the system's control panel(s).  Reset emergency stop devices
	System control devices (photo-eyes, limit switches, etc.) are out of adjustment or defective.	Adjust or replace.
	Motor overload is open.	Check the conveyor drive system and overload sizing before resetting.
	Low air pressure at the air-operated chain tensioner.	Check the main air supply.  Check the air pressure at the air-operated chain tensioner filter/regulator.  Pressure switch failure or out of adjustment.
Conveyor shuts off	Accumulation photo-cell or other control device(s) actuated or defective.	Check the conveyor accumulation or obstruction of control device.  Replace defective control device.
	Emergency stop activated.	Correct the condition causing the E-Stop to be activated.  Reset the E-Stop and retry.

Table 8 - 1 Basic Troubleshooting - Problems, Causes, and Solutions (Continued)

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Conveyor shuts off (continued)	Power or component failure at system control center.	Refer to vendor manuals.
	Motor overload.	Check the conveyor drive system.  Ensure overload sizing is correct before re-starting.  Check drive chain track for proper lubrication.
Reducer unusually noisy	Mounting bolts are loose	Retighten mounting bolts.
	Unit misaligned or defective	Re-align or replace.
	Insufficient lubrication	Lubricate reducer. Refer to vendor tags on the unit.
Motor runs hot or overheats	Overload.	Check chain-track lubrication.  Reduce the load.  If provided, check air-pressure of air-operated chain tensioner.
	High or low voltage.	Refer to motor's nameplate for proper voltage.  Check / replace fuses.
	Inadequate ventilation or insufficient lubrication.	Check and clean openings on vented motors.  Lubricate motor according to manufacturer's instructions.

Table 8 - 1 Basic Troubleshooting - Problems, Causes, and Solutions (Continued)

Problem	Cause	Solution
Carrier Rollers (in non-accumulation components) not turning	Roller Bearing failure.	Replace roller.
	Roller obstruction.	Remove obstruction.
	Insufficient driving contact with Driver Pad.	Check / clean dirty Drive Pad and/or Carrier Rollers.  Check/adjust height of Drive Pad.  Check/replace worn Drive Pad.
AGP1 - Operational Zone's control components not functioning to raise the zone's Drive Chain / Pad and drive the Carrier Rollers	Solenoid Control Module (SCM) not receiving 24VDC electrical power. (Yellow LED indicator not lit.)	Turn ON main power source.  Turn ON 24VDC Power Supply.  Secure Power/Communication Cord / Power Supply connections.  Replace defective SCM.
	Solenoid Control Module (SCM) not receiving sufficient air pressure (10-12 psi).	Turn ON air source.  Set pressure regulator.  Secure air-line connection(s).
	Photo-eye (unblocked) and reflector not properly aligned (Red LED indicator not lit).	Adjust photo-eye mounting bracket.
Excessive product line pressure	Photo-eye Sensor(s) not blocked.	6-inch photo-eye/reflector offset.
	Drive Pad not dropping away from Carrier Rollers.	Clear obstruction.  Clean Carrier Rollers.  Clean Drive Pad.

# 9 Replacement Parts

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This chapter contains the contact information and procedures for ordering replacement parts. Read the information below to ensure receipt of the correct parts, on time, and shipped to the correct location.

## Contact Information

### Parts Orders

Voice (Toll-Free): (877) 315-3400, select “1” at the prompt

Voice (Local):(513) 701-7346

Fax: (513) 701-7349

E-mail:[parts@intelligrated.com](mailto:parts@intelligrated.com)

On-Time Parts Catalog:[www.OnTimeParts.com](http://www.OnTimeParts.com)

The Parts Department’s normal working hours are Monday through Friday, 8:00 AM to 5:00 PM, Eastern Time, except holidays. For Emergency parts support outside of normal business hours, call the Toll-Free number and select “2” at the prompt.

## Warranty Part Order Procedures

The Warranty Replacement Parts program is designed to replace parts used from the customer's spare parts inventory and not for supplying emergency replacement parts. To maximize system up-time, have a well stocked inventory of spare parts.

The warranty period for the conveyor equipment is detailed in the sales contract. The standard conveyor equipment warranty period is (one) year.

Parts may be ordered by phone, fax, e-mail, or by using our On-Line Parts Catalog. The On-Line Parts Catalog displays a complete description and illustration of the part and also shows the current price and availability.

During the warranty period, all parts that have failed due to defects in material and/or workmanship will be replaced at no cost.

Damage caused by misuse, accidents, mis-adjustment, improper installation, improper maintenance, modification by anyone except Intelligrated personnel, lack of preventive maintenance, power failure or surge, air conditioning or humidity control, transportation, or causes other than a defect in the materials or workmanship are also not covered.

Use the following procedure when requesting a warranty replacement part(s):

1. Make a copy of the Warranty Parts Request Form located at the end of this section and complete the information requested on the form. Provide as much information about the equipment and part as possible, including the description, manufacturer, any information stamped on the part, and all the information from the label on the conveyor. Part numbers may also be easily found in the appropriate maintenance manuals.



Figure 9 - 1 Example of Conveyor Label



Contact the Parts Department via e-mail, fax, phone, or through the On-Time Parts Catalog to request a copy of the form. The Parts Order Processor will fax or e-mail a Warranty Part Request Form.

2. Sign the form and fax it to the Parts Department at 513-701-7349.
3. Upon receipt of the completed Warranty Part Request Form, the Parts Order Processor will enter the warranty order into the ordering system and issue a Returned Material Authorization (RMA) number.
4. The Parts Order Processor will record the Returned Material Authorization (RMA) on the completed Warranty Part Request Form and indicate on the form if the part(s) must be returned to Intelligrated.
5. The Parts Order Processor will return the Warranty Part Request Form to the customer by fax or e-mail.
6. If indicated on the form, return the defective part to Intelligrated at the following address. Be sure to package it to prevent damage during shipment. Also, include a copy of the Warranty Part Request Form inside the package and clearly mark the Returned Material Authorization (RMA) number on the outside of the package.

Intelligrated Returns  
4436 Muhlhauser Road Suite 300  
Attn: Returns  
Hamilton, OH 45011  
RMA# \_\_\_\_\_

Parts received without an RMA number will be returned to the customer.

If Intelligrated does not receive the defective part(s) within 30 days, the customer will be billed for the part(s).

7. The order will be processed and the replacement part(s) will be shipped to the customer as soon as possible.  
Warranty orders are always shipped via ground service. Other shipping arrangements may be made, but the customer will be billed for all shipping charges.

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## Non-Warranty Part Order Procedures

Use the following procedure when ordering a non-warranty replacement part(s).

1. Contact the Parts Department via e-mail, fax, or phone, or by using our On-Time Parts Catalog to request the replacement part. Provide as much information about the equipment and part as possible, including the description, manufacturer, any information stamped on the part, and all the information from the label on the conveyor (see label illustration on the previous pages). Part numbers may also be easily found in the appropriate maintenance manuals.
2. Parts may be purchased using company issued purchase orders or by credit card (Visa, MasterCard, American Express and Discover).

**NOTE:** There is a \$100 minimum order for non-warranty orders.

## Order Processing and Shipping

Orders for stock items are normally shipped the next business day.

Non-stock orders are subject to the lead time of the part. Orders are shipped via ground service (Freight Prepaid and added to invoice) unless otherwise requested. Emergency service to ship via package carrier or scheduled airlines is also available for an additional charge.

Warranty orders are always shipped via ground service. Other shipping arrangements may be made, but the customer will be billed for all additional shipping charges.

## New Parts Warranty

All parts purchased from Intelligrated carry a one-year warranty. All parts supplied at no cost as a warranty replacement for a component assume the warranty of the part being replaced.

Intelligrated will repair or replace, at our option (F.O.B. shipping point), parts which prove to be defective in material or workmanship within the warranty period. Intelligrated reserves the right to deny any warranty claims if during inspection it is determined that failure or damage was caused by accident, abuse or neglect by the user.

Parts damaged in shipment must be handled by submission of a claim to the shipper. Please save all boxes and packing materials and contact the Parts Department.

## Recommended Spare Parts

Intelligrated can prepare and recommend a spare parts list for a customer's specific material handling system. The spare parts list will take into account the expected failure rate of each component and the criticality of each part for each segment of a specific material handling system.

## On-Time Parts Catalog

The Intelligrated On-Line Parts Catalog (OPC) is the only comprehensive material handling on-line parts catalog. Our unique "One Stop Shop" makes it easier to find, order and receive all replacement and spare parts for Material Handling Systems, sub-components and assemblies.

### Accessing the On-Time Parts Catalog

The On-Time Parts Catalog (OPC) can be accessed via the Web by two methods:

1. Go to [www.OnTimeParts.com](http://www.OnTimeParts.com).
2. Go to [www.intelligrated.com](http://www.intelligrated.com). Click the On-Time Parts link at the top of the page, or move the mouse cursor to the "Support Services" link, move the mouse to "Parts" and then click the "On-Line Parts Catalog" link on the submenu.

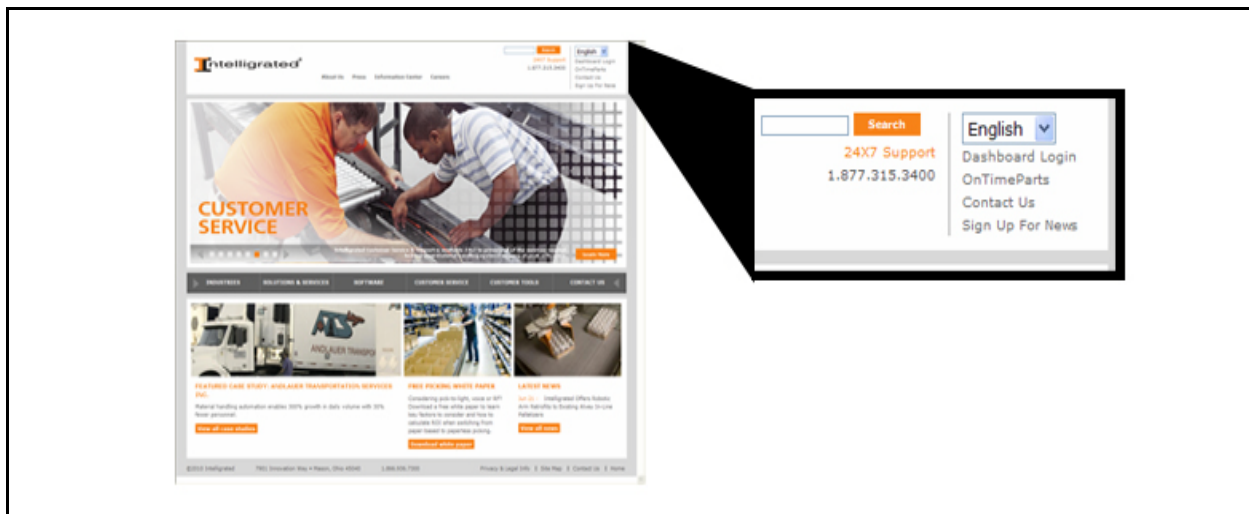


Figure 9 - 2 On-Time Parts Link

With the Intelligrated On-Line Parts catalog, it is easy to place orders on-line. In addition, phone support is available any time toll free at 1-877-315-3400. Intelligrated is also available by email; just click on the [parts@intelligrated.com](mailto:parts@intelligrated.com) link on the OPC home page.

Online parts orders are risk free. Intelligrated provides a full money back guarantee if the customer is not totally satisfied with the service of the On-Line Parts Catalog.

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Intelligrated has included contact information, policies, and how-to information. Just click on the “Help Desk” link at any time.

Click “Help Desk” link and then the “How To” link for details on how to place an order.

### **Using the On-Line Parts Catalog**

To use the On-Time Parts Catalog:

1. Click the Login link. Enter your e-mail address and password and press the “Login” button. To skip the login step the next time, check the “Remember Me” box.  
If needed, click the “Create Account” link and fill in the account information.
2. Enter search information or use the links at the top of the page to select parts by category, Intelligrated product line, or by OEM parts or conveyor cross-reference categories.
3. Choose a part by clicking on the part number or photo. Cross reference and other information will be displayed.
4. Click the “Add to Cart” button and enter the quantity needed. If your company requires a requisition prior to ordering, click the “Add to Requisition” button. Your purchase requisition may be accessed under the “Order Info” link on the left side of the page.

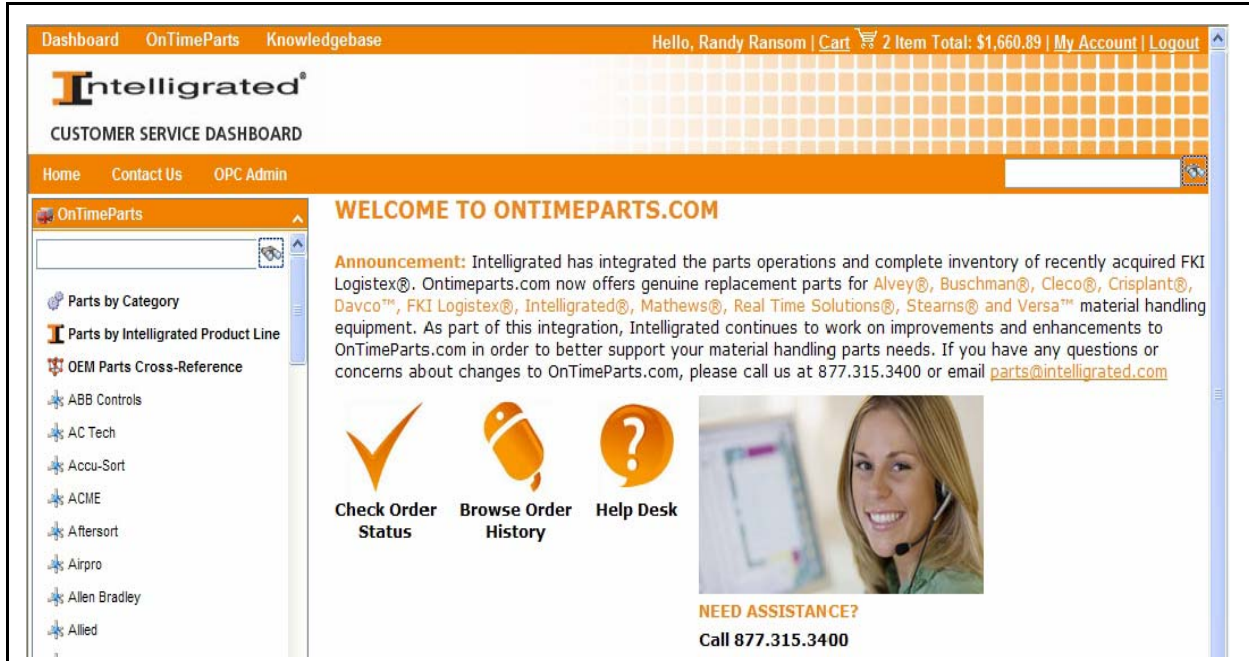


Figure 9 - 3 OPC Main Menu

5. To checkout, click the “Shopping Cart” link on the left side of the page.
6. Verify the order information and click the “Checkout” button to submit your order.
7. Once the order is submitted, click the “Log Off” link to end the session.





## Parts Lists and Illustrations

The following pages contain standard assembly and component parts illustrations and parts lists for your equipment. Colors used in these illustrations are for clarification only and may not match the paint colors of your conveyor components. These illustrations and parts listings were up-to-date at the time of the printing of this manual.

The row(s) highlighted in **GREY** are Recommended Spare Parts and may already be in your parts inventory.

Links have been provided in the electronic version of this manual to make it easier to locate and order parts. Part numbers highlighted in **BLUE** and underlined are linked directly to the On-Time Parts Catalog. When the part number and description are highlighted in **BLUE**, it means there is an assembly drawing on another page of the manual that shows the break down of that assembly.

510 INFEED DRIVE W/ TAKE UP 6-0 510104			
Seq	Qty	Part No.	Description
1	1	51004301	510 DE 6-0 6.500" CHAN RH
2	1	51004302	510 DE 6-0 6.500" CHAN LH
6	4	51000500	BRKT SUPT SINGLE ACTUATOR
7	1	51000400	BRKT SUPT DOUBLE ACTUATOR
9	1	5100310_	510 DE INT TU SHORT END CHAN _H
13	47	221055	NUT FLANGE .375-16
20	1	51003700	IDLER SHEAVE 2.0 CROWNED FLANGE
21	5	51003802	AIR ACTUATOR W 2 AIR INLETS
22	1	51003801	AIR ACTUATOR W/AIR INLET
23	4	51004400	IDLR SHV FA2012 2.0"OD SB0003
28	1	51000805	SUPPORT,TRACK 48.75
29	1	<a href="#">51001705</a>	GUIDE,CHAIN 48.75 RETURN
34	1	51021600	SPACER 0.840 O.D.X14GAX0.719LG
35	2	<a href="#">22626700</a>	<a href="#">BRG #6203-ZZ-5/8 SHIELDED 40MM</a>
47	1	51023400	510 OIL RESV ASSY 1L W/FLOAT SW
48	1	24023600	CONNECTOR 1/2 PUSH - 3/8 TUBE
49	1	24023300	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
53	1	51010400	Yellow Tubing
59	1	51009300	510 TE SHORT CMBR
61	11	0225220	BOLT HEX .375-16 X 2.000
67	3	0220025	BOLT HEX .375-16 X 2.500
71	1	20034000	BOLT HEX .625-11 X 2.500
72	1	0225054	NUT FLANGE .625-11
84	1	51025800	FLAT BELT HC14/30D 3/4 X 126

Recommended Spares highlighted in gray

Link to On-Time Parts Catalog

Assembly Drawing on another page of the manual

Figure 9 - 5 Example of Links in the Electronic Manual

## Using the Parts Lists

The assemblies and components listed in these parts lists may not be described completely if they contain special modifications and/or enhancements. Use the part number shown in this parts list to make sure the correct replacement parts are ordered. In addition, include nameplate information from motors, reducers, gearboxes, clutch/brakes, etc., whenever possible.

1. Find the exploded illustration of the applicable components.
2. Find the item number in the parts lists that matches the number in the illustration. Items on the parts list that are highlighted in GREY are Recommended Spare Parts and may already be in your spare parts inventory.
3. Note the complete description and part number. See the Recommended Spare Parts List to verify the part number for your specific project. Be sure to supply all this information when placing the order.

**NOTE:** Do not provide the item number (the number in the circle) assigned to the part in the illustration. These numbers are used for reference.

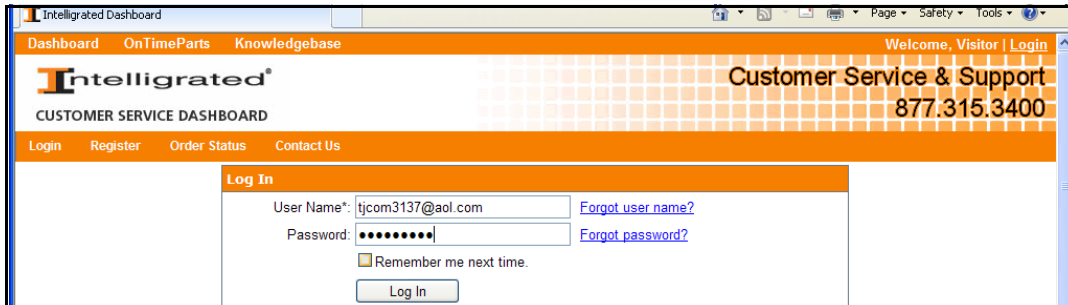
4. To Order Spare Parts - click on the part number shaded in grey, see Figure 9 - 5. The Security Warning Window may be displayed. Click the Allow button and the Intelligrated Customer Service Dashboard window is displayed. Enter User Name and Password, and click the Log In button.



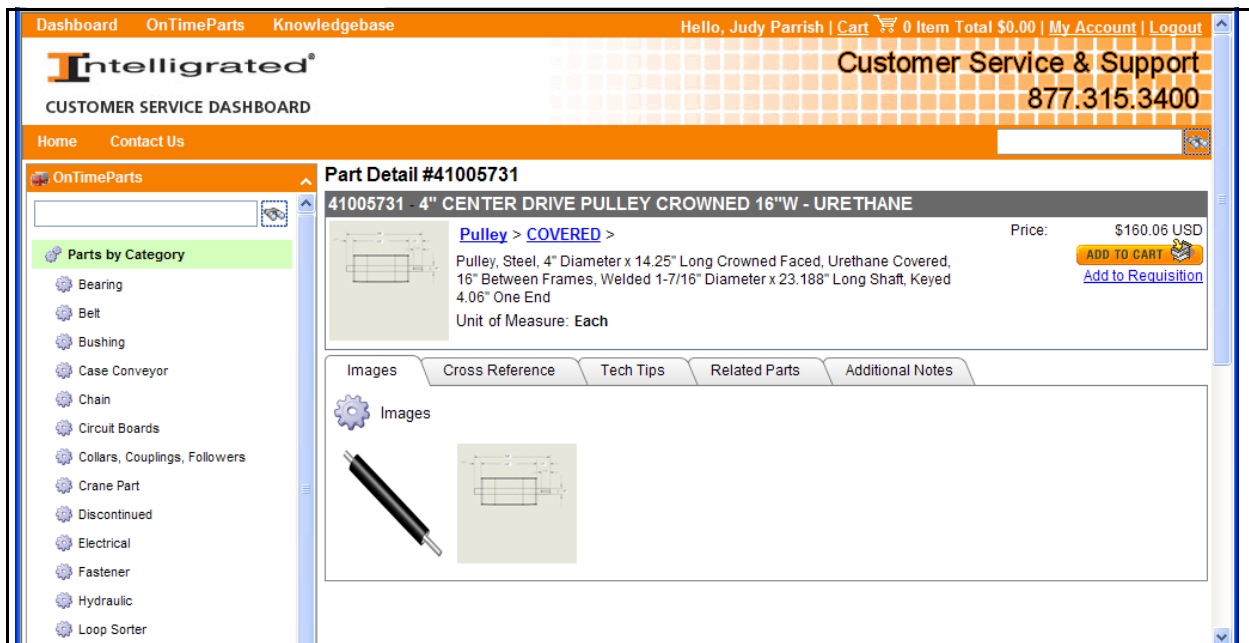


5. Enter User Name and Password, and click the Log In button.

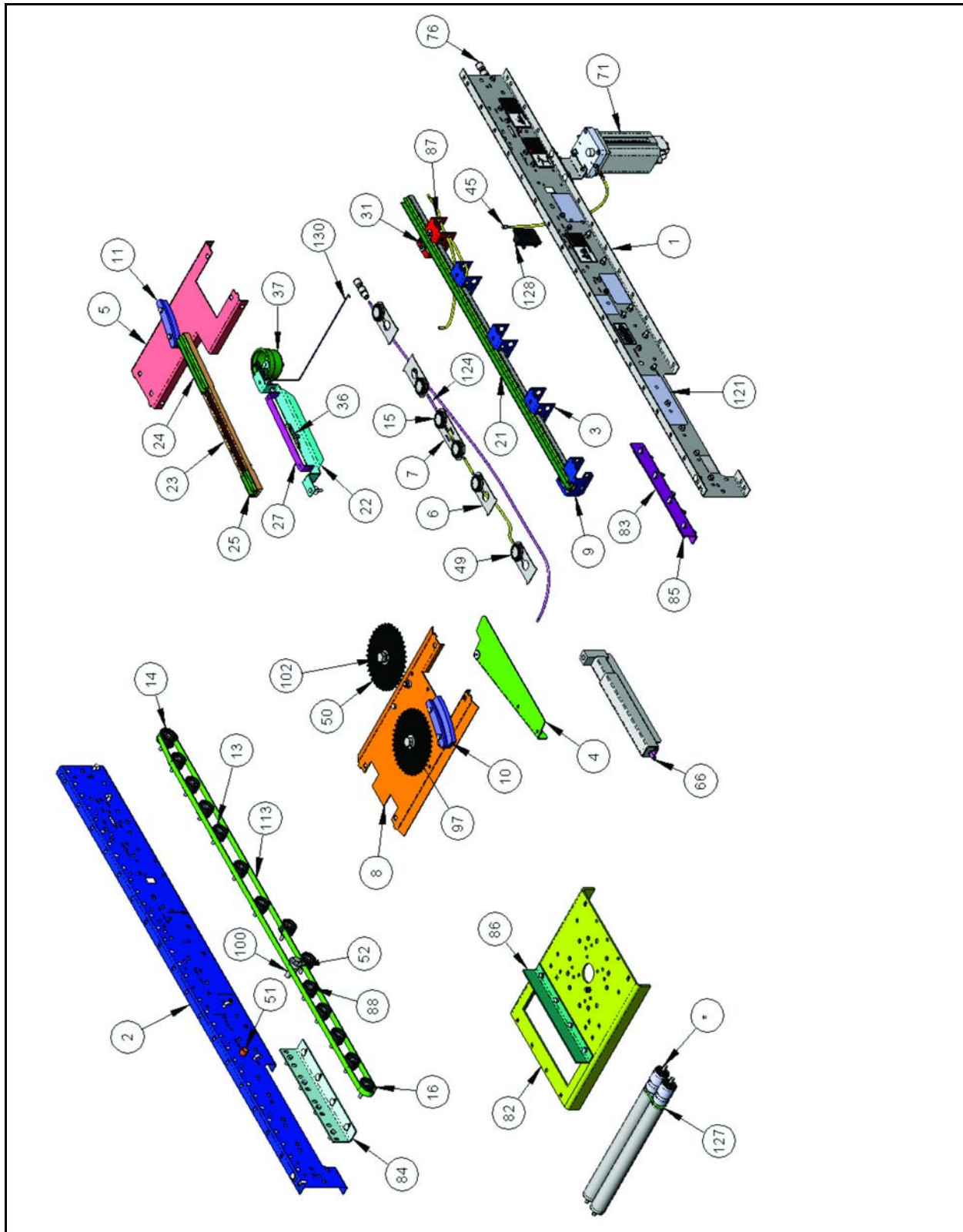
**NOTE:** If you are already logged in, the link will take you to the part that was selected.



After clicking the Log In button, the Customer Service Dashboard/On-Time Parts Catalog is displayed and information about the part that was initially requested. The detailed information, price and availability are displayed in this window. This window allows for on-line ordering.



**510104 - 510 Direct Drive with Take-Up 6-0**



## 510 INFEED DRIVE W/TAKE-UP 6-0 510104

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51004301	510 DE 6-0 6.500" CHAN RH	24	1	<a href="#">51048100</a>	510 OILER CHAIN GUIDE WITH NOZZLE CUTOUT
2	1	51004302	510 DE 6-0 6.500" CHAN LH	25	1	<a href="#">51001704</a>	GUIDE,CHAIN 3.00 ADV/RET
3	3	51001100	510 DE INT TU ACTUATOR SPT CHAN	26	1	51019400	510 UHMW TRACK MAG SENSOR 12"LG
4	1	5100130_	510 DR TU OILER SUPT BRKT_H	27	1	51019300	MAG SENSOR SPRING BRKT
5	1	510019__	510 DE END CHAN_H W__	28	1	<a href="#">51019500</a>	CHANNEL CERAMIC MAGNETIC X 12"
6	4	51000500	BRKT SUPT SINGLE ACTUATOR	29	1	225224	BOLT CAR .250-20 X 1.750
7	1	51000400	BRKT SUPT DOUBLE ACTUATOR	30	1	51020100	SPACER 0.406ODX0.276IDX0.593LG
8	1	5100150_	510 DE TENSIONER MTG PLT__BF	31	10	20065900	WASHER FLAT 1/4" 1"OD
9	1	5100310_	510 DE INT TU SHORT END CHAN_H	32	4	225404	WASHER LOCK .250
10	1	<a href="#">51000900</a>	510 DE INT TU CHAIN GDE X 1.281	33	1	20066000	SCREW #10-32 FHSC UNC 1.25LG BRASS
11	1	<a href="#">51001000</a>	510 DE INT TU CHAIN GDE X 1.156	34	2	225022	NUT NYLOCK #10-32
12	2	51004500	SPACER 0.625ODX0.385IDX0.609LG	35	1	20066100	SCREW #10 RH MACHINE .625"LG
13	9	<a href="#">51003600</a>	IDLER SHEAVE 2.0 OD NO FLANGE	36	1	<a href="#">51019900</a>	SPRING MTG CLIP STD W15-40
14	1	51003700	IDLER SHEAVE 2.0 CROWNED FLANGE	37	2	51021000	510 OILER DRIP CUP CLR GRN W/DR
15	5	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	38	3	225283	BOLT CAR .250-20 X .750
16	4	<a href="#">51004400</a>	IDLR SHV FA2012 2.0"OD SB0003	39	2	220075	WASHER FLAT .250 SAE TYPE A
17	1	51003200	510 DR TU GUARD	40	1	51021100	SPRING FLAT MTG PIN 3/8HEX X 1
18	1	51004700	SPACER 1.125 OD X 0.661 LG	41	4	221281	NUT FLANGE .250-20
19	2	51019000	SHIM 16GA X0.812 ID X1.125OD	42	1	220066	NUT NYLOCK .250-20 ZC
20	1	51000805	SUPPORT,TRACK 48.75	43	1	24023100	VALVE 2WAY CLIPPARD NC #MAV-2
21	1	<a href="#">51001705</a>	GUIDE,CHAIN 48.75 RETURN	44	1	<a href="#">24023200</a>	ACTUATOR BALL CLUPPARD #MBA-1
22	1	51019100	MAG SENSOR SUPPORT CHAN	45	1	24022700	FITTING AIR CONN 1/4OD X 10-32UNF LEGRIS 3171-56-20
23	1	51019200	MAG SENSOR UNST ALUM 24.25"				

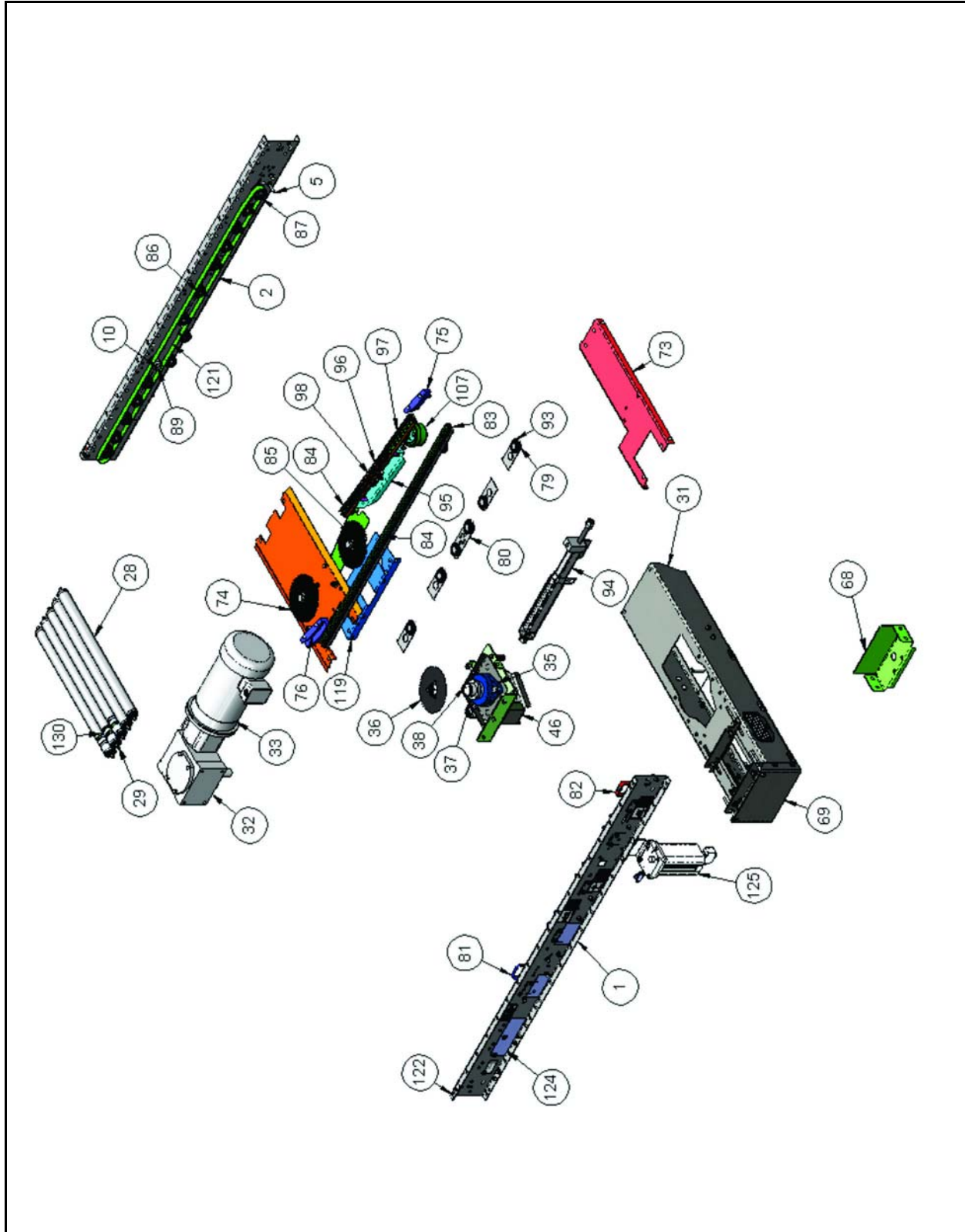
## 510 INFEED DRIVE W/TAKE-UP 6-0 510104

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
46	1	24022800	FITTING AIR ELBOW 90 1/4ODX10-32UNF LEGRIS 3109-56-20	76	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
47	2	24022600	NOZZLE MISTING UNIST "D" BODY UNIST PN#S072604C-E	80	1	<a href="#">23366800</a>	SENSOR PROX 18MM DC 24 VOLT AB# 872C-D5NP18-E2
48	3	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	81	1	<a href="#">23366900</a>	SENSOR PROX 18MM AC 115 VOLT AB# 872C-A5N18-A2
49	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	82	1	5100180_	510 DE INT TU DRV MTG CHAN W__
50	2	51009101	510 STD IDLER SPKT #50 39T	83	1	51003900	510 DE DRV SIDE MTG ANGLE
51	1	51021600	SPACER 0.875 O.D.X14GAX0.719LG	84	1	51003300	510 DE IDL SIDE MTG ANGLE
52	2	22626700	BRG #6203-ZZ-5/8 SHIELDED 40MM	85	2	51004000	510 DE DRV JACK-BOLT CLIP
53	1	51020600	510 SOL SENSOR UNST GALV 24.25	86	1	51004100	510 SUPPORT ANGLE
54	1	51001706	GUIDE,CHAIN 18.50 ADV/RET	87	1	51009300	510 TE SHORT CMBR
55	1	51020700	510 OILER DRIP CUP BRKT	88	11	225220	BOLT HEX .375-16 X 2.000
56	2	225151	SCREW #10 RH MACHINE .500"	89	47	221055	NUT FLANGE .375-16
57	1	220923	BOLT HEX .250-20 X 1.750	90	5	220021	BOLT HEX .375-16 X 1.500
58	1	51020900	SPACER 0.406ODX0.276IDX0.718LG	91	1	220071	WASHER LOCK .375
60	1	3175 60 11	Legris 3/8"Tube to Male 1/8NPT Connector	92	15	220019	BOLT HEX .375-16 X 1.000
61	3	<a href="#">3175 56 11</a>	Legris 1/4"Tube to Male 1/8"NPT Connector	93	6	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
63	2	20050500	NUT FLANGE #10-24	94	3	20004500	SCR SELF DRILLING HX HD .250-20 X 1.000
64	2	20003600	SCREW PN HD PHL #6-32 X 1.25	95	8	20033800	BOLT CAR .375-16 X 1.000
65	2	20003700	NUT FLANGE #6-32	96	3	220024	BOLT HEX .375-16 X 2.250
66	1	51022100	510 AIR CYLINDER TENSIONER	97	1	225427	BOLT HEX .750-10 X 3.000
67	1	51004600	SPACER 1.125 OD X 0.271 LG	98	1	221232	WASHER FLAT .750 SAE TYPE A
68	1	51023000	BRKT OIL RESEVOIR SMC	99	1	225054	NUT FLANGE .625-11
75	2	24023600	CONNECTOR 1/2 PUSH - 3/8 TUBE	100	1	20034000	BOLT HEX .625-11 X 2.500

## 510 INFEED DRIVE W/TAKE-UP 6-0 510104

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
101	1	225388	NUT NYLOCK .750-10	115	2	29073100	
102	1	20034600	BOLT HEX .750-10 X 2.000	116	2	29305700	Label Accuglide
103	1	20014400	WASHER LOCK .750	117	2	51002000	510 END ROLLER RETAINER FLAT
104	2	221286	NUT FLANGE .500-13	118	2	29025700	LABEL CEMA #930002
105	4	225220	BOLT HEX .375-16 X 2.000 FULL THRD	119	2	29002600	LABEL CEMA # 930004
106	4	221126	NUT NYLOCK .375-16	120	2	29002800	LABEL CEMA # 930009
107	17	20065300	BOLT,J 5-16 X 1.38	121	1	29316900	
108	17	225021	NUT FLANGE .313-18	122	2	29003000	LABEL PRODUCT TRAVEL
109	2	20024400	BOLT CAR .375-16 X 1.750	123	1	29316700	
111	1	220019	BOLT HEX .375-16 X 1.000	127	1	<a href="#">305280</a>	O-BELT 0.188 DIA x 7.750 LG 83A
112	1	220061	NUT HEX .375-16	128	1	51047100	CONTROL,HUMPHREY 2.0
113	1	<a href="#">51025800</a>	FLAT BELT HC14/30D 3/4 X 126	129	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
114	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)				

**510105 - 510 Side Mount Drive w/Take-up 6-0**





## 510 SIDE MOUNT DRIVE 51010500

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51018801	510 UH 6-0 6.5" CHAN RH	23	1	225388	NUT NYLOCK .750-10
2	1	51018802	510 UH 6-0 6.5" CHAN LH	24	1	225054	NUT FLANGE .625-11
3	14	225220	BOLT HEX .375-16 X 2.000	25	2	20014400	WASHER LOCK .750
4	20	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	26	2	220071	WASHER LOCK .375
5	5	225220	BOLT HEX .375-16 X 2.000 FULL THRD	27	6	20065900	WASHER FLAT 1/4" 1"OD
6	2	220021	BOLT HEX .375-16 X 1.500	28	2	<a href="#">140061160</a>	ROL G196AB 16.00BF AX7 B2006
7	17	20065300	BOLT,J 5-16 X 1.38			<a href="#">140061220</a>	ROL G196AB 22.00BF AX7 B2006
8	3	20004500	SCR SELF DRILLING HX HD .250-20 X 1.000			<a href="#">140061280</a>	ROL G196AB 28.00BF AX7 B2006
9	1	20034600	BOLT HEX .750-10 X 2.000			<a href="#">140061340</a>	ROL G196AB 34.00BF AX7 B2006
10	1	20034000	BOLT HEX .625-11 X 2.500			<a href="#">140061400</a>	ROL G196AB 40.00BF AX7 B2006
11	1	225427	BOLT HEX .750-10 X 3.000			<a href="#">140061460</a>	ROL G196AB 46.00BF AX7 B2006
12	2	29025700	LABEL CEMA #930002			<a href="#">140061520</a>	ROL G196AB 52.00BF AX7 B2006
13	2	29002600	LABEL CEMA # 930004			<a href="#">140179520</a>	ROL G192AB 52.00BF AX7
14	2	29305700	LABEL ACCUGLIDE			<a href="#">140062160</a>	ROL G196HS 16.00"BF AX7 SLEEVE B2006
15	2	29002800	LABEL CEMA # 930009			<a href="#">140062220</a>	ROL G196HS 22.00"BF AX7 SLEEVE B2006
16	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)			<a href="#">140062280</a>	ROL G196HS 28.00"BF AX7 SLEEVE B2006
17	2	29073100	LABEL CEMA # 930003 (DANGER VOLTAGE)			<a href="#">140062340</a>	ROL G196HS 34.00"BF AX7 SLEEVE B2006
18	44	221055	NUT FLANGE .375-16			<a href="#">140062400</a>	ROL G196HS 40.00"BF AX7 SLEEVE B2006
19	4	221126	NUT NYLOCK .375-16			<a href="#">140021160</a>	ROL G196PR AX7 SLEEVE 16.000BF
20	2	225619	NUT HEX LOCK WHIZ FLG #8-32 ZC			<a href="#">140021220</a>	ROL G196PR AX7 SLEEVE 22.000BF
21	2	221286	NUT FLANGE .500-13			<a href="#">140021280</a>	ROL G196PR AX7 SLEEVE 28.000BF
22	17	225021	NUT FLANGE .313-18			<a href="#">140021340</a>	ROL G196PR AX7 SLEEVE 34.000BF

## 510 SIDE MOUNT DRIVE 51010500

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
28 cont	2	<a href="#">140021400</a>	ROL G196PR AX7 SLEEVE 40.000BF	29 cont	2	140342400	ROL G196HS 40.00BF MDR DGR AX7 SLEEVE B2006
		<a href="#">140070160</a>	ROL G196AB 16.00BF DT AX7 B2006			140324160	ROL G196PR AX7 SLEEVE MDR DGR 16.000BF
		<a href="#">140070220</a>	ROL G196AB 22.00BF DT AX7 B2006			140324220	ROL G196PR AX7 SLEEVE MDR DGR 22.000BF
		<a href="#">140070280</a>	ROL G196AB 28.00BF DT AX7 B2006			140324280	ROL G196PR AX7 SLEEVE MDR DGR 28.000BF
		<a href="#">140070340</a>	ROL G196AB 34.00BF DT AX7 B2006			<a href="#">140324340</a>	ROL G196PR AX7 SLEEVE MDR DGR 34.000BF
		<a href="#">140070400</a>	ROL G196AB 40.00BF DT AX7 B2006			140324400	ROL G196PR AX7 SLEEVE MDR DGR 40.000BF
		29	2			<a href="#">140066160</a>	ROL G196AB 16.00"BF MDR DGR AX7 B2006
		<a href="#">140066220</a>	ROL G196AB 22.00"BF MDR DGR AX7 B2006	31	1	51049900	510 SIDE DRIVE PROTO BOX FRAME SKIN RH
		<a href="#">140066280</a>	ROL G196AB 28.00"BF MDR DGR AX7 B2006	32	1	SEE ORDER	TIGEAR II REDUCER
		<a href="#">140066340</a>	ROL G196AB 34.00"BF MDR DGR AX7 B2006	33	1	SEE ORDER	MOTOR
		<a href="#">140066400</a>	ROL G196AB 40.00"BF MDR DGR AX7 B2006	34	1	51051300	510 SIDE DRIVE BRG CARTRIDGE POSITION PLATE
		140342160	ROL G196HS 16.00BF MDR DGR AX7 SLEEVE B2006	35	2	<a href="#">22641600</a>	BEARING FLANGE 2 BOLT 1-15/16 F2B-SCM-115-NL
		<a href="#">140342220</a>	ROL G196HS 22.00BF MDR DGR AX7 SLEEVE B2006	36	1	<a href="#">22625800</a>	SPROCKET H50SDS39
		<a href="#">140342280</a>	ROL G196HS 28.00BF MDR DGR AX7 SLEEVE B2006	37	1	<a href="#">22626000</a>	BUSHING SDS 1 1/8BR
		<a href="#">140342340</a>	ROL G196HS 34.00BF MDR DGR AX7 SLEEVE B2006	38	1	51023901	510 DE UH DRV SHAFT
				39	2	20054000	BOLT HEX .375-16 X 2.500 FULL THRD



## 510 SIDE MOUNT DRIVE 51010500

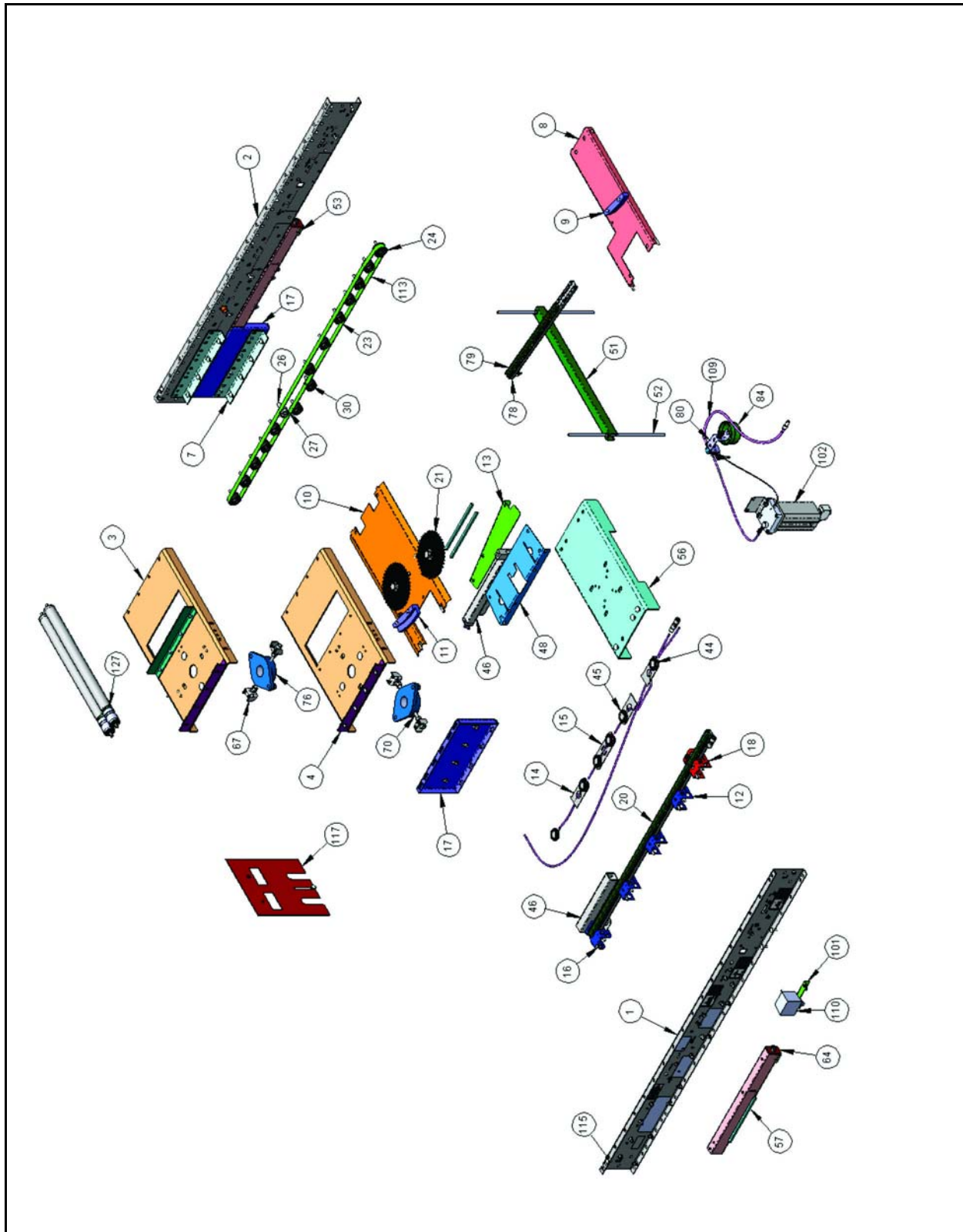
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
40	8	220061	NUT HEX .375-16	63	4	220073	WASHER LOCK .438
41	2	230443	BOLT HEX .625-11 X 1.750	64	2	126662	FST HHCS .375-16 X 5.000 FULL THREAD ZC
42	1	51051500	510 SIDE DRIVE NUT PLATE	65	3	20019700	BOLT HEX .375-16 X 1.00 GR 5
43	2	20043200	NUT SQ WELD .625-11 .781 DIA PILOT X .094H	66	1	51049100	510 SIDE DRIVE GEARBOX SUPPORT BRKT W/ADJ
44	4	225404	WASHER LOCK .250	67	1	51051000	510 SIDE DRIVE GEARBOX SUPPORT BRKT
45	3	225859	BOLT HEX .250-20 X 1.375	68	1	51050100	510 SIDE DRIVE PROTO SUPPORT BKT
46	1	51050500	510 SIDE DRIVE CARTRIDGE WLDMT	69	1	51049300	510 SIDE DRIVE END COVER
47	2	225322	NUT HEX 5/8-11 ZINC PLATED	70	2	51051202	SPACER 1" OD .406" ID X .500" LG
48	1	<a href="#">123201</a>	TAPER-LOCK BUSHING 2012 1.938 BORE	71	1	51049800	510 SIDE DRIVE BOTTOM COVER
49	2	225463	WASHER LOCK .625	72	2	51050900	510 SIDE MOUNT DRIVE INSPECTION COVER
50	1	<a href="#">22413600</a>	CH SPKT 60BTL28H-1610 DODGE 100578	73	1	510019__	510 DE END CHAN _H W__
51	2	20070900	BOLT CAR .625-11 X 2.000 GR5	74	1	5100150_	510 DE TENSIONER MTG PLT __BF
52	2	51050200	510 SIDE MOUNT BRG CARTRIDGE UPPER PLATE	75	1	51001000	510 DE INT TU CHAIN GDE X 1.156
53	4	20043100	NUT SQ WELD .500-13 .719 DIA PILOT X .094H	76	1	51000900	510 DE INT TU CHAIN GDE X 1.281
54	18	20006700	BOLT HEX FLG .375-16 X .750	77	3	51001100	510 DE INT TU ACTUATOR SPT CHAN
55	2	20060900	BOLT HEX FLG .375-16 X 2.250	78	1	5100130_	510 DR TU OILER SUPT BRKT _H
56	5	220077	WASHER FLAT .375 SAE TYPE A	79	4	51000500	BRKT SUPT SINGLE ACTUATOR
57	4	225191	WASHER FLAT .438 SAE TYPE A	80	1	51000400	BRKT SUPT DOUBLE ACTUATOR
58	2	20004100	BOLT HEX .375-16 X 1.00 GR 8	81	1	5100310_	510 DE INT TU SHORT END CHAN _H
59	4	11001301	BOLT HHCS .500-13 X 1.500 GR5	82	1	51009300	510 TE SHORT CMBR
60	4	20039300	WASHER FLAT 1/2 SAE ZP	83	1	<a href="#">51000805</a>	SUPPORT, TRACK 48.75
61	4	20014300	WASHER LOCK .500	84	2	<a href="#">51001704</a>	GUIDE, CHAIN 3.00 ADV/RET
62	4	221401	BOLT HEX .438-14 X 1.250	85	1	<a href="#">51009101</a>	510 STD IDLER SPKT #50 39T

## 510 SIDE MOUNT DRIVE 51010500

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
86	13	<a href="#">51003600</a>	IDLER SHEAVE 2.0 OD NO FLANGE	107	1	51021000	510 OILER DRIP CUP CLR GRN W/DR
87	1	<a href="#">51003700</a>	IDLER SHEAVE 2.0 CROWNED FLANGE	108	2	225283	BOLT CAR .250-20 X .750
88	4	<a href="#">51019000</a>	SHIM 16GA X0.812 ID X1.125OD	109	1	220075	WASHER FLAT .250 SAE TYPE A
89	2	<a href="#">22498100</a>	BRG #6203-ZZ-5/8 SHIELDED 40MM	110	1	51021100	SPRING FLAT MTG PIN 3/8HEX X 1
90	1	51021600	SPACER 0.875 O.D.X14GAX0.719LG	111	2	221281	NUT FLANGE .250-20
91	1	51004700	SPACER 1.125 OD X 0.661 LG	112	1	220066	NUT NYLOCK .250-20 ZC
92	2	51004500	SPACER 0.625ODX0.385IDX0.609LG	113	1	<a href="#">24023100</a>	VALVE 2WAY CLIPPARD NC #MAV-2
93	7	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	114	1	<a href="#">24023200</a>	ACTUATOR BALL CLUPPARD #MBA-1
94	1	<a href="#">51022000</a>	510 HD SPRING TENSIONER	115	1	<a href="#">24022700</a>	FITTING AIR CONN 1/4OD X 10-32UNF LEGRIS 3171-56-20
95	1	<a href="#">51022100</a>	510 AIR CYLINDER TENSIONER	116	1	<a href="#">24022800</a>	FITTING AIR ELBOW 90
96	1	51019100	MAG SENSOR SUPPORT CHAN	117	1	<a href="#">24022600</a>	1/4ODX10-32UNF LEGRIS 3109-56-20
97	1	<a href="#">51048100</a>	MAG SENSOR UNST ALUM 24.25"	118	2	20118300	NOZZLE MISTING UNIST "D" BODY UNIST PN#S072604C-E
98	1	<a href="#">51019400</a>	510 OILER CHAIN GUIDE WITH NOZZLE CUTOUT	119	1	51003200	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)
99	1	<a href="#">51001799</a>	510 UHMW TRACK MAG SENSOR 12"LG	120	1	51023000	510 DR TU GUARD
100	1	51019300	510 EXTRUDED CHAIN TRACK UHMW	121	1	<a href="#">51025800</a>	BRKT OIL RESEVOIR SMC
101	1	<a href="#">51019500</a>	MAG SENSOR SPRING BRKT	122	2	<a href="#">51002000</a>	FLAT BELT HC14730D 3/4 X 126
102	1	225224	CHANNEL CERAMIC MAGNETIC X 12"	123	1	29003000	510 END ROLLER RETAINER FLAT
103	1	51020100	BOLT CAR .250-20 X 1.750	124	1	29316900	LABEL PRODUCT TRAVEL
104	2	225022	SPACER 0.406ODX0.276IDX0.593LG	125	1	<a href="#">51023300</a>	LABEL MAINTENANCE DRIVE SPKT CHECK (FKI# 7065878)
105	1	20066000	SCREW #10-32 FHSC UNC 1.25LG BRASS	130	2	<a href="#">305280</a>	510 OIL RESERVOIR ASSEMBLY
106	1	51019900	NUT NYLOCK #10-32	131	2	<a href="#">51025700</a>	O-BELT 0.188 DIA x 7.750 LG 83A
			SCREW #10 RH MACHINE .625"LG	132	1	<a href="#">23366800</a>	510 TE PRESSURE SWITCH ASSY
			SPRING MTG CLIP STD W15-40	133	1	<a href="#">23366900</a>	SENSOR PROX 18MM DC 24 VOLT
							SENSOR PROX 18MM AC 120 VOLT



**510106 - 510 Underhung Drive with Take-Up 6-0**



## 510 UNDERHUNG DRIVE W/TAKE-UP 6-0 510106

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51018801	510 UH 6-0 6.5" CHAN RH	26	1	20034000	BOLT HEX .625-11 X 2.500
2	1	51018802	510 UH 6-0 6.5" CHAN LH	27	2	22626700	BRG #6203-ZZ-5/8 SHIELDED 40MM
3	2	510094__	510 TU DRV BRG MTG CH W__	28	1	51021600	SPACER 0.875 O.D.X14GAX0.719LG
4	2	51003900	510 DE DRV SIDE MTG ANGLE	29	5	225054	NUT FLANGE .625-11
5	4	51004000	510 DE DRV JACK-BOLT CLIP	30	14	220024	BOLT HEX .375-16 X 2.250
6	1	51004100	510 SUPPORT ANGLE	31	72	221055	NUT FLANGE .375-16
7	2	51003300	510 DE IDL SIDE MTG ANGLE	32	1	225427	BOLT HEX .750-10 X 3.000
8	1	510019__	510 DE END CHAN _H W__	33	1	51004700	SPACER 1.125 OD X 0.661 LG
9	1	<a href="#">51001000</a>	510 DE INT TU CHAIN GDE X 1.156	34	2	20014400	WASHER LOCK .750
10	1	5100150_	510 DE TENSIONER MTG PLT __BF	35	1	225388	NUT NYLOCK .750-10
11	1	<a href="#">51000900</a>	510 DE INT TU CHAIN GDE X 1.281	36	1	51004600	SPACER 1.125 OD X 0.271 LG
12	3	51001100	510 DE INT TU ACTUATOR SPT CHAN	37	1	20034600	BOLT HEX .750-10 X 2.000
13	1	5100130_	510 DR TU OILER SUPT BRKT _H	38	2	51004500	SPACER 0.625ODX0.385IDX0.609LG
14	4	51000500	BRKT SUPT SINGLE ACTUATOR	39	2	220021	BOLT HEX .375-16 X 1.500
15	1	51000400	BRKT SUPT DOUBLE ACTUATOR	40	3	20004500	SCR SELF DRILLING HX HD .250-20 X 1.000
16	1	5100310_	510 DE INT TU SHORT END CHAN _H	41	6	20065900	WASHER FLAT 1/4" 1"OD
17	2	510238__	510 TU DRV FILL CHANNEL REL 26	42	17	20065300	BOLT, J 5-16 X 1.38
18	1	51009300	510 TE SHORT CMBR	43	17	225021	NUT FLANGE .313-18
19	1	51000805	SUPPORT, TRACK 48.75	44	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET
20	1	<a href="#">51001705</a>	GUIDE, CHAIN 48.75 RETURN	45	5	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS
21	1	51009101	510 STD IDLER SPKT #50 39T	46	1	51022100	510 AIR CYLINDER TENSIONER
22	4	<a href="#">51004400</a>	IDLR SHV FA2012 2.0"OD SB0003	47	12	221286	NUT FLANGE .500-13
23	9	<a href="#">51003600</a>	IDLER SHEAVE 2.0 OD NO FLANGE	48	1	51003200	510 DR TU GUARD
24	1	51003700	IDLER SHEAVE 2.0 CROWNED FLANGE	49	21	20033800	BOLT CAR .375-16 X 1.000
25	4	51019000	SHIM 16GA X0.812 ID X1.125OD	50	2	20066800	STRUT NUT 3/8-16 PS8TG W/SPR

## 510 UNDERHUNG DRIVE W/TAKE-UP 6-0 510106

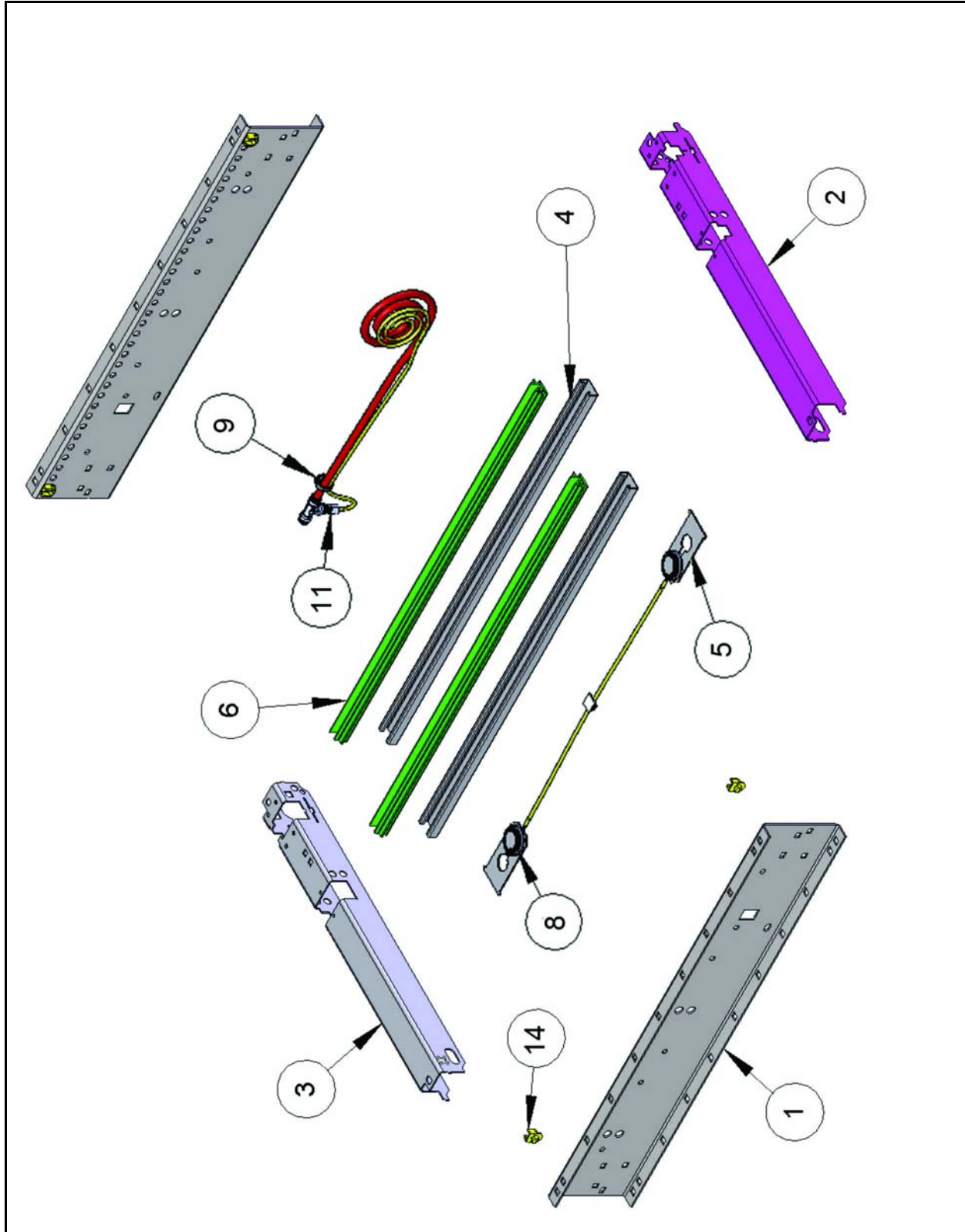
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
51	1	51022303	510 UH MOTOR SUPT STRUT W28	75	4	20070900	BOLT CAR .625-11 X 2.000 GR5
52	2	51022400	510 UH MOTOR SUPT ROD	76	2	<a href="#">51022900</a>	FLANGE BRG 2BOLT 1 15/16 SCM
53	2	51022500	510 UH MOTOR SUPT STRUT FLAT	77	4	20024400	BOLT CAR .375-16 X 1.750
54	2	51008500	510 UH DR MOTOR BASE RAIL	78	1	51020600	510 SOL SENSOR UNST GALV 24.25
55	23	220019	BOLT HEX .375-16 X 1.000	79	1	51001706	GUIDE,CHAIN 18.50 ADV/RET
56	1	51008702	510 UH RED MTG CHAN W22	80	1	51020700	510 OILER DRIP CUP BRKT
58	2	51022700	510 UH DR TAKE-UP SLED 3-BOLT 9"	81	2	225151	SCREW #10 RH MACHINE .500"
59	6	225429	BOLT CAR .500-13 X 1.500	82	1	220923	BOLT HEX .250-20 X 1.750
60	1	51006200	BC CD GRDCOV 18CTR WINDOW CUTO	83	1	51020900	SPACER 0.406ODX0.276IDX0.718LG
61	1	51006300	GUARD WINDOW LEXAN 10.00X24.00	84	1	51021000	510 OILER DRIP CUP CLR GRN W/DR
62	12	20050500	NUT FLANGE #10-24	85	1	225283	BOLT CAR .250-20 X .750
63	10	20025800	SCREW PN HD PHL #10-32 X .500	86	1	220075	WASHER FLAT .250 SAE TYPE A
64	2	51007100	510 UH DR END PLATE-MTR BASE TAKE UP	87	1	A240003M AC	
65	2	51007200	Description	88	1	3175 60 11	Legris 3/8"Tube to Male 1/8NPT Connector
66	2	51022800	ROD,THD, 1/2-13X19.938,GALV	89	3	<a href="#">3175 56 11</a>	Legris 1/4"Tube to Male 1/8"NPT Connector
67	4	51009600	BC BRG ADJ CLIP ZINC	90	1	9-5140-00 1	GRND DOWN CORDS
69	3	20117100	BOLT SQ HD 1/2 -13 X 3.500	91	2	20003600	SCREW PN HD PHL #6-32 X 1.25
70	1	20113100	BOLT SQ HD 1/2 -13 X 3	92	2	20003700	NUT FLANGE #6-32
71	8	220009	BOLT HEX .250-20 X 1.000	93	1	24022600	NOZZLE MISTING UNIST "D" BODY UNIST PN#S072604C-E
72	9	221281	NUT FLANGE .250-20	94	1	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)
73	4	225220	BOLT HEX .375-16 X 2.000 FULL THRD	99	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
74	4	221126	NUT NYLOCK .375-16	100	2	24023600	CONNECTOR 1/2 PUSH - 3/8 TUBE

## 510 UNDERHUNG DRIVE W/TAKE-UP 6-0 510106

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
101	1	51023000	BRKT OIL RESEVOIR SMC	121	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
102	1	<a href="#">AL-DUM00</a> <a href="#">277</a>	AG OIL RESV ASSY 1L W/FLOAT SW	122	2	29002800	LABEL CEMA # 930009
108	1	<a href="#">23366800</a>	SENSOR PROX 18MM DC 24 VOLT AB# 872C-D5NP18-E2	123	2	29305700	Label Accuglide
110	1	24023400	PRESSURE SWITCH BARKSDALE E1H-H90	124	2	29002600	LABEL CEMA # 930004
112	3	225404	WASHER LOCK .250	125	2	29025700	LABEL CEMA #930002
113	1	51025800	FLAT BELT HC14/30D 3/4 X 126	126	1	29316700	
114	4	220063	NUT HEX .500-13	127	1	<a href="#">305280</a>	O-BELT 0.188 DIA x 7.750 LG 83A
115	2	51002000	510 END ROLLER RETAINER FLAT			<a href="#">140066160</a>	ROL G196AB 16.00"BF MDR DGR AX7 B2006
116	2	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	128	1	140066220	ROL G196AB 22.00"BF MDR DGR AX7 B2006
117	1	51042900	510 UH DRIVE END COVER			140066280	ROL G196AB 28.00"BF MDR DGR AX7 B2006
118	2	29073100				<a href="#">140066340</a>	ROL G196AB 34.00"BF MDR DGR AX7 B2006
119	1	29003000	LABEL PRODUCT TRAVEL			140066400	ROL G196AB 40.00"BF MDR DGR AX7 B2006
120	1	29316900					



**510100 - 510 Intermediate Section 3 ft**

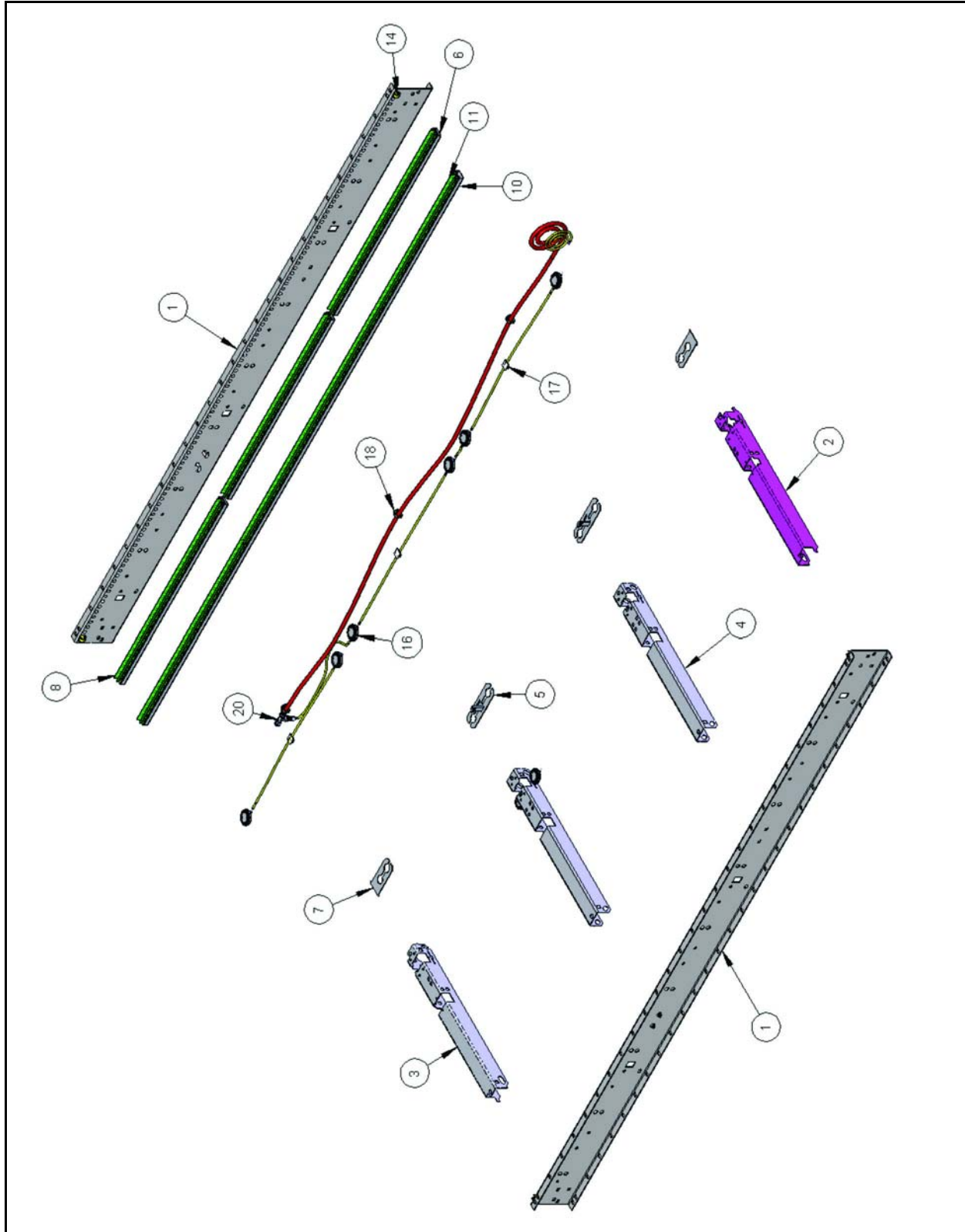




## 510 INTERMEDIATE SECTION 3'-0" 510100

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	2	51005304	ACCUGLIDE CHAN RAIL IS 3'	8	1	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET
2	1	5100010_	510 END CROSS CHANNEL LH W_	9	3	<a href="#">40026100</a>	SIDE COVER CLIP
3	1	510002_	AG END CROSS CHANNEL RH W_	10	1	<a href="#">51021900</a>	CONTROL,HUMPHREY 1.5
4	2	51000816	SUPPORT,TRACK 33.75	11	1	18004800	CLIP CABLE 1/4 ID X 1/2 SELF ADH
5	2	51000500	BRKT SUPT SINGLE ACTUATOR	13	1	29317000	LABEL GEN 1.5 CONTROL DIP SWITCH
6	2	<a href="#">51001716</a>	GUIDE,CHAIN 33.75 ADV/RET	14	4	<a href="#">51025200</a>	CLIP POP OUT ROLLER
7	1	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS				

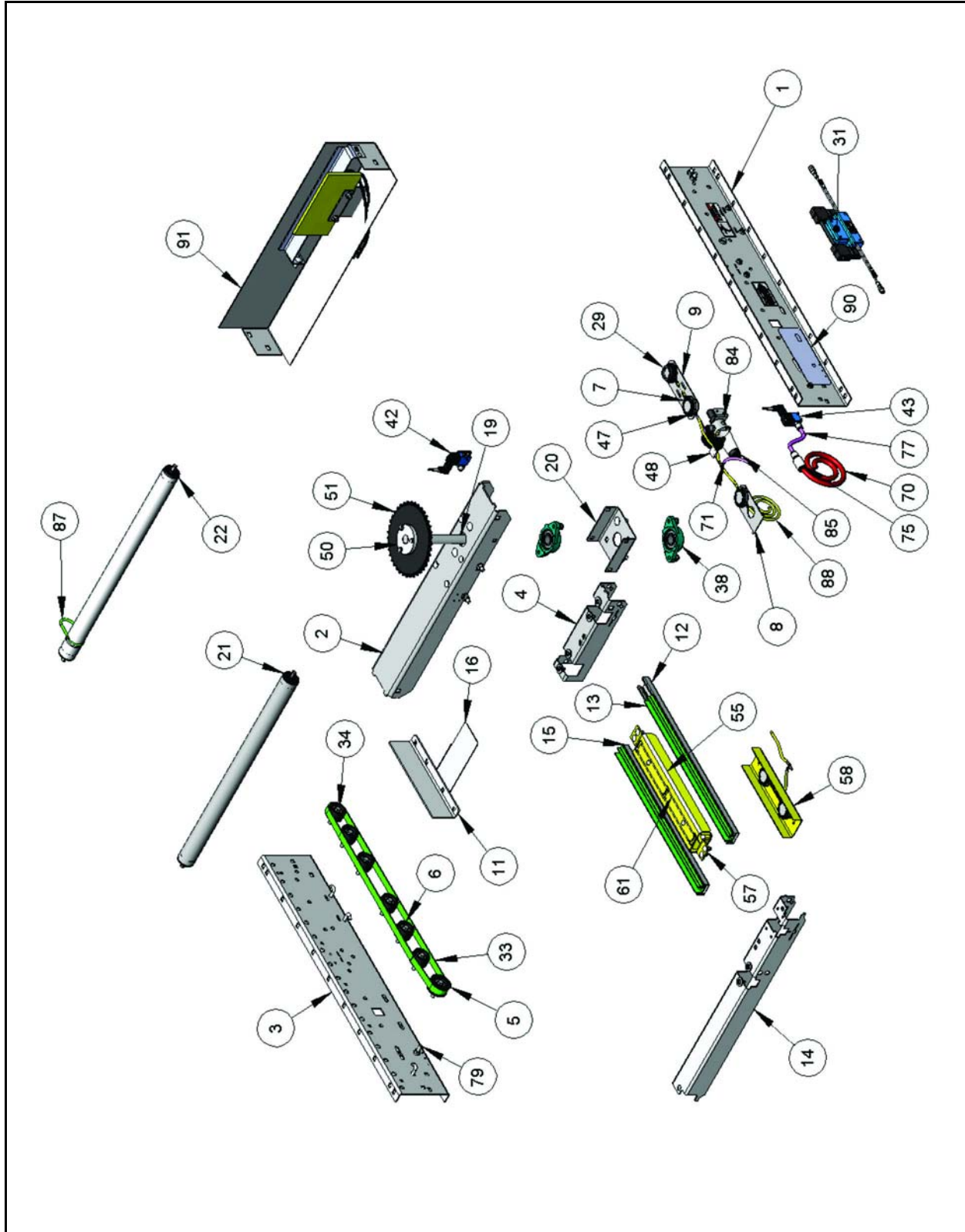
**510102 - 510 Intermediate Section 9 ft**



## 510 INTERMEDIATE SECTION 9'-0" 510102

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	2	51005302	ACCUGLIDE CHAN RAIL IS 9'	11	1	51001702	GUIDE,CHAIN 71.25 RETURN
2	1	5100010_	510 END CROSS CHANNEL LH W__	12	4	20065300	BOLT,J 5-16 X 1.38
3	1	510002_	AG END CROSS CHANNEL RH W__	13	4	225021	NUT FLANGE .313-18
4	2	51000303	510 END CROSS CHANNEL INT W28	14	4	<a href="#">51025200</a>	CLIP POP OUT ROLLER
5	2	51000400	BRKT SUPT DOUBLE ACTUATOR	15	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET
6	3	51000801	SUPPORT,TRACK 34.938	16	2	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS
7	2	51000500	BRKT SUPT SINGLE ACTUATOR	17	3	23325900	CHASSIS/PANEL MOUNT TIE SSPM2.5H-L300 REXEL
8	4	51001701	GUIDE,CHAIN 34.88 ADV/RET	18	3	18004800	CLIP CABLE 1/4 ID X 1/2 SELF ADH
9	2	51001600	AG DRIVE TRACK END STOP 3/4"	19	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
10	1	51000806	SUPPORT,TRACK 106.563	20	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC

**510107 - 510 Discharge Idler 3 ft**



## 510 DISCHARGE IDLER 3'-0 510107

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51007601	510 IDLER 3-0 6.50" CHAN RH	22	1	<a href="#">140063160</a>	ROL G196AB-16.00"BF SGR AX7
2	1	51002403	AG TE PTO/ID SPKT MTG CH W___			<a href="#">140063220</a>	ROL G196AB-22.00"BF SGR AX7
3	1	51007602	510 IDLER 3-0 6.50 CHAN LH			<a href="#">140063280</a>	ROL G196AB-28.00"BF SGR AX7
4	1	51002201	AG TE TRACK SUPT CHAN			<a href="#">140063340</a>	ROL G196AB-34.00"BF SGR AX7
5	1	51003700	IDLER SHEAVE 2.0 CROWNED FLANGE			<a href="#">140063400</a>	ROL G196AB-40.00"BF SGR AX7
6	6	<a href="#">51003600</a>	IDLER SHEAVE 2.0 OD NO FLANGE	23	8	20065300	BOLT,J 5-16 X 1.38
7	2	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	24	25	225021	NUT FLANGE .313-18
8	1	51000500	BRKT SUPT SINGLE ACTUATOR	25	1	20015700	BOLT HEX .75-10 X 5.00
9	1	51000400	BRKT SUPT DOUBLE ACTUATOR	26	2	20115400	WASHER FLAT .750 USS
10	1	<a href="#">51003500</a>	GUARD FINGER PLASTIC	27	8	221102	BOLT CAR .313-18 X .750
11	1	51002300	510 TAIL TRACK SUPPORT ANGLE	28	2	<a href="#">10000324</a>	510 PUCK REPLACEMENT MOUNT
12	1	51000804	SUPPORT, TRACK 23.50	29	1	10000325	510 PUCK REPLACEMENT SPACER
13	2	<a href="#">51001703</a>	GUIDE, CHAIN 21.00 ADV/RET	30	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
14	1	51000103	510 END CROSS CHANNEL LH W28	31	1	<a href="#">40014100</a>	610 DUAL ZONE CONT MOD SICK #7028426
15	1	51000803	SUPPORT, TRACK 21.000	32	10	221055	NUT FLANGE .375-16
16	1	510034_	510 TAIL END SPROCKET GUARD RH	33	1	51021500	FLAT BELT HC14/30D 3/4 X 58-3/4
17	1	51008901	SPACER 1.125ODX.812IDX LG	34	7	225220	BOLT HEX .375-16 X 2.000
18	1	51009000	510 IDLER SHIM PLATE	35	1	225388	NUT NYLOCK .750-10
19	1	51002600	510 TE ENCODER MTG SHAFT 1 X 7.75	36	6	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75
20	1	51002500	510 TE ENCODER LOWER	37	6	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK
21	4	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7				
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7				
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7				
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7				
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7				

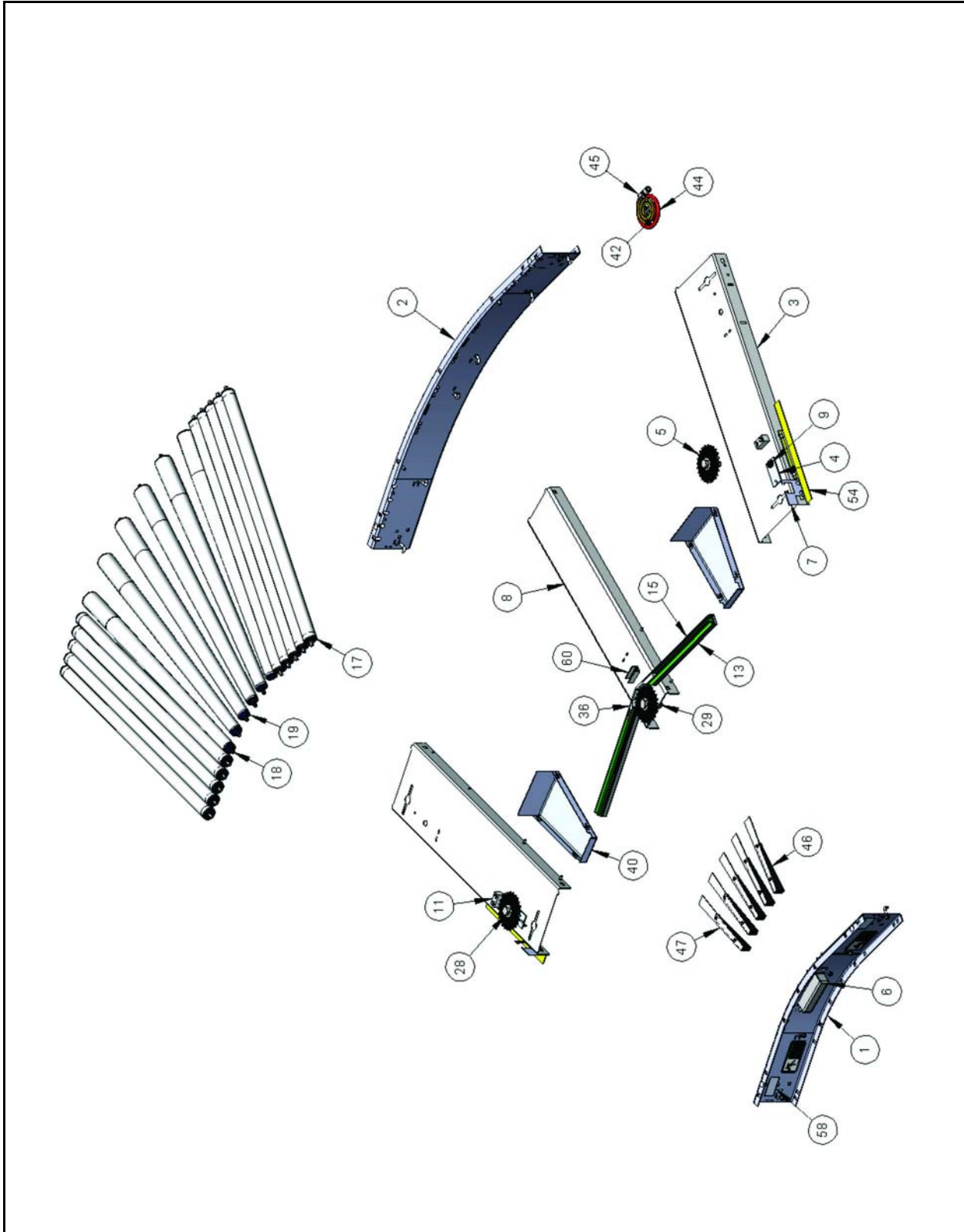
## 510 DISCHARGE IDLER 3'-0 510107

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
38	2	<a href="#">22002900</a>	Flange Bearing 2 Bolt 1 in Dia Dodge #124174	59	2	51008300	SPACER TUBE 7/16 OD X 2.312 LG
39	4	220002	BOLT CAR .438-14 X 1.250	60	1	51008400	SPRING COMPRESSION .7200D X 2" LG SQ ENDS
40	4	225191	WASHER FLAT .438 SAE TYPE A	61	2	51023201	o-ring 1/4 x 13.531 83A
41	4	221319	NUT NYLOCK .438-14	62	2	20055200	BOLT CAR .250-20 X 3.000 SHORT SQ NECK
42	1	<a href="#">24000401</a>	VALVE 4-WAY 120V w/FITTINGS	63	2	220075	WASHER FLAT .250 SAE TYPE A
43	1	A240003MA C		64	2	220066	NUT NYLOCK .250-20 ZC
44	2	3175 60 11	Legris 3/8" Tube to Male 1/8NPT Connector	65	2	20016300	NUT HEX JAM .750-10
45	3	<a href="#">3175 56 11</a>	Legris 1/4" Tube to Male 1/8"NPT Connector	66	3	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
47	4	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	70	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED
48	1	18004800	CLIP CABLE 1/4 ID X 1/2 SELF ADH	74	2	24023600	CONNECTOR 1/2 PUSH - 3/8 TUBE
49	4	20025600	SCREW PN HD PHL #4-40 X 1.25	75	1	<a href="#">24023300</a>	FIITNG AIR CONN 1/2OD X 1/2 OD PUSH
50	1	22625900	BUSHING SDS	78	4	20025700	NUT HEX #4-40
51	1	<a href="#">22625800</a>	SPROCKET H50SDS39	79	1	220022	BOLT HEX .375-16 X 1.250
52	10	20033800	BOLT CAR .375-16 X 1.000	80	1	20049500	BOLT HEX FLG .375-16 X 1.000
53	3	225404	WASHER LOCK .250	81	1	29003000	LABEL PRODUCT TRAVEL
54	3	220010	BOLT HEX .250-20 X 1.250	83	1	51009101	510 STD IDLER SPKT #50 39T
55	1	51007900	510 IDLER BRAKE MODULE TOP SUPPORT	87	1	<a href="#">305328</a>	O-BELT 0.250 DIA x 7.750 LG 83A
56	1	51008000	510 IDLER BRAKE BOTTOM SUPPORT	88	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW
57	2	51008200	510 BRAKE MODULE SUPPORT CLIP	90	1	29315700	LABEL 510 IDLER SPROCKET ADJUSTMENT
58	1	51008100	510 IDLER BRAKE MOD ACTUATOR SUPPORT	91	1	51046503	28" BF Idler Cover





**510108 - 510 Crv 30 Deg Assy 2-6IR 3C BE**





## 510 CRV 30D ASSY 2-6IR 3C \_\_ BF 510108

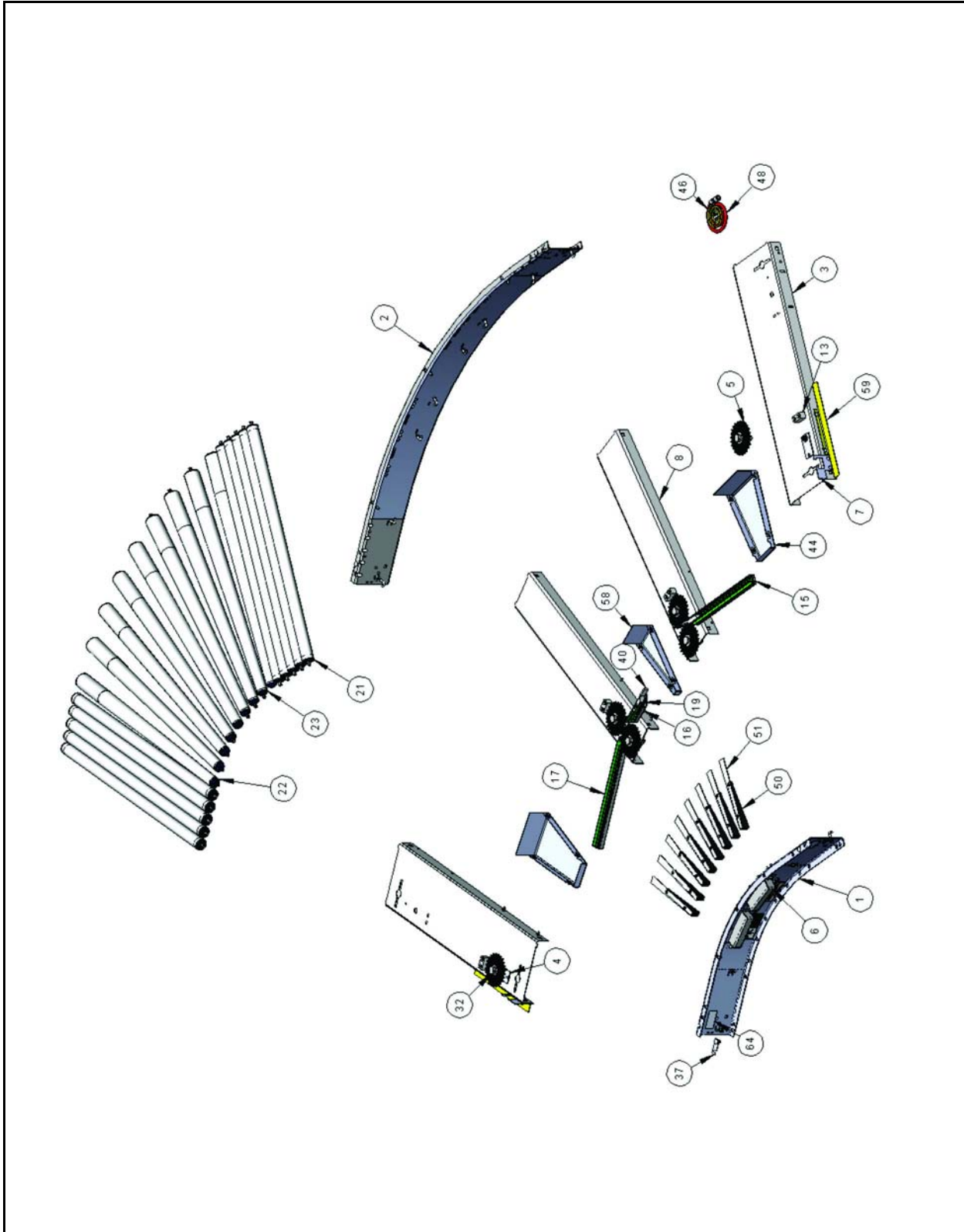
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1	1	510125__	510 CHAN CRV 30D IN 3C 2-6IR	18	2	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF
2	1	510126__	510 CHAN CRV 30D OUT 3C 2-6IR __BF			<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF
3	2	510237__	510 CRV END CHAN __BF			<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF
4	3	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF
5	3	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T			<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF
6	1	51000600	510 CRV ADV SPKT GUARD	19	4	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
7	2	51000700	510 CRV ADV TRK RETAINER PLATE			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
8	1	51027404	510 CRV CTR CHAN 2-6IR __BF			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
9	2	51025502	510 CRV SPKT SPACER x 0.174			<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
10	1	51025505	510 CRV SPKT SPACER x 0.545			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
11	2	51025601	510 CRV CHAIN RETAINER x 1.00	20	11	20011400	BOLT HEX .250-20 X .625
12	1	510283__	510 CRV __ END STRUT X __ __ LH	21	23	221281	NUT FLANGE .250-20
13	1	510283__	510 CRV __ END STRUT X __ __ RH	22	12	20065300	BOLT,J 5-16 X 1.38
14	1	510277__	510 CRV __ END GUIDE X __ __ LH	23	12	225021	NUT FLANGE .313-18
15	1	510277__	510 CRV __ END GUIDE X __ __ RH	24	4	220923	BOLT HEX .250-20 X 1.750
16	6	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	25	6	220066	NUT NYLOCK .250-20 ZC
17	10	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	26	15	220075	WASHER FLAT .250 SAE TYPE A
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	27	1	20118200	BOLT HEX .750-10 X 2.750 SPCL
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	28	2	20118100	BOLT HEX .750-10 X 2.250
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	29	3	225233	NUT HEX .750-10
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	30	3	221232	WASHER FLAT .750 SAE TYPE A
				31	3	20014400	WASHER LOCK .750
				32	4	225283	BOLT CAR .250-20 X .750
				33	4	51002000	510 END ROLLER RETAINER FLAT
				34	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK

### 510 CRV 30D ASSY 2-6IR 3C BF 510108

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
35	4	221055	NUT FLANGE .375-16	49	5	225404	WASHER LOCK .250
36	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL	50	10	225185	WASHER FLAT #10 SAE TYPE A
37	4	220014	BOLT HEX .313-18 X .750	51	10	221209	WASHER LOCK #10
38	4	220070	WASHER LOCK .313	52	10	20066300	SCREW BUTTON HD 10-32X1/2 (FKI PN: 221507)
39	4	220076	WASHER FLAT .313 SAE TYPE A	53	1	29002600	LABEL CEMA # 930004
40	2	510286	510 CRV _-IR END DRIPPAN WLDMT	54	2	51041800	510 CRV END SPROCKET GUARD
41	8	225030	BOLT CAR .250-20 X .500	55	1	29002800	LABEL CEMA # 930009
42	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	56	1	29025700	LABEL CEMA #930002
43	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union	57	1	29002500	LABEL CEMA # 930001
44	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	58	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
45	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	59	1	29305700	Label Accuglide
46	5	51028200	510 GUARD FINGER CRV BASE PLAS	60	1	51027500	510 CRV CHAIN RET STRAND GUIDE
47	5	51028102	510 GUARD FINGER CRV BLADE	61	2	225316	FST FHSCS .25-20 X .75 ZC **
48	5	220009	BOLT HEX .250-20 X 1.000				



**510109 - 510 Crv 45 Deg Assy 2-6IR 3C BE**



## 510 CRV 45D ASSY 2-6IR 3C \_\_\_ BF 510109

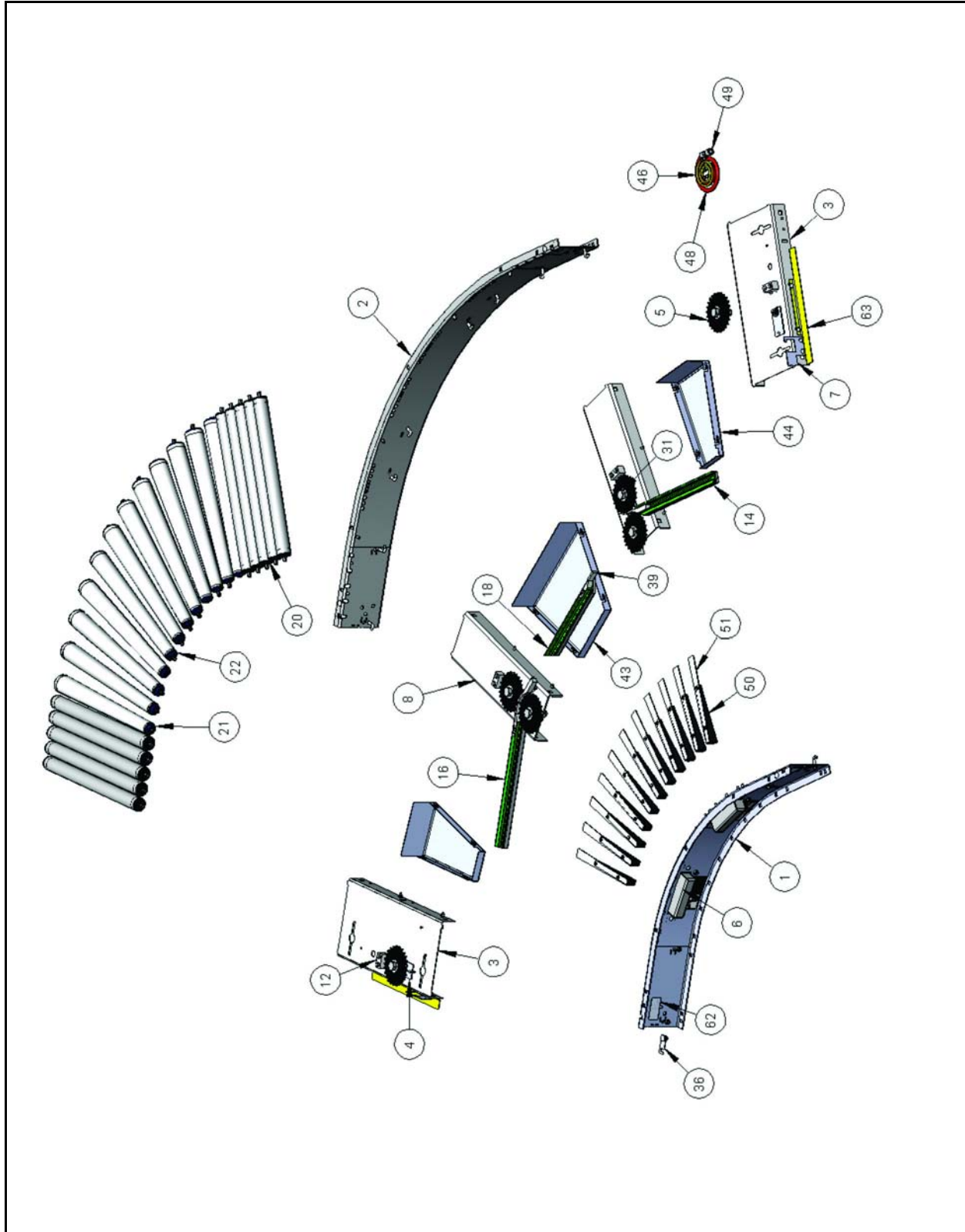
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1		510127___	510 CHAN CRV 45D IN 3C 2-6IR	22	3	140334160	ROL TG254AB AX7 DT 16.00"BF
2	1	510128___	510 CHAN CRV 45D OUT 3C 2-6IR ___BF			140334220	ROL TG254AB AX7 DT 22.00"BF
3	2	510237___	510 CRV END CHAN ___BF			140334280	ROL TG254AB AX7 DT 28.00"BF
4	2	51027600	510 CRV SGL SPKT SUPPORT PLATE			140334340	ROL TG254AB AX7 DT 34.00"BF
5	6	51009102	510 STD IDLER SPKT #50 25T			140334400	ROL TG254AB AX7 DT 40.00"BF
6	2	51000600	510 CRV ADV SPKT GUARD	23	6	140024160	ROL TG254HS AX7 SLEEVE 16.00"BF
7	2	51000700	510 CRV ADV TRK RETAINER PLATE			140024220	ROL TG254HS AX7 SLEEVE 22.00"BF
8	1	51027404	510 CRV CTR CHAN 2-6IR ___BF			140024280	ROL TG254HS AX7 SLEEVE 28.00"BF
9	2	51025400	510 CRV DBL SPKT SUPPORT PLATE			140024340	ROL TG254HS AX7 SLEEVE 34.00"BF
10	2	51025502	510 CRV SPKT SPACER x 0.174			140024400	ROL TG254HS AX7 SLEEVE 40.00"BF
11	2	51025501	510 CRV SPKT SPACER x 0.115	24	16	20011400	BOLT HEX .250-20 X .625
12	2	51025505	510 CRV SPKT SPACER x 0.545	25	31	221281	NUT FLANGE .250-20
13	4	51025601	510 CRV CHAIN RETAINER x 1.00	26	16	20065300	BOLT,J 5-16 X 1.38
14	1	510283___	510 CRV ___ END STRUT X ___ LH	27	16	225021	NUT FLANGE .313-18
15	1	510283___	510 CRV ___ END STRUT X ___ RH	28	8	220923	BOLT HEX .250-20 X 1.750
16	1	510245___	510 CRV ___ CTR STRUT X ___	29	8	220066	NUT NYLOCK .250-20 ZC
17	1	510277___	510 CRV ___ END GUIDE X ___ LH	30	24	220075	WASHER FLAT .250 SAE TYPE A
18	1	510277___	510 CRV ___ END GUIDE X ___ RH	31	2	20118200	BOLT HEX .750-10 X 2.750 SPCL
19	1	510246___	510 CRV ___ CTR GUIDE X ___	32	4	20118100	BOLT HEX .750-10 X 2.250
20	7	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	33	6	225233	NUT HEX .750-10
21	10	140002160	ROL G196AB 16.00"BF AX7	34	6	221232	WASHER FLAT .750 SAE TYPE A
		140002220	ROL G196AB 22.00"BF AX7	35	6	20014400	WASHER LOCK .750
		140002280	ROL G196AB 28.00"BF AX7	36	7	225283	BOLT CAR .250-20 X .750
		140002340	ROL G196AB 34.00"BF AX7	37	4	51002000	510 END ROLLER RETAINER FLAT
		140002400	ROL G196AB 40.00"BF AX7	38	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK

### 510 CRV 45D ASSY 2-6IR 3C BF 510109

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
39	4	221055	NUT FLANGE .375-16	52	8	220009	BOLT HEX .250-20 X 1.000
40	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL	53	8	225404	WASHER LOCK .250
41	6	220014	BOLT HEX .313-18 X .750	54	16	225185	WASHER FLAT #10 SAE TYPE A
42	6	220070	WASHER LOCK .313	55	16	221209	WASHER LOCK #10
43	6	220076	WASHER FLAT .313 SAE TYPE A	56	16	20066300	SCREW BUTTON HD 10-32X1/2 (FKI PN: 221507)
44	2	510286	510 CRV _-IR END DRIPPAN WLDMT	57	1	29002600	LABEL CEMA # 930004
45	8	225030	BOLT CAR .250-20 X .500	58	1	510284	510 CRV _-IR 45 DRIPPAN WLDMT
46	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	59	2	51041800	510 CRV END SPROCKET GUARD
47	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union	60	1	29002800	LABEL CEMA # 930009
48	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	61	1	29305700	Label Accuglide
49	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	62	1	29002500	LABEL CEMA # 930001
50	8	51028200	510 GUARD FINGER CRV BASE PLAS	63	1	29025700	LABEL CEMA #930002
51	8	51028105	DESCRIPTION	64	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)



510110 - 510 Crv 60 Deg Assy 2-6IR 3C BE





## 510 CRV 60D ASSY 2-6IR 3C \_\_ BF 510110

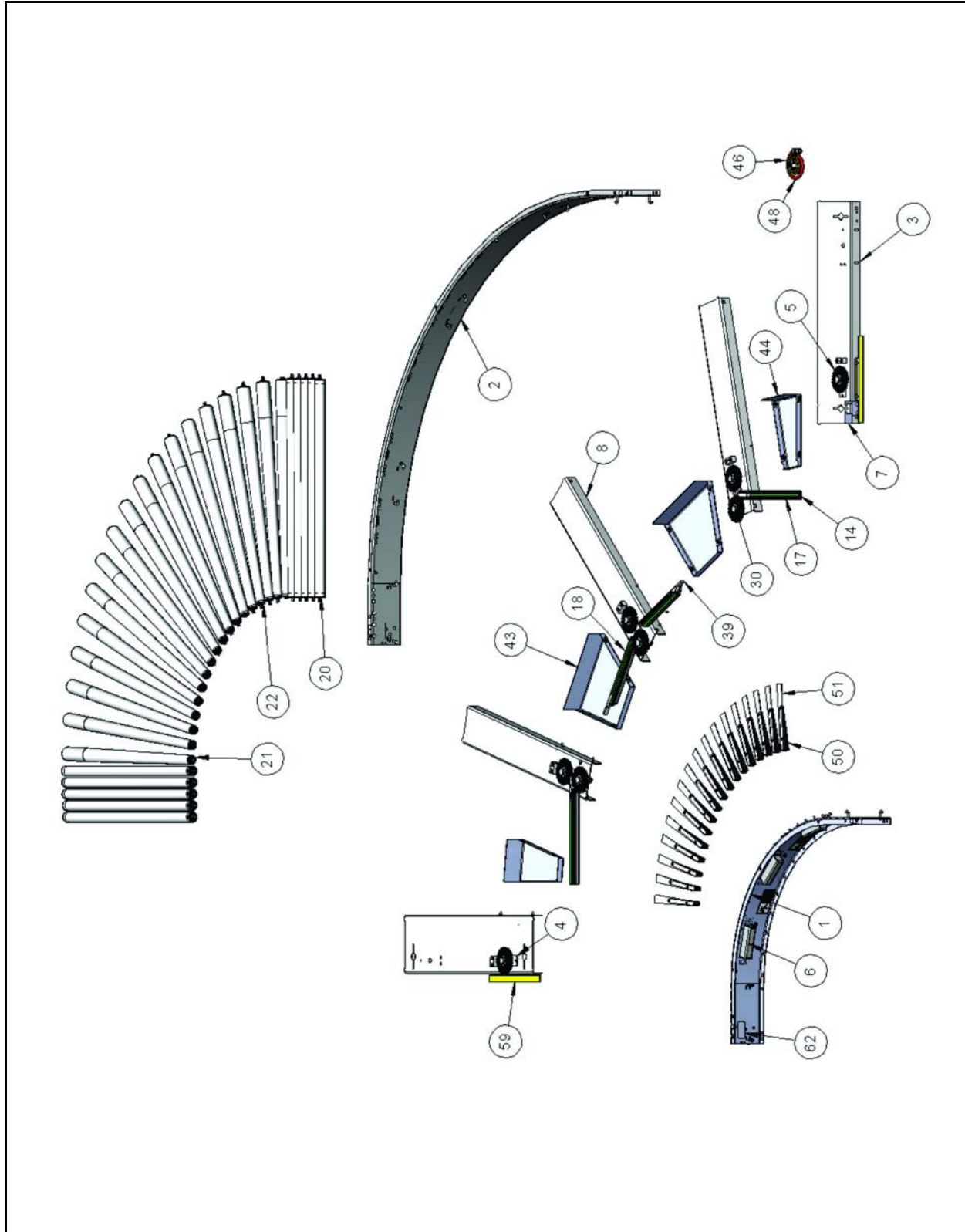
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510129__	510 CHAN CRV 60D IN 3C 2-6IR	21	4	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF
2	1	510130__	510 CHAN CRV 60D OUT 3C 2-6IR __BF			<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF
3	2	510237__	510 CRV END CHAN __BF			<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF
4	2	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF
5	6	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T			<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF
6	2	51000600	510 CRV ADV SPKT GUARD	22	8	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
7	2	51000700	510 CRV ADV TRK RETAINER PLATE			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
8	1	51027401	510 CRV CTR CHAN 2-6IR __BF			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
9	2	51025400	510 CRV DBL SPKT SUPPORT PLATE			<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
10	4	51025500	510 CRV SPKT SPACER			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
11	2	51025500	510 CRV SPKT SPACER	23	16	20011400	BOLT HEX .250-20 X .625
12	4	51025601	510 CRV CHAIN RETAINER x 1.00	24	32	221281	NUT FLANGE .250-20
13	1	510283__	510 CRV __ END STRUT X __. __ LH	25	16	20065300	BOLT, J 5-16 X 1.38
14	1	510283__	510 CRV __ END STRUT X __. __ RH	26	16	225021	NUT FLANGE .313-18
15	1	510245__	510 CRV __ CTR STRUT X __. __	27	8	220923	BOLT HEX .250-20 X 1.750
16	1	510277__	510 CRV __ END GUIDE X __. __ LH	28	8	220066	NUT NYLOCK .250-20 ZC
17	1	510277__	510 CRV __ END GUIDE X __. __ RH	29	27	220075	WASHER FLAT .250 SAE TYPE A
18	1	510246__	510 CRV __ CTR GUIDE X __. __	30	2	20118200	BOLT HEX .750-10 X 2.750 SPCL
19	9	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	31	4	20118100	BOLT HEX .750-10 X 2.250
20	10	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	32	6	225233	NUT HEX .750-10
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	33	6	221232	WASHER FLAT .750 SAE TYPE A
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	34	6	20014400	WASHER LOCK .750
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	35	8	225283	BOLT CAR .250-20 X .750
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	36	4	51002000	510 END ROLLER RETAINER FLAT

### 510 CRV 60D ASSY 2-6IR 3C\_\_BF 510110

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
37	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	51	11	51028105	510 GUARD FINGER CRV BLADE
38	4	221055	NUT FLANGE .375-16	52	11	220009	BOLT HEX .250-20 X 1.000
39	4	51038300	510 CRV ADV TRK ALIGNMENT TOOL	53	11	225404	WASHER LOCK .250
40	8	220014	BOLT HEX .313-18 X .750	54	22	225185	WASHER FLAT #10 SAE TYPE A
41	8	220070	WASHER LOCK .313	55	22	221209	WASHER LOCK #10
42	8	220076	WASHER FLAT .313 SAE TYPE A	56	22	20066300	SCREW BUTTON HD 10-32X1/2 (FKI PN: 221507)
43	1	510285	510 CRV __-IR CTR DRIPPAN WLDMT	57	1	29002600	LABEL CEMA # 930004
44	2	510286	510 CRV __-IR END DRIPPAN WLDMT	58	1	29002800	LABEL CEMA # 930009
45	8	225030	BOLT CAR .250-20 X .500	59	1	29305700	Label Accuglide
46	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	60	1	29002500	LABEL CEMA # 930001
47	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union	61	1	29025700	LABEL CEMA #930002
48	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	62	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
49	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	63	2	51041800	510 CRV END SPROCKET GUARD
50	11	51028200	510 GUARD FINGER CRV BASE PLAS				



**510111 - 510 Crv 60 Deg Assy 2-6IR 3C BE**



## 510 CRV 60D ASSY 2-6IR 3C \_\_ BF 510111

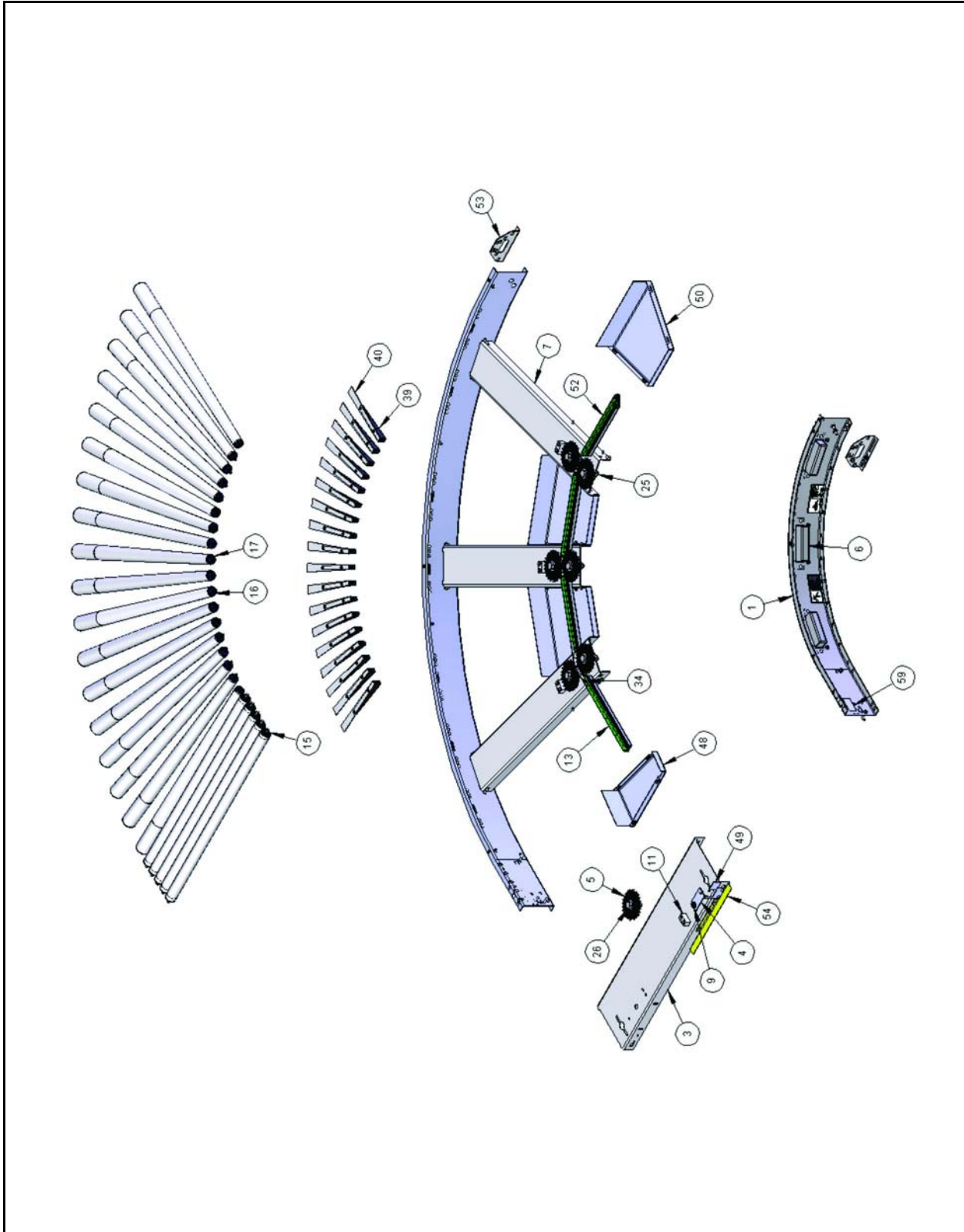
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1	1	51013100	510 CHAN CRV 90D IN 3C 2-6IR	21	18	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF
2	1	510132__	510 CHAN CRV 90D OUT 3C 2-6IR __BF			<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF
3	2	510237__	510 CRV END CHAN __BF			<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF
4	2	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF
5	8	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T			<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF
6	3	51000600	510 CRV ADV SPKT GUARD	22	16	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
7	2	51000700	510 CRV ADV TRK RETAINER PLATE			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
8	1	51027404	510 CRV CTR CHAN 2-6IR __BF			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
9	3	51025400	510 CRV DBL SPKT SUPPORT PLATE			<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
10	2	51025500	510 CRV SPKT SPACER			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
11	3	51025500	510 CRV SPKT SPACER	23	21	20011400	BOLT HEX .250-20 X .625
12	5	51025601	510 CRV CHAIN RETAINER x 1.00	24	41	221281	NUT FLANGE .250-20
13	1	510283__	510 CRV __ END STRUT X __. __ LH	25	20	20065300	BOLT, J 5-16 X 1.38
14	1	510283__	510 CRV __ END STRUT X __. __ RH	26	20	225021	NUT FLANGE .313-18
15	2	510245__	510 CRV __ CTR STRUT X __. __	27	10	220923	BOLT HEX .250-20 X 1.750
16	1	510277__	510 CRV __ END GUIDE X __. __ LH	28	10	220066	NUT NYLOCK .250-20 ZC
17	1	510277__	510 CRV __ END GUIDE X __. __ RH	29	37	220075	WASHER FLAT .250 SAE TYPE A
18	2	510246__	510 CRV __ CTR GUIDE X __. __	30	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
19	12	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	31	5	20118100	BOLT HEX .750-10 X 2.250
20	10	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	32	8	225233	NUT HEX .750-10
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	33	8	221232	WASHER FLAT .750 SAE TYPE A
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	34	8	20014400	WASHER LOCK .750
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	35	12	225283	BOLT CAR .250-20 X .750
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	36	4	51002000	510 END ROLLER RETAINER FLAT

### 510 CRV 60D ASSY 2-6IR 3C \_\_ BF 510111

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
37	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	51	17	51028102	510 GUARD FINGER CRV BLADE
38	4	221055	NUT FLANGE .375-16	52	17	220009	BOLT HEX .250-20 X 1.000
39	4	51038300	510 CRV ADV TRK ALIGNMENT TOOL	53	17	225404	WASHER LOCK .250
40	36	220014	BOLT HEX .313-18 X .750	54	34	225185	WASHER FLAT #10 SAE TYPE A
41	36	220070	WASHER LOCK .313	55	34	221209	WASHER LOCK #10
42	36	220076	WASHER FLAT .313 SAE TYPE A	56	34	20066300	SCREW BUTTON HD 10-32X1/2 (FKI PN: 221507)
43	2	510285__	510 CRV __IR CTR DRIPPAN WLDMT	57	1	29002600	LABEL CEMA # 930004
44	2	510286__	510 CRV __IR END DRIPPAN WLDMT	58	3	51025501	510 CRV SPKT SPACER x 0.115
45	8	225030	BOLT CAR .250-20 X .500	59	2	51041800	510 CRV END SPROCKET GUARD
46	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	60	1	29002500	LABEL CEMA # 930001
47	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union	61	1	29025700	LABEL CEMA #930002
48	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	62	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
49	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	63	1	29002800	LABEL CEMA # 930009
50	17	51028200	510 GUARD FINGER CRV BASE PLAS	64	1	29305700	Label Accuglide



510112 - 510 Crv 180 Deg Assy 2-6IR 3C BF (90 Deg 1 of 2)





## 510 CRV 180D ASSY 2-6IR 3C \_\_BF (90D 1 OF 2) 510112

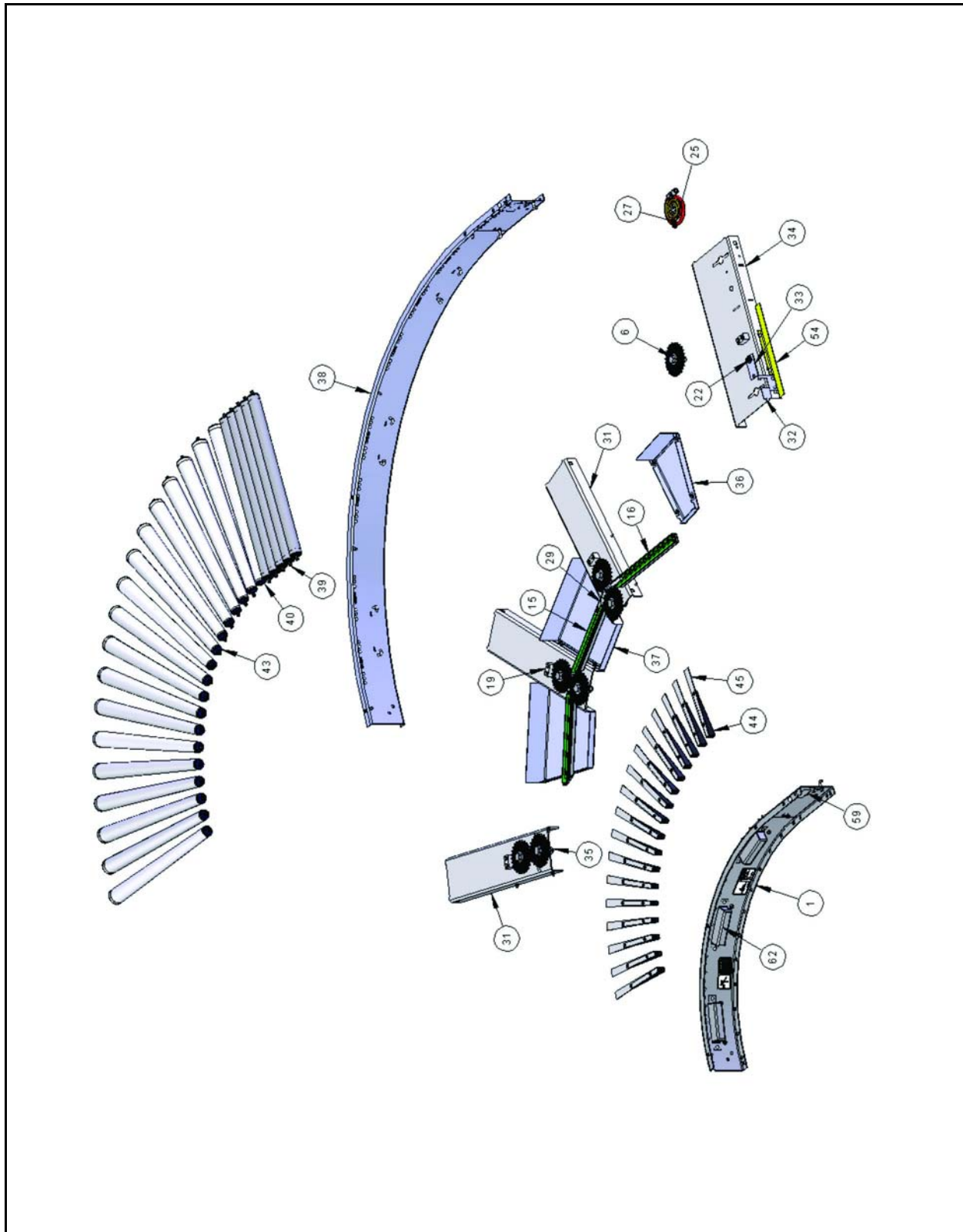
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1	1	510131 __	510 CHAN CRV 180D IN 3C 2-6IR __H	17	14	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
2	1	510134 __	510 CHAN CRV 180D OUT 3C 2-6IR __BF __H			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
3	1	510237 __	510 CRV END CHAN __BF			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
4	1	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
5	7	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
6	3	51000600	510 CRV ADV SPKT GUARD	18	18	20011400	BOLT HEX .250-20 X .625
7	1	51027404	510 CRV CTR CHAN 2-6IR __BF	19	34	221281	NUT FLANGE .250-20
8	3	51025400	510 CRV DBL SPKT SUPPORT PLATE	20	16	20065300	BOLT,J 5-16 X 1.38
9	1	51025500	510 CRV SPKT SPACER	21	16	225021	NUT FLANGE .313-18
10	3	51025500	510 CRV SPKT SPACER	22	8	220923	BOLT HEX .250-20 X 1.750
11	4	51025601	510 CRV CHAIN RETAINER x 1.00	23	8	220066	NUT NYLOCK .250-20 ZC
12	1	510283 __	510 CRV __ _ _ END STRUT X __ _ _ LH	24	34	220075	WASHER FLAT .250 SAE TYPE A
13	1	510277 __	510 CRV __ _ _ END GUIDE X __ _ _ LH	25	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
14	12	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	26	4	20118100	BOLT HEX .750-10 X 2.250
15	5	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	27	7	225233	NUT HEX .750-10
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	28	7	221232	WASHER FLAT .750 SAE TYPE A
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	29	7	20014400	WASHER LOCK .750
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	30	13	225283	BOLT CAR .250-20 X .750
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	31	2	51002000	510 END ROLLER RETAINER FLAT
16	4	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF	32	10	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
		<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF	33	10	221055	NUT FLANGE .375-16
		<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF	34	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL
		<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF	35	8	220014	BOLT HEX .313-18 X .750
		<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF	36	8	220070	WASHER LOCK .313

### 510 CRV 180D ASSY 2-6IR 3C \_\_BF (90D 1 OF 2) 510112

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
37	8	220076	WASHER FLAT .313 SAE TYPE A	49	1	51000700	510 CRV ADV TRK RETAINER PLATE
38	4	225030	BOLT CAR .250-20 X .500	50	3	510285	510 CRV __IR CTR DRIPPAN WLDMT
39	18	51028200	510 GUARD FINGER CRV BASE PLAS	51	3	510245	510 CRV __ CTR STRUT X __
40	18	51028102	510 GUARD FINGER CRV BLADE	52	3	510246	510 CRV __ CTR GUIDE X __
41	18	220009	BOLT HEX .250-20 X 1.000	53	2	51038400	510 CRV SPLICE ANGLE
42	18	225404	WASHER LOCK .250	54	1	51041800	510 CRV END SPROCKET GUARD
43	36	225185	WASHER FLAT #10 SAE TYPE A	55	1	29002800	LABEL CEMA # 930009
44	36	221209	WASHER LOCK #10	56	1	29305700	Label Accuglide
45	36	20066300	SCREW BUTTON HD 10-32X1/2 (FKI PN: 221507)	57	1	29002500	LABEL CEMA # 930001
46	1	29002600	LABEL CEMA # 930004	58	1	29025700	LABEL CEMA #930002
47	3	51025501	510 CRV SPKT SPACER x 0.115	59	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FK# 7065865)
48	1	510286	510 CRV __IR END DRIPPAN WLDMT				



**510113 - 510 Crv 180 Deg Assy 2-6IR 3C BF (90 Deg 2 of 2)**



## 510 CRV 180D ASSY 2-6IR 3C \_\_BF (90D 2 OR 2) 510113

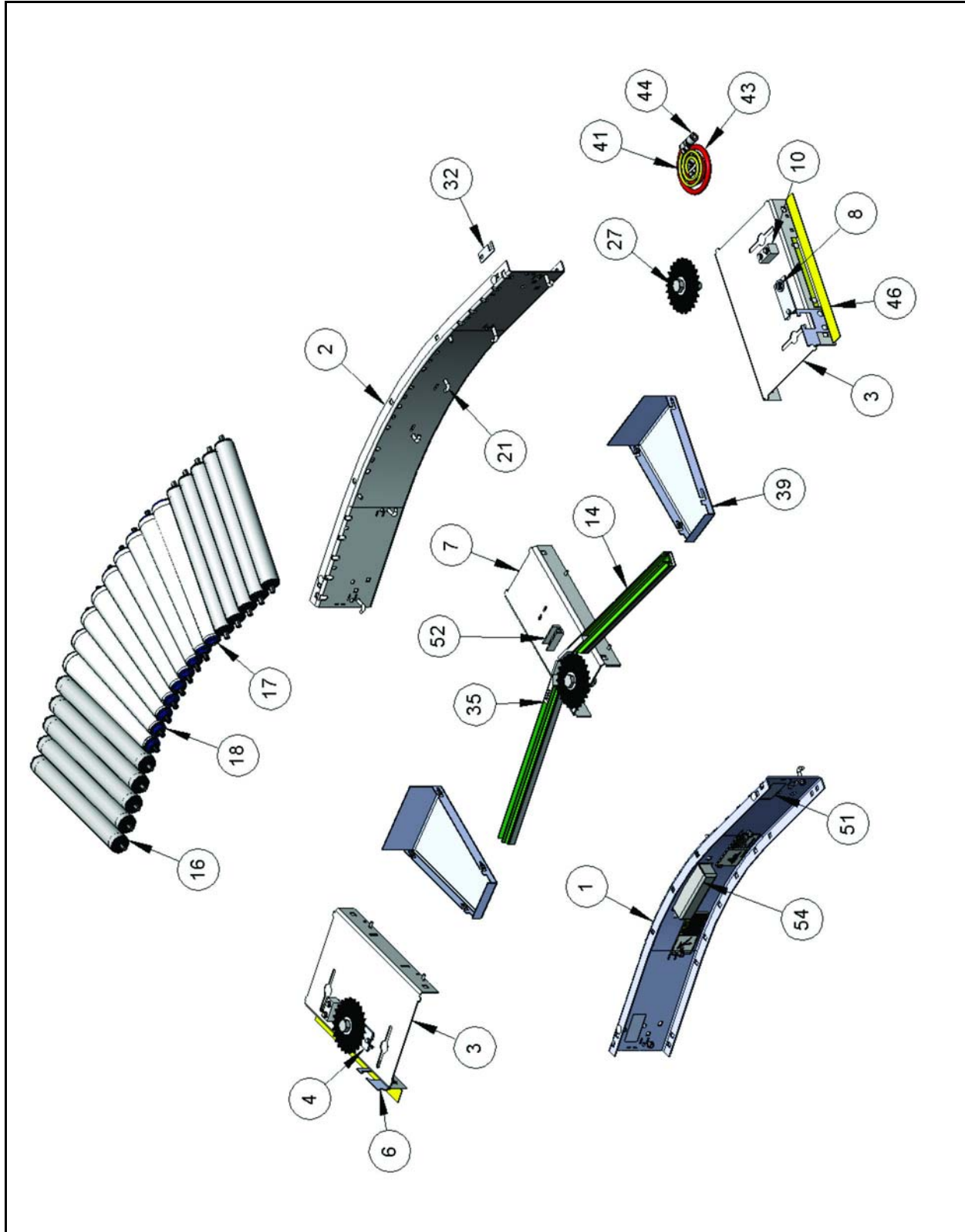
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510131__	510 CHAN CRV 180D IN 3C 2-6IR __H	25	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED
2	3	51025501	510 CRV SPKT SPACER x 0.115	26	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union
3	7	20014400	WASHER LOCK .750	27	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW
4	7	221232	WASHER FLAT .750 SAE TYPE A	28	4	225030	BOLT CAR .250-20 X .500
5	7	225233	NUT HEX .750-10	29	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL
6	4	20118100	BOLT HEX .750-10 X 2.250	30	12	225283	BOLT CAR .250-20 X .750
7	33	220075	WASHER FLAT .250 SAE TYPE A	31	1	51027402	510 CRV CTR CHAN 2-6IR __BF
8	8	220066	NUT NYLOCK .250-20 ZC	32	1	51000700	510 CRV ADV TRK RETAINER PLATE
9	8	220923	BOLT HEX .250-20 X 1.750	33	1	51027600	510 CRV SGL SPKT SUPPORT PLATE
10	16	225021	NUT FLANGE .313-18	34	1	510237__	510 CRV END CHAN __BF
11	16	20065300	BOLT, J 5-16 X 1.38	35	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
12	34	221281	NUT FLANGE .250-20	36	1	510286__	510 CRV __IR END DRIPPAN WLDMT
13	18	20011400	BOLT HEX .250-20 X .625	37	2	510285__	510 CRV __IR CTR DRIPPAN WLDMT
14	9	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	38	1	510134__	510 CHAN CRV 180D OUT 3C 2-6IR __BF __H
15	2	510246__	510 CRV __ CTR GUIDE X __. __.	39	5	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7
16	1	510277__	510 CRV __ END GUIDE X __. __ RH			<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7
17	2	510245__	510 CRV __ CTR STRUT X __. __.			<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7
18	1	510283__	510 CRV __ END STRUT X __. __ RH			<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7
19	4	51025601	510 CRV CHAIN RETAINER x 1.00			<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7
20	7	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T	40	4	<a href="#">140334160</a>	ROL TG2544B AX7 DT 16.00"BF
21	3	51025505	510 CRV SPKT SPACER x 0.545			<a href="#">140334220</a>	ROL TG2544B AX7 DT 22.00"BF
22	1	51025502	510 CRV SPKT SPACER x 0.174			<a href="#">140334280</a>	ROL TG2544B AX7 DT 28.00"BF
23	3	51025400	510 CRV DBL SPKT SUPPORT PLATE			<a href="#">140334340</a>	ROL TG2544B AX7 DT 34.00"BF
24	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00			<a href="#">140334400</a>	ROL TG2544B AX7 DT 40.00"BF

### 510 CRV 180D ASSY 2-6IR 3C \_\_BF (90D 2 OR 2) 510113

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
41	8	220014	BOLT HEX .313-18 X .750	50	34	20066300	SCREW BUTTON HD 10-32X1/2 (FKI PN: 221507)
42	8	220070	WASHER LOCK .313	51	2	51002000	510 END ROLLER RETAINER FLAT
43	14	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF	52	2	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
		<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF	53	2	221055	NUT FLANGE .375-16
		<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF	54	1	51041800	510 CRV END SPROCKET GUARD
		<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF	55	8	220076	WASHER FLAT .313 SAE TYPE A
		<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF	56	1	29002600	LABEL CEMA # 930004
44	17	51028200	510 GUARD FINGER CRV BASE PLAS	57	1	29002800	LABEL CEMA # 930009
45	17	51028105	510 GUARD FINGER CRV BLADE	58	1	29305700	Label Accuglide
46	17	220009	BOLT HEX .250-20 X 1.000	59	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
47	17	225404	WASHER LOCK .250	60	1	29002500	LABEL CEMA # 930001
48	34	225185	WASHER FLAT #10 SAE TYPE A	61	1	29025700	LABEL CEMA #930002
49	34	221209	WASHER LOCK #10	62	3	51000600	510 CRV ADV SPKT GUARD



510114 - 510 30 Deg Assy TT 2C BF





## 510 30D ASSY TT 2C \_\_\_ BF 510114

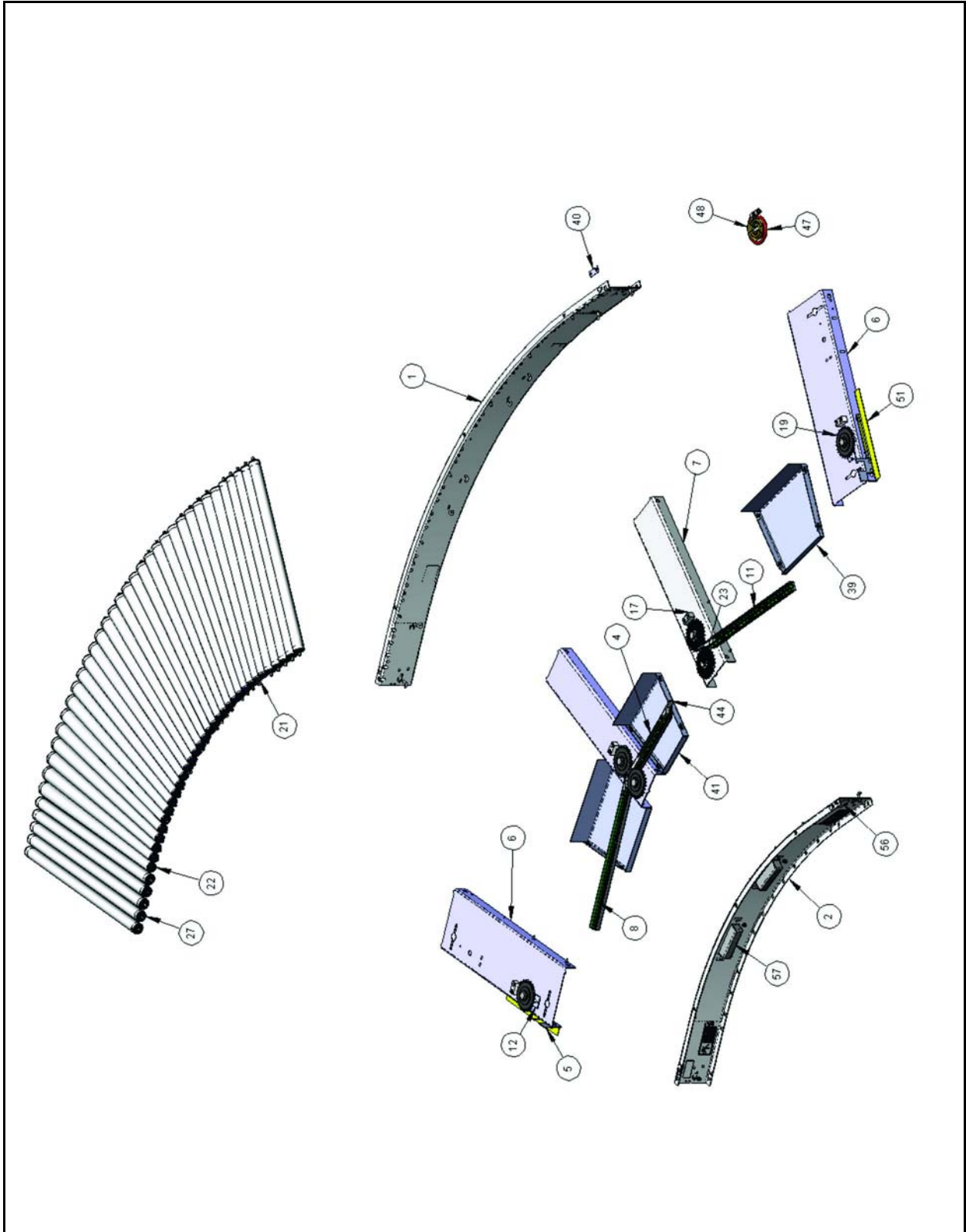
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510135	510 CHAN CRV 30D IN 2C ___ IR	18	7	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
2	1	510136	510 CHAN CRV 30D OUT 2C ___ IR ___ BF			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
3	2	510237	510 CRV END CHAN ___ BF			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
4	3	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
5	3	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
6	2	51000700	510 CRV ADV TRK RETAINER PLATE	19	11	20011400	BOLT HEX .250-20 X .625
7	1	510253	510 CRV CTR CHAN ___ IR ___ BF	20	23	221281	NUT FLANGE .250-20
8	2	51025502	510 CRV SPKT SPACER x 0.174	21	12	20065300	BOLT, J 5-16 X 1.38
9	1	51025505	510 CRV SPKT SPACER x 0.545	22	12	225021	NUT FLANGE .313-18
10	2	51025601	510 CRV CHAIN RETAINER x 1.00	23	4	220923	BOLT HEX .250-20 X 1.750
11	1	510283	510 CRV ___ END STRUT X ___ LH	24	6	220066	NUT NYLOCK .250-20 ZC
12	1	510283	510 CRV ___ END STRUT X ___ RH	25	10	220075	WASHER FLAT .250 SAE TYPE A
13	1	510277	510 CRV ___ END GUIDE X ___ LH	26	1	20118200	BOLT HEX .750-10 X 2.750 SPCL
14	1	510277	510 CRV ___ END GUIDE X ___ RH	27	2	20118100	BOLT HEX .750-10 X 2.250
15	6	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	28	3	225233	NUT HEX .750-10
16	10	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	29	3	20115400	WASHER FLAT .750 USS
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	30	3	20014400	WASHER LOCK .750
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	31	4	225283	BOLT CAR .250-20 X .750
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	32	4	51002000	510 END ROLLER RETAINER FLAT
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	33	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
17	2	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF	34	4	221055	NUT FLANGE .375-16
		<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF	35	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL
		<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF	36	4	220014	BOLT HEX .313-18 X .750
		<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF	37	4	220070	WASHER LOCK .313
		<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF	38	4	220076	WASHER FLAT .313 SAE TYPE A

### 510 30D ASSY TT 2C BF 510114

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
39	2	510286	510 CRV - IR END DRIPPAN WLDMT	47	1	29002800	LABEL CEMA # 930009
40	8	225030	BOLT CAR .250-20 X .500	48	1	29305700	Label Accuglide
41	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	49	1	29002500	LABEL CEMA # 930001
42	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union	50	1	29025700	LABEL CEMA #930002
43	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	51	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
44	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	52	1	51027500	510 CRV CHAIN RET STRAND GUIDE
45	1	29002600	LABEL CEMA # 930004	53	2	225316	FST FHSCS .25-20 X .75 ZC **
46	2	51041800	510 CRV END SPROCKET GUARD	54	1	51000600	510 CRV ADV SPKT GUARD



510115 - 510 Crv 45 Deg Assy TT 2C BF



## 510 CRV 45D ASSY TT 2C \_\_ BF 510115

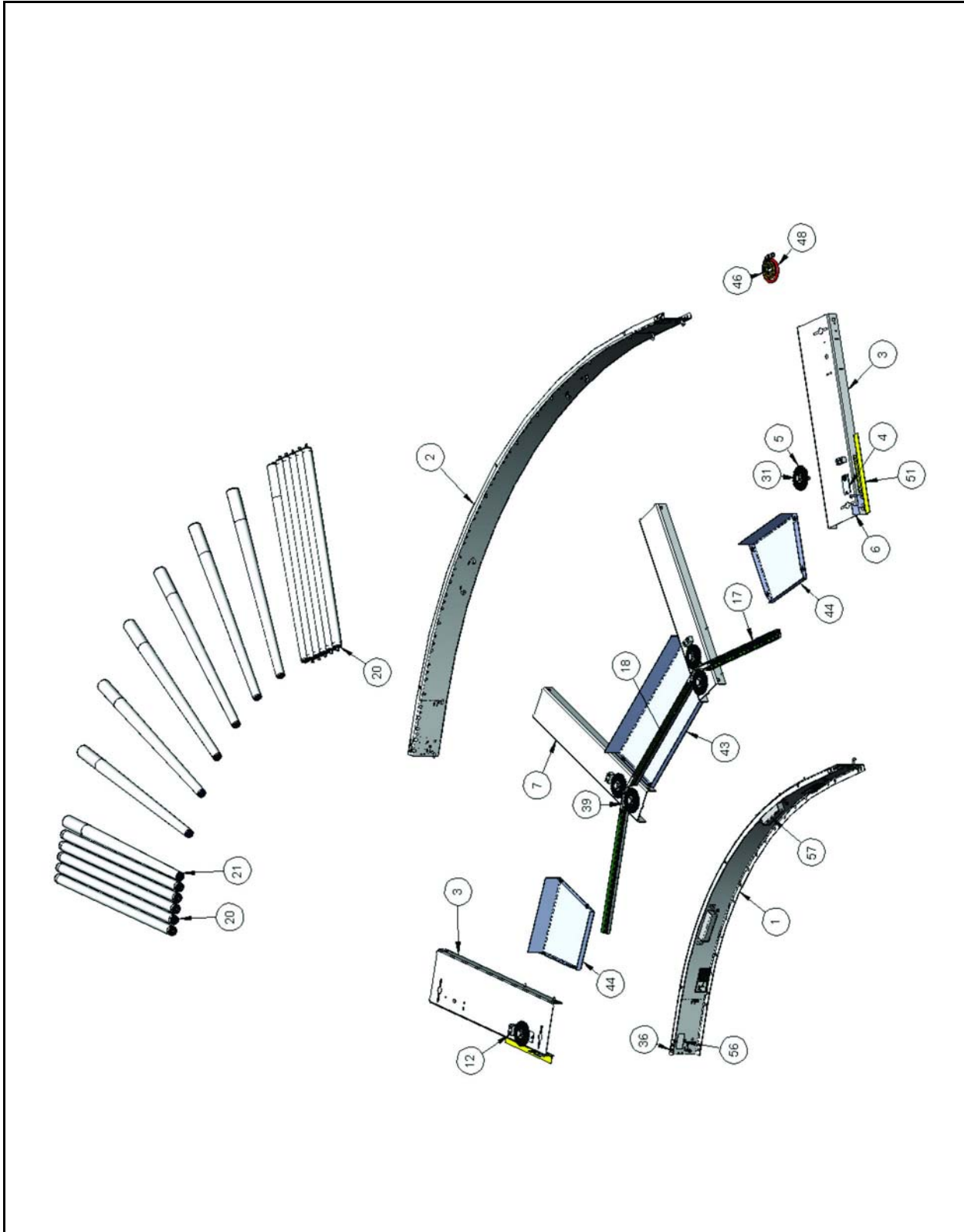
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510138	510 CHAN CRV 45D OUT 2C 5-0IR 34BF	22	7	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF
2	1	510137	510 CHAN CRV 45D IN 2C __IR			<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF
3	1	510245	510 CRV __ CTR STRUT X __			<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF
4	1	510246	510 CRV __ CTR GUIDE X __			<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF
5	2	51000700	510 CRV ADV TRK RETAINER PLATE			<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF
6	2	510237	510 CRV END CHAN __BF	23	2	20118200	BOLT HEX .750-10 X 2.750 SPCL
7	2	510253	510 CRV CTR CHAN __IR __BF	24	8	220923	BOLT HEX .250-20 X 1.750
8	1	510277	510 CRV __ END GUIDE X __ LH	25	32	221281	NUT FLANGE .250-20
9	1	510283	510 CRV __ END STRUT X __ LH	26	16	20011400	BOLT HEX .250-20 X .625
10	1	510283	510 CRV __ END STRUT X __ RH	27	10	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
11	1	510277	510 CRV __ END GUIDE X __ RH			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
12	2	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
13	16	20065300	BOLT, J 5-16 X 1.38			<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
14	2	51025502	510 CRV SPKT SPACER x 0.174			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
15	2	51025501	510 CRV SPKT SPACER x 0.115	28	9	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)
16	2	51025505	510 CRV SPKT SPACER x 0.545	29	8	225283	BOLT CAR .250-20 X .750
17	4	51025601	510 CRV CHAIN RETAINER x 1.00	30	14	220014	BOLT HEX .313-18 X .750
18	2	51025400	510 CRV DBL SPKT SUPPORT PLATE	31	14	220070	WASHER LOCK .313
19	6	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T	32	14	220076	WASHER FLAT .313 SAE TYPE A
20	16	225021	NUT FLANGE .313-18	33	4	20118100	BOLT HEX .750-10 X 2.250
21	20	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	34	6	225233	NUT HEX .750-10
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	35	6	221232	WASHER FLAT .750 SAE TYPE A
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	36	6	20014400	WASHER LOCK .750
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	37	16	220075	WASHER FLAT .250 SAE TYPE A
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	38	8	220066	NUT NYLOCK .250-20 ZC

## 510 CRV 45D ASSY TT 2C \_\_ BF 510115

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
39	2	510286__	510 CRV __IR END DRIPPAN WLDMT	49	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
40	4	51002000	510 END ROLLER RETAINER FLAT	50	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union
41	1	510284__	510 CRV __IR 45 DRIPPAN WLDMT	51	2	51041800	510 CRV END SPROCKET GUARD
42	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	52	1	29002800	LABEL CEMA # 930009
43	4	221055	NUT FLANGE .375-16	53	1	29305700	Label Accuglide
44	4	51038300	510 CRV ADV TRK ALIGNMENT TOOL	54	1	29002500	LABEL CEMA # 930001
45	8	225030	BOLT CAR .250-20 X .500	55	1	29025700	LABEL CEMA #930002
46	1	29002600	LABEL CEMA # 930004	56	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
47	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	57	2	51000600	510 CRV ADV SPKT GUARD
48	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW				



510116 - 510 Crv 60 Deg Assy TT 2C BF





## 510 CRV 60D ASSY TT 2C \_\_ BF 510116

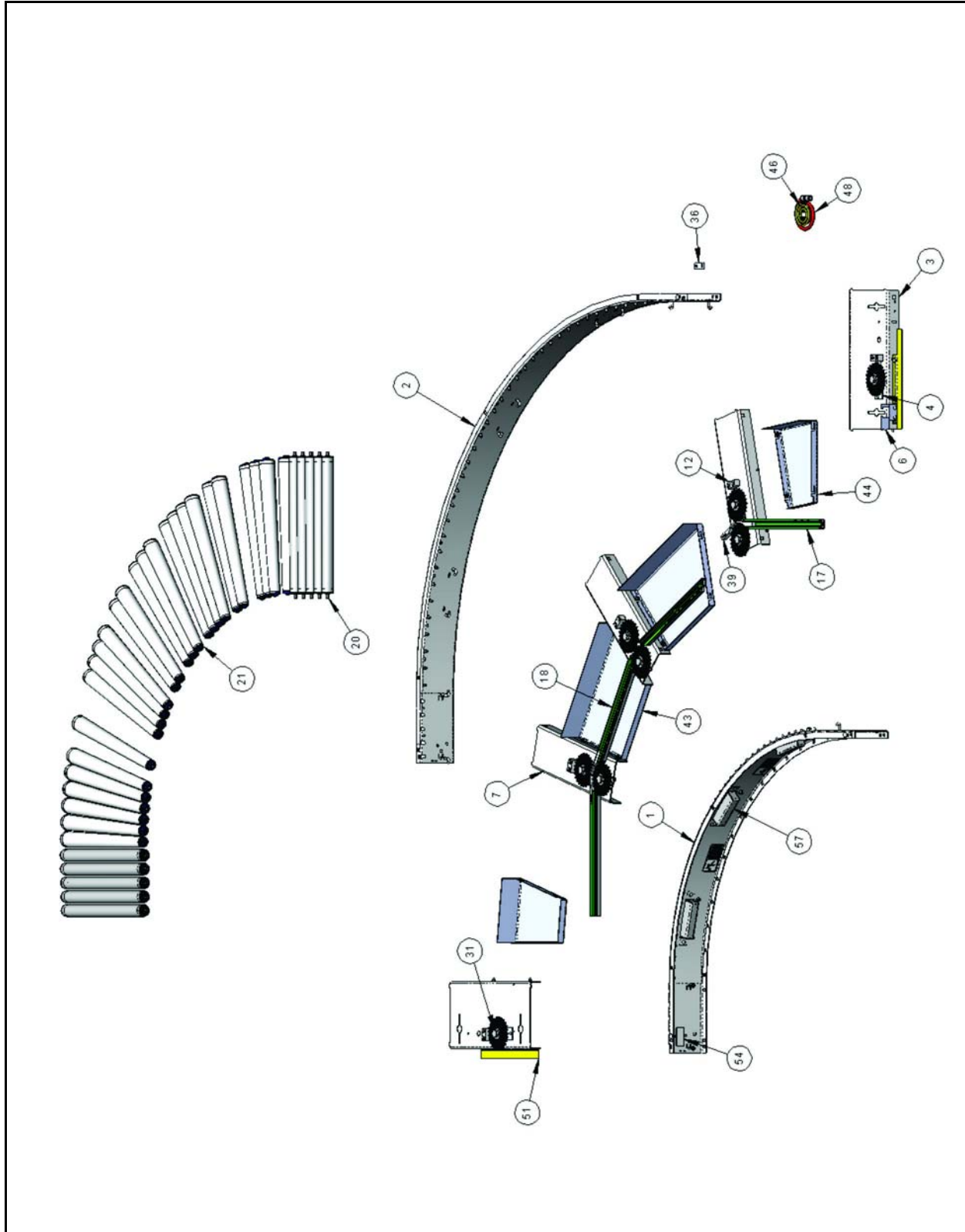
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510139	513 CHAN CRV 60D IN 2C __IR	21	5	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF
2	1	510140	510 CHAN CRV 60D OUT 2C __IR __BF			<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF
3	2	510237	510 CRV END CHAN __BF			<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF
4	2	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF
5	6	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T			<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF
6	2	51000700	510 CRV ADV TRK RETAINER PLATE	22	28	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
7	2	510253	510 CRV CTR CHAN __IR __BF			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
8	2	51025400	510 CRV DBL SPKT SUPPORT PLATE			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
9	2	51025500	510 CRV SPKT SPACER			<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
10	2	51025501	510 CRV SPKT SPACER x 0.115			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
11	2	51025500	510 CRV SPKT SPACER	23	15	20011400	BOLT HEX .250-20 X .625
12	4	51025601	510 CRV CHAIN RETAINER x 1.00	24	31	221281	NUT FLANGE .250-20
13	1	510283	510 CRV __ END STRUT X __ __ LH	25	16	20065300	BOLT ,J 5-16 X 1.38
14	1	510283	510 CRV __ END STRUT X __ __ RH	26	16	225021	NUT FLANGE .313-18
15	1	510245	510 CRV __ CTR STRUT X __ __	27	8	220923	BOLT HEX .250-20 X 1.750
16	1	510277	510 CRV __ END GUIDE X __ __ LH	28	8	220066	NUT NYLOCK .250-20 ZC
17	1	510277	510 CRV __ END GUIDE X __ __ RH	29	16	220075	WASHER FLAT .250 SAE TYPE A
18	1	510246	510 CRV __ CTR GUIDE X __ __	30	2	20118200	BOLT HEX .750-10 X 2.750 SPCL
19	9	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	31	4	20118100	BOLT HEX .750-10 X 2.250
20	10	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	32	6	225233	NUT HEX .750-10
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	33	6	221232	WASHER FLAT .750 SAE TYPE A
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	34	6	20014400	WASHER LOCK .750
		<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	35	8	225283	BOLT CAR .250-20 X .750
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	36	4	51002000	510 END ROLLER RETAINER FLAT

### 510 CRV 60D ASSY TT 2C \_\_ BF 510116

SEQ	QTY	PART NO	DESCRIPTION	SE Q	QTY	PART NO	DESCRIPTION
37	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	48	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED
38	4	221055	NUT FLANGE .375-16	49	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
39	4	51038300	510 CRV ADV TRK ALIGNMENT TOOL	50	1	29002600	LABEL CEMA # 930004
40	17	220014	BOLT HEX .313-18 X .750	51	2	51041800	510 CRV END SPROCKET GUARD
41	17	220070	WASHER LOCK .313	52	1	29002800	LABEL CEMA # 930009
42	17	220076	WASHER FLAT .313 SAE TYPE A	53	1	29305700	Label Accuglide
43	1	510285	510 CRV _-IR CTR DRIPPAN WLDMT	54	1	29002500	LABEL CEMA # 930001
44	2	510286	510 CRV _-IR END DRIPPAN WLDMT	55	1	29025700	LABEL CEMA #930002
45	8	225030	BOLT CAR .250-20 X .500	56	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
46	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	57	2	51000600	510 CRV ADV SPKT GUARD
47	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union				



**510117 - 510 Crv 90 Deg Assy TT 2C 16-28 BE**



## 510 CRV 90D ASSY TT 2C 16-28BF 510117

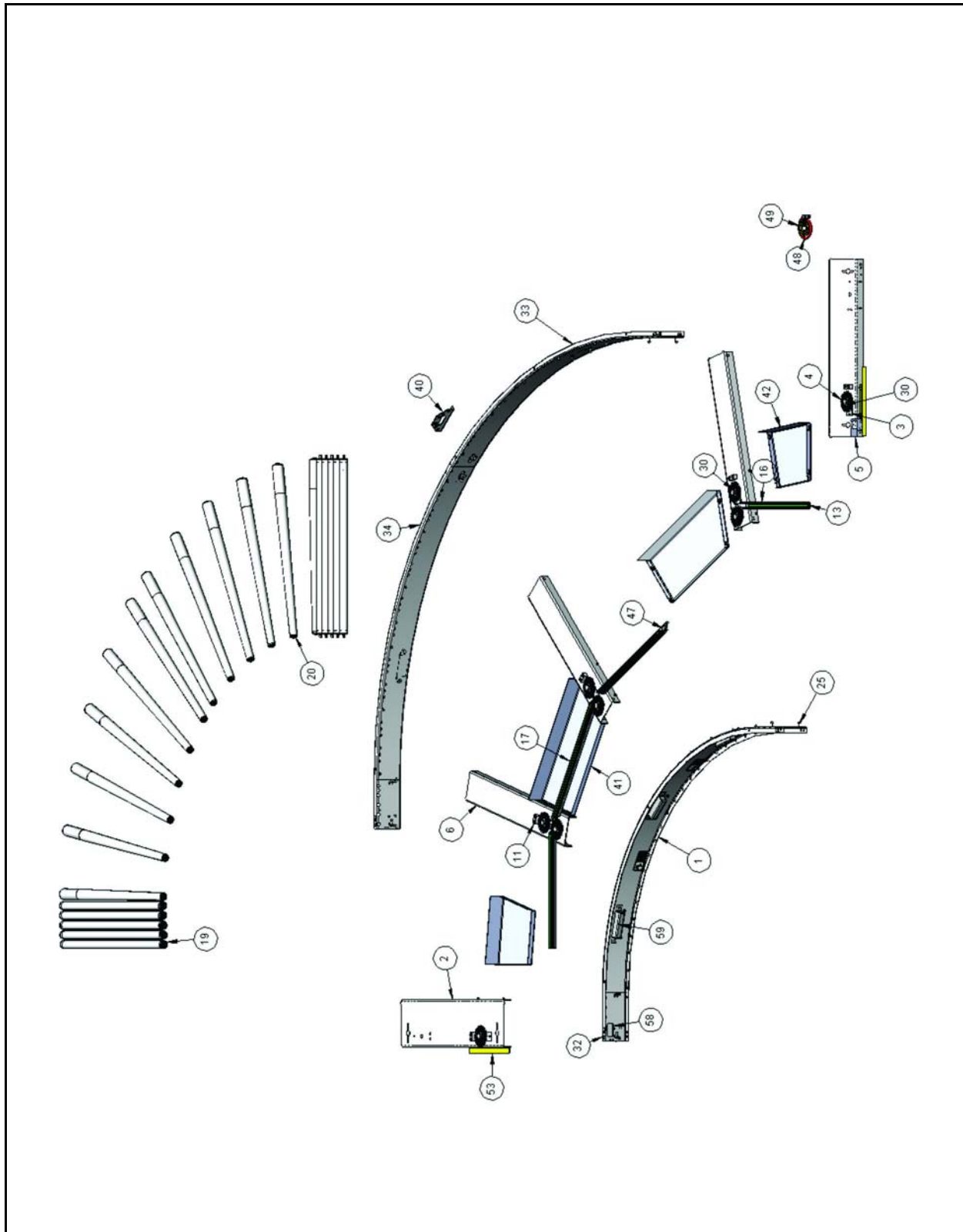
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510141__	510 CHAN CRV 90D IN 2C __IR __	22	35	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF
2	1	510142__	510 CHAN CRV 90D OUT 2C __IR __BF			<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF
3	2	510237__	510 CRV END CHAN __BF			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
4	2	51027600	510 CRV SGL SPKT SUPPORT PLATE	23	21	20011400	BOLT HEX .250-20 X .625
5	8	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T	24	41	221281	NUT FLANGE .250-20
6	2	51000700	510 CRV ADV TRK RETAINER PLATE	25	20	20065300	BOLT,J 5-16 X 1.38
7	3	510253__	510 CRV CTR CHAN __IR __BF	26	20	225021	NUT FLANGE .313-18
8	3	51025400	510 CRV DBL SPKT SUPPORT PLATE	27	10	220923	BOLT HEX .250-20 X 1.750
9	2	51025502	510 CRV SPKT SPACER x 0.174	28	10	220066	NUT NYLOCK .250-20 ZC
10	3	51025501	510 CRV SPKT SPACER x 0.115	29	20	220075	WASHER FLAT .250 SAE TYPE A
11	3	51025505	510 CRV SPKT SPACER x 0.545	30	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
12	5	51025601	510 CRV CHAIN RETAINER x 1.00	31	5	20118100	BOLT HEX .750-10 X 2.250
13	1	510283__	510 CRV __END STRUT X __. __. LH	32	8	225233	NUT HEX .750-10
14	1	510283__	510 CRV __END STRUT X __. __. RH	33	8	221232	WASHER FLAT .750 SAE TYPE A
15	2	510245__	510 CRV __CTR STRUT X __. __. __	34	8	20014400	WASHER LOCK .750
16	1	510277__	510 CRV __END GUIDE X __. __. LH	35	12	225283	BOLT CAR .250-20 X .750
17	1	510277__	510 CRV __END GUIDE X __. __. RH	36	4	51002000	510 END ROLLER RETAINER FLAT
18	2	510246__	510 CRV __CTR GUIDE X __. __. __	37	4	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
19	12	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	38	4	221055	NUT FLANGE .375-16
20	10	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	39	4	51038300	510 CRV ADV TRK ALIGNMENT TOOL
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	40	72	220014	BOLT HEX .313-18 X .750
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	41	72	220070	WASHER LOCK .313
21	36	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF	42	72	220076	WASHER FLAT .313 SAE TYPE A
		<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF	43	2	510285__	510 CRV __IR CTR DRIPPAN WLDMT
		<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF	44	2	510286__	510 CRV __IR END DRIPPAN WLDMT

## 510 CRV 90D ASSY TT 2C 16-28BF 510117

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
45	8	225030	BOLT CAR .250-20 X .500	52	1	29002800	LABEL CEMA # 930009
46	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	53	1	29305700	Label Accuglide
47	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union	54	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
48	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	55	1	29002500	LABEL CEMA # 930001
49	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	56	1	29025700	LABEL CEMA #930002
50	1	29002600	LABEL CEMA # 930004	57	3	51000600	510 CRV ADV SPKT GUARD
51	2	51041800	510 CRV END SPROCKET GUARD				



**510118 - 510 Crv 90 Deg Assy TT 2C 34-40 BE**





## 510 CRV 90D ASSY TT 2C 34-40BF 510118

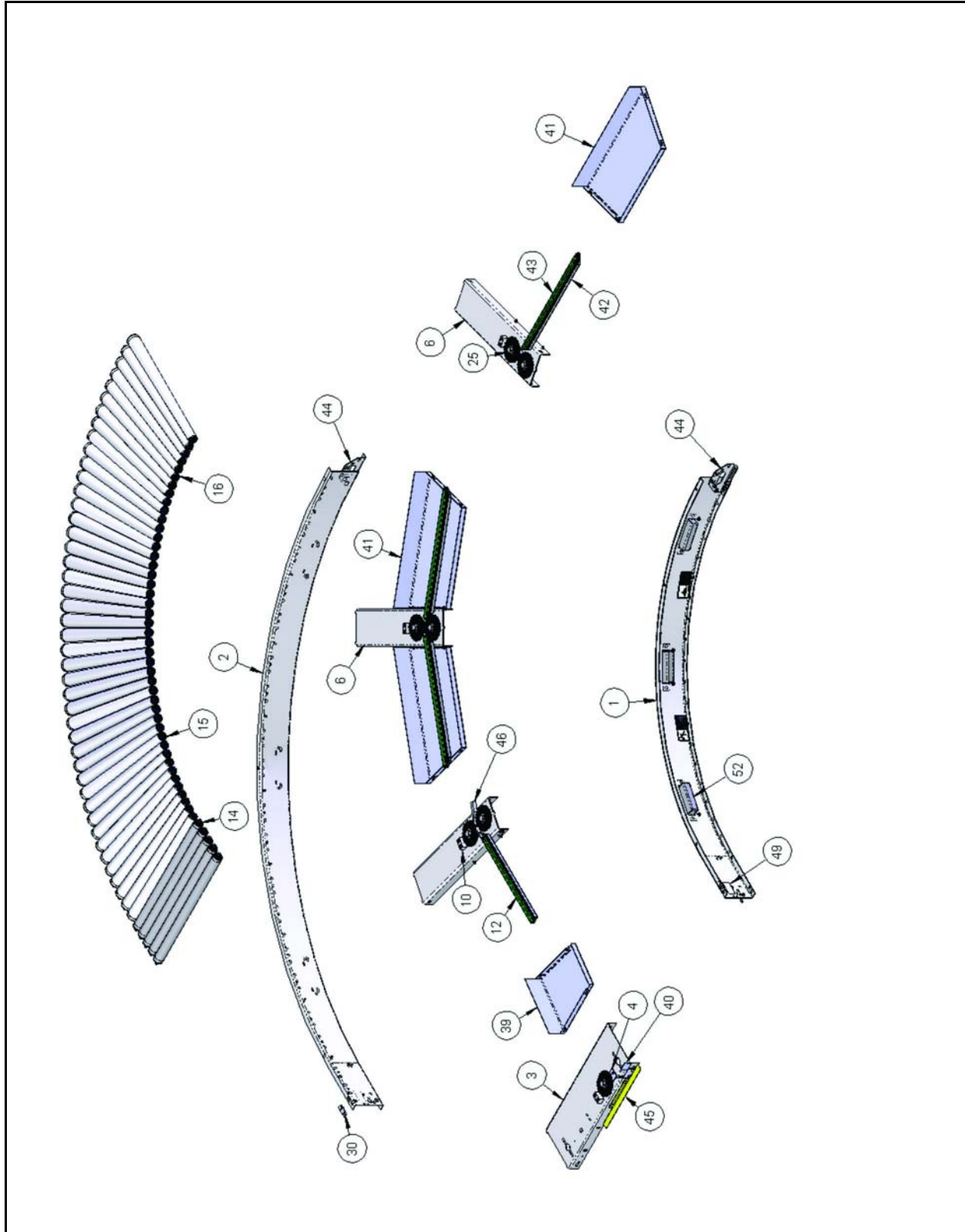
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510141	510 CHAN CRV 90D IN 2C _ _IR	21	42	<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
2	2	510237	510 CRV END CHAN _BF			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
3	2	51027600	510 CRV SGL SPKT SUPPORT PLATE			<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF
4	8	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T	22	8	225030	BOLT CAR .250-20 X .500
5	2	51000700	510 CRV ADV TRK RETAINER PLATE	23	21	20011400	BOLT HEX .250-20 X .625
6	3	510253	510 CRV CTR CHAN _IR _BF	24	41	221281	NUT FLANGE .250-20
7	3	51025400	510 CRV DBL SPKT SUPPORT PLATE	25	20	20065300	BOLT, J 5-16 X 1.38
8	2	51025500	510 CRV SPKT SPACER	26	20	225021	NUT FLANGE .313-18
9	3	51025501	510 CRV SPKT SPACER x 0.115	27	10	220923	BOLT HEX .250-20 X 1.750
10	3	51025500	510 CRV SPKT SPACER	28	10	220066	NUT NYLOCK .250-20 ZC
11	5	51025601	510 CRV CHAIN RETAINER x 1.00	29	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
12	1	510283	510 CRV _ _ END STRUT X _ _ _ LH	30	5	20118100	BOLT HEX .750-10 X 2.250
13	1	510283	510 CRV _ _ END STRUT X _ _ _ RH	31	12	225283	BOLT CAR .250-20 X .750
14	2	510245	510 CRV _ _ CTR STRUT X _ _ _	32	4	51002000	510 END ROLLER RETAINER FLAT
15	1	510277	510 CRV _ _ END GUIDE X _ _ _ LH	33	1	510143	510 CHAN CRV 90D OUT 2C 5-0IR _BF _H
16	1	510277	510 CRV _ _ END GUIDE X _ _ _ RH	34	1	510143	510 CHAN CRV 90D OUT 2C 5-0IR _BF _H
17	2	510246	510 CRV _ _ CTR GUIDE X _ _ _	35	24	220076	WASHER FLAT .313 SAE TYPE A
18	12	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	36	25	220014	BOLT HEX .313-18 X .750
19	10	<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	37	24	220070	WASHER LOCK .313
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	38	12	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
20	11	<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF	39	12	221055	NUT FLANGE .375-16
		<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF	40	1	51038400	510 CRV SPLICE ANGLE

### 510 CRV 90D ASSY TT 2C 34-40BF 510118

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
41	2	510285	510 CRV _-IR CTR DRIPPAN WLDMT	51	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union
42	2	510286	510 CRV _-IR END DRIPPAN WLDMT	52	1	29002600	LABEL CEMA # 930004
43	20	220075	WASHER FLAT .250 SAE TYPE A	53	2	51041800	510 CRV END SPROCKET GUARD
44	8	225233	NUT HEX .750-10	54	1	29002800	LABEL CEMA # 930009
45	8	221232	WASHER FLAT .750 SAE TYPE A	55	1	29305700	Label Accuglide
46	8	20014400	WASHER LOCK .750	56	1	29002500	LABEL CEMA # 930001
47	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL	57	1	29025700	LABEL CEMA #930002
48	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED	58	4	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
49	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW	59	3	51000600	510 CRV ADV SPKT GUARD
50	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00				



**510119 - 510 Crv 180 Deg Assy TT 2C 16-28 BF (90 Deg 1 of 2)**



## 510 CRV 180D ASSY TT 2C 16-28BF (90D 1 OF 2) 510119

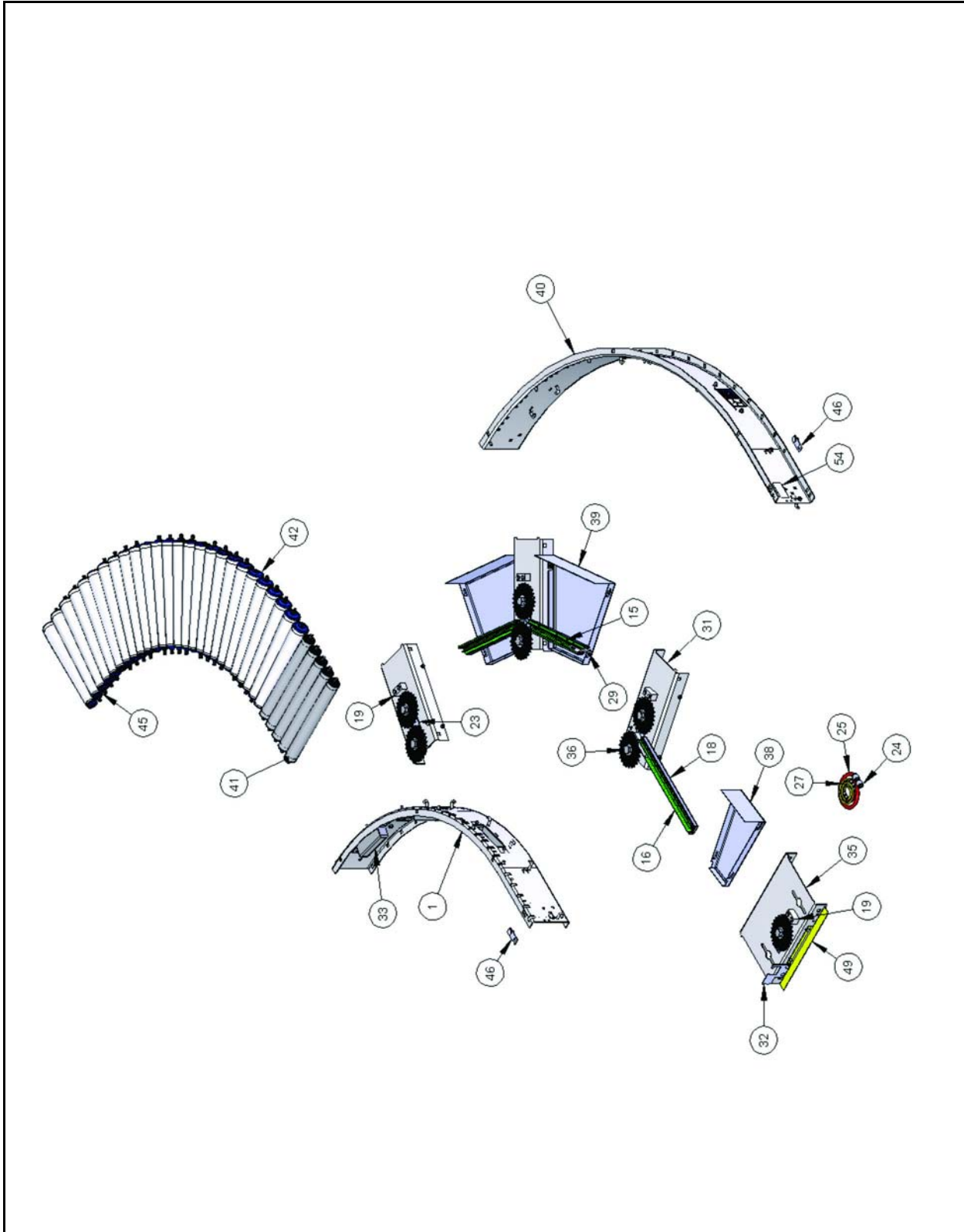
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510144	510 CHAN CRV 180D IN 2C _ _ IR _H	19	16	20065300	BOLT ,J 5-16 X 1.38
2	510	510145	510 CHAN CRV 180D OUT 2C _ _ IR _BF LH	20	16	225021	NUT FLANGE .313-18
3	1	510237	510 CRV END CHAN _BF	21	8	220923	BOLT HEX .250-20 X 1.750
4	1	51027600	510 CRV SGL SPKT SUPPORT PLATE	22	8	220066	NUT NYLOCK .250-20 ZC
5	7	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T	23	16	220075	WASHER FLAT .250 SAE TYPE A
6	3	510253	510 CRV CTR CHAN _ IR _BF	24	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
7	3	51025400	510 CRV DBL SPKT SUPPORT PLATE	25	4	20118100	BOLT HEX .750-10 X 2.250
8	1	51025500	510 CRV SPKT SPACER	26	7	225233	NUT HEX .750-10
9	1	51025500	510 CRV SPKT SPACER	27	7	221232	WASHER FLAT .750 SAE TYPE A
10	4	51025601	510 CRV CHAIN RETAINER x 1.00	28	7	20014400	WASHER LOCK .750
11	1	510283	510 CRV _ _ END STRUT X _ _ _ LH	29	12	225283	BOLT CAR .250-20 X .750
12	1	510277	510 CRV _ _ END GUIDE X _ _ _ LH	30	2	51002000	510 END ROLLER RETAINER FLAT
13	12	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	31	10	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
14	5	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7	32	10	221055	NUT FLANGE .375-16
		<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7	33	20	220014	BOLT HEX .313-18 X .750
		<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7	34	20	220070	WASHER LOCK .313
15	10	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF	35	20	220076	WASHER FLAT .313 SAE TYPE A
		<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF	31	10	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
		<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF	32	10	221055	NUT FLANGE .375-16
16	34	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF	33	20	220014	BOLT HEX .313-18 X .750
		<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF	34	20	220070	WASHER LOCK .313
		<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF	35	20	220076	WASHER FLAT .313 SAE TYPE A
17	18	20011400	BOLT HEX .250-20 X .625	31	10	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
18	34	221281	NUT FLANGE .250-20	32	10	221055	NUT FLANGE .375-16

### 510 CRV 180D ASSY TT 2C 16-28BF (90D 1 OF 2) 510119

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
33	20	220014	BOLT HEX .313-18 X .750	43	3	510246	510 CRV _ _ CTR GUIDE X _ _ _
34	20	220070	WASHER LOCK .313	44	2	51038400	510 CRV SPLICE ANGLE
35	20	220076	WASHER FLAT .313 SAE TYPE A	45	1	51041800	510 CRV END SPROCKET GUARD
36	4	225030	BOLT CAR .250-20 X .500	46	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL
37	1	29002600	LABEL CEMA # 930004	47	1	29002800	LABEL CEMA # 930009
38	5	51025501	510 CRV SPKT SPACER x 0.115	48	1	29305700	Label Accuglide
39	1	510286	510 CRV _ _ IR END DRIPPAN WLDMT	49	2	29316400	LABEL END ROLR RETAINER REMOVE
40	1	51000700	510 CRV ADV TRK RETAINER PLATE	50	1	29002500	UNDER 8' (FKI# 7065865)
41	3	510285	510 CRV _ _ IR CTR DRIPPAN WLDMT	51	1	29025700	LABEL CEMA # 930001
42	3	510245	510 CRV _ _ CTR STRUT X _ _ _	52	3	51000600	LABEL CEMA #930002
							510 CRV ADV SPKT GUARD



**510120 - 510 Crv 180 Deg Assy TT 2C 16-28 BF (90 Deg 2 of 2)**





## 510 CRV 180D ASSY TT 2C 16-28 (90D 2 OF 2) 510120

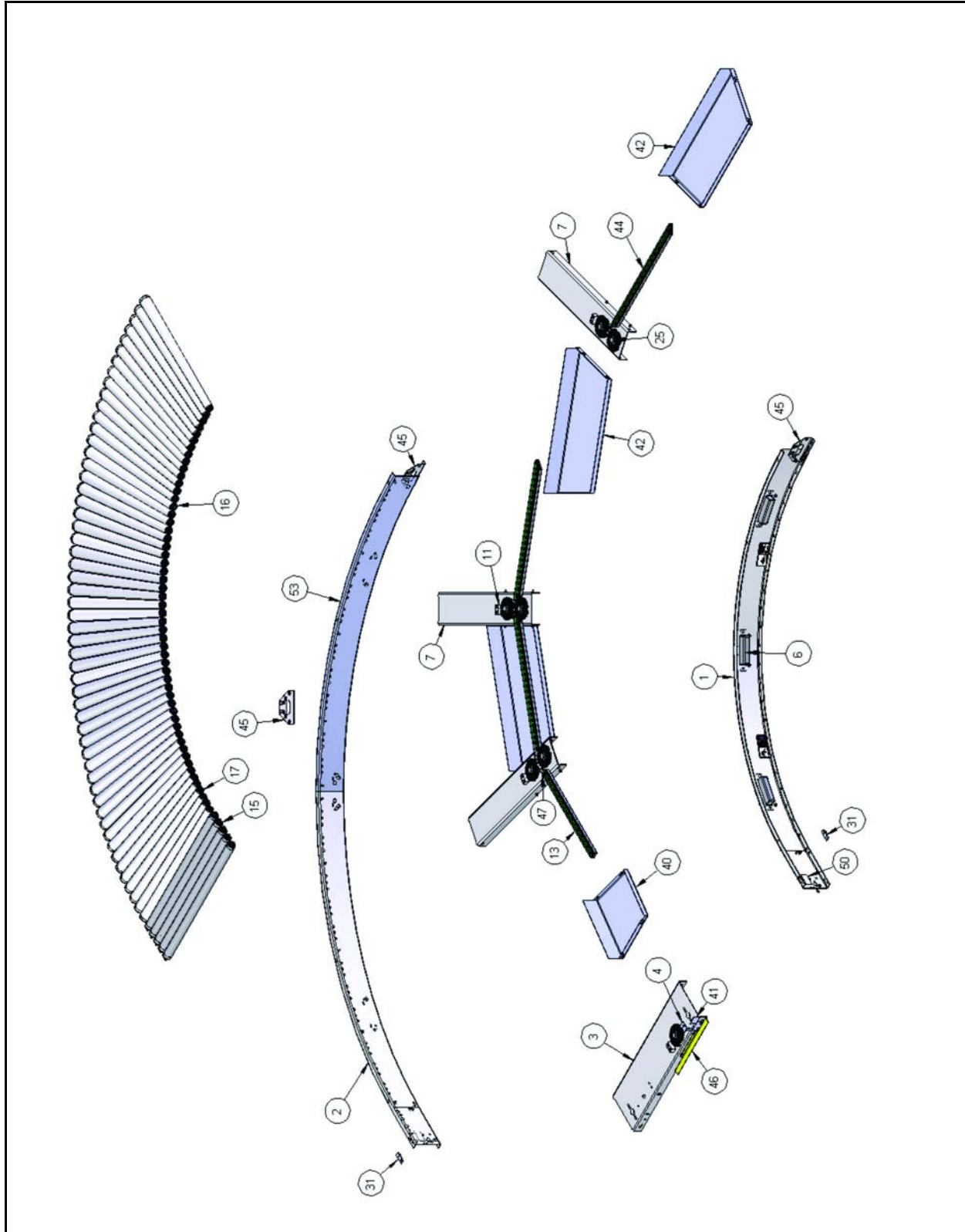
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510144__	510 CHAN CRV 180D IN 2C __IR_H	25	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED
2	3	51025501	510 CRV SPKT SPACER x 0.115	26	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union
3	7	20014400	WASHER LOCK .750	27	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW
4	7	221232	WASHER FLAT .750 SAE TYPE A	28	4	225030	BOLT CAR .250-20 X .500
5	7	225233	NUT HEX .750-10	29	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL
6	4	20118100	BOLT HEX .750-10 X 2.250	30	6	225283	BOLT CAR .250-20 X .750
7	16	220075	WASHER FLAT .250 SAE TYPE A	31	3	510253__	510 CRV CTR CHAN __IR __BF
8	8	220066	NUT NYLOCK .250-20 ZC	32	1	51000700	510 CRV ADV TRK RETAINER PLATE
9	8	220923	BOLT HEX .250-20 X 1.750	33	3	51000600	510 CRV ADV SPKT GUARD
10	16	225021	NUT FLANGE .313-18	34	1	51027600	510 CRV SGL SPKT SUPPORT PLATE
11	16	20065300	BOLT,J 5-16 X 1.38	35	1	510237__	510 CRV END CHAN __BF
12	28	221281	NUT FLANGE .250-20	36	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
13	18	20011400	BOLT HEX .250-20 X .625	37	6	20118400	SCREW HEX SHTMTL .313X.500 TYPE F
14	9	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	38	1	510286__	510 CRV __IR END DRIPPAN WLDMT
15	2	510246__	510 CRV __ CTR GUIDE X __. __RH	39	2	510285__	510 CRV __IR CTR DRIPPAN WLDMT
16	1	510277__	510 CRV __ END GUIDE X __. __RH	40	510	510145__	510 CHAN CRV 180D OUT 2C __IR __BF RH
17	2	510245__	510 CRV __ CTR STRUT X __. __RH	41	5	<a href="#">140002160</a>	ROL G196AB 16.00"BF AX7
18	1	510283__	510 CRV __ END STRUT X __. __RH			<a href="#">140002220</a>	ROL G196AB 22.00"BF AX7
19	4	51025601	510 CRV CHAIN RETAINER x 1.00			<a href="#">140002280</a>	ROL G196AB 28.00"BF AX7
20	7	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T	42	6	<a href="#">140334160</a>	ROL TG254AB AX7 DT 16.00"BF
21	3	51025505	510 CRV SPKT SPACER x 0.545			<a href="#">140334220</a>	ROL TG254AB AX7 DT 22.00"BF
22	1	51025502	510 CRV SPKT SPACER x 0.174			<a href="#">140334280</a>	ROL TG254AB AX7 DT 28.00"BF
23	3	51025400	510 CRV DBL SPKT SUPPORT PLATE	43	12	220014	BOLT HEX .313-18 X .750
24	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	44	12	220070	WASHER LOCK .313

**510 CRV 180D ASSY TT 2C 16-28 (90D 2 OF 2) 510120**

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
45	20	<a href="#">140024160</a>	ROL TG254HS AX7 SLEEVE 16.00"BF	50	12	220076	WASHER FLAT .313 SAE TYPE A
		<a href="#">140024220</a>	ROL TG254HS AX7 SLEEVE 22.00"BF	51	1	29002600	LABEL CEMA # 930004
		<a href="#">140024280</a>	ROL TG254HS AX7 SLEEVE 28.00"BF	52	1	29002800	LABEL CEMA # 930009
46	2	51002000	510 END ROLLER RETAINER FLAT	53	1	29305700	Label Accuglide
47	2	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	54	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)
48	2	221055	NUT FLANGE .375-16	55	1	29002500	LABEL CEMA # 930001
49	1	51041800	510 CRV END SPROCKET GUARD	56	1	29025700	LABEL CEMA #930002



**510121 - 510 Crv 180 Deg Assy TT 2C 34-40 BF (90 Deg 1 of 2)**



## 510 CRV 180D ASSY TT 2C 34-40 BF (90D 1 OF 2) 510121

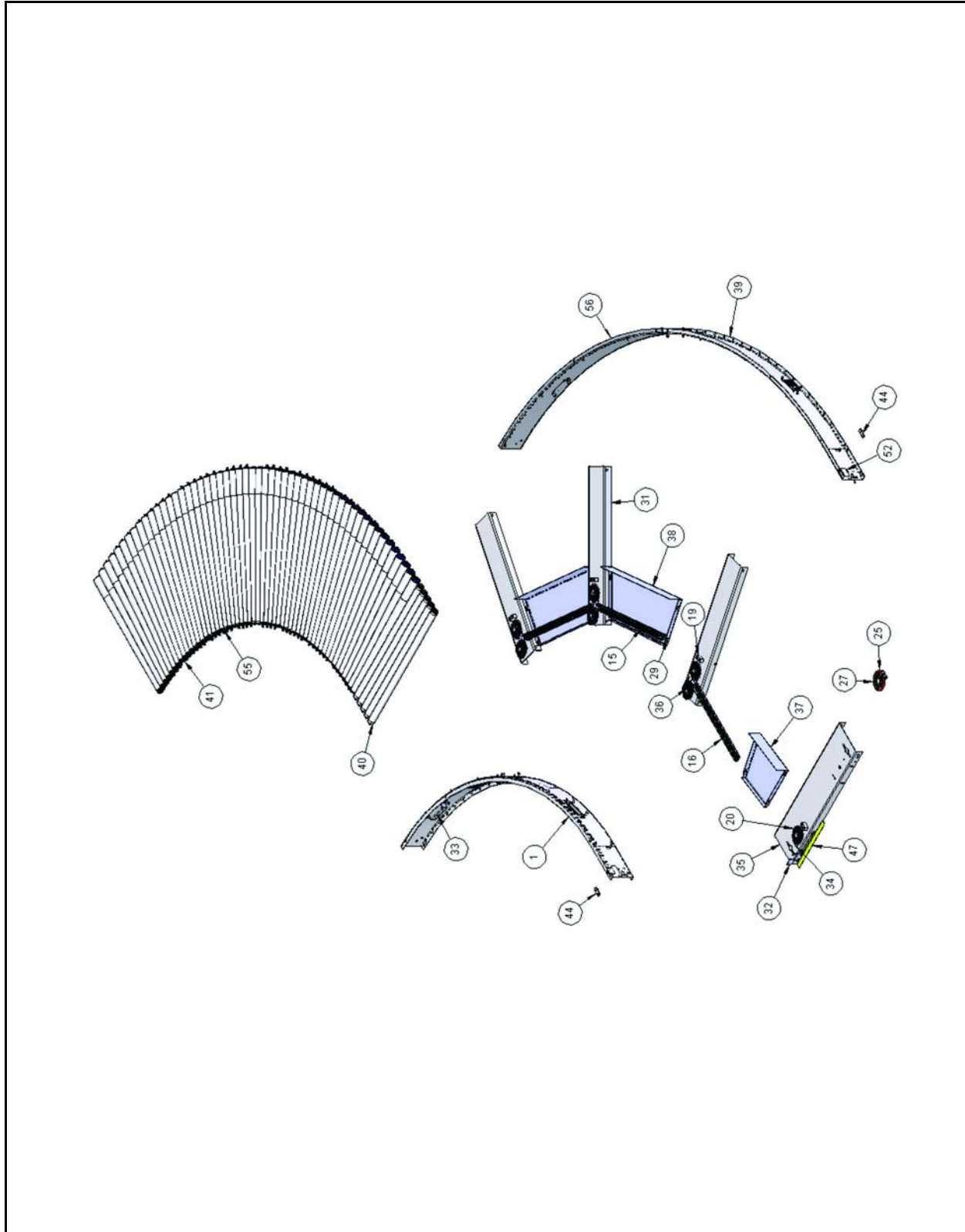
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510144	510 CHAN CRV 180D IN 2C _-IR _H	23	8	220066	NUT NYLOCK .250-20 ZC
2	510	510145	510 CHAN CRV 180D OUT 2C _-IR _BF LH	24	16	220075	WASHER FLAT .250 SAE TYPE A
3	1	510237	510 CRV END CHAN _BF	25	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
4	1	51027600	510 CRV SGL SPKT SUPPORT PLATE	26	4	20118100	BOLT HEX .750-10 X 2.250
5	7	<a href="#">51009102</a>	510 STD IDLER SPKT #50 25T	27	7	225233	NUT HEX .750-10
6	3	51000600	510 CRV ADV SPKT GUARD	28	7	221232	WASHER FLAT .750 SAE TYPE A
7	3	510253	510 CRV CTR CHAN _-IR _BF	29	7	20014400	WASHER LOCK .750
8	3	51025400	510 CRV DBL SPKT SUPPORT PLATE	30	12	225283	BOLT CAR .250-20 X .750
9	1	51025500	510 CRV SPKT SPACER	31	2	51002000	510 END ROLLER RETAINER FLAT
10	1	51025500	510 CRV SPKT SPACER	32	18	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
11	4	51025601	510 CRV CHAIN RETAINER x 1.00	33	18	221055	NUT FLANGE .375-16
12	1	510283	510 CRV _- END STRUT X _- _LH	34	20	220014	BOLT HEX .313-18 X .750
13	1	510277	510 CRV _- END GUIDE X _- _LH	35	20	220070	WASHER LOCK .313
14	12	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	36	20	220076	WASHER FLAT .313 SAE TYPE A
15	5	<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7	37	4	225030	BOLT CAR .250-20 X .500
		<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7	38	1	29002600	LABEL CEMA # 930004
16	9	<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF	39	5	51025501	510 CRV SPKT SPACER x 0.115
		<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF	40	1	510286	510 CRV _-IR END DRIPPAN WLDMT
17	44	<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF	41	1	51000700	510 CRV ADV TRK RETAINER PLATE
		<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF	42	3	510285	510 CRV _-IR CTR DRIPPAN WLDMT
18	18	20011400	BOLT HEX .250-20 X .625	43	3	510245	510 CRV _- CTR STRUT X _- _
19	34	221281	NUT FLANGE .250-20	44	3	510246	510 CRV _- CTR GUIDE X _- _
20	16	20065300	BOLT,J 5-16 X 1.38	45	3	51038400	510 CRV SPLICE ANGLE
21	16	225021	NUT FLANGE .313-18	46	1	51041800	510 CRV END SPROCKET GUARD
22	8	220923	BOLT HEX .250-20 X 1.750	47	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL

**510 CRV 180D ASSY TT 2C 34-40 BF (90D 1 OF 2) 510121**

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
48	1	29002800	LABEL CEMA # 930009	52	1	29025700	LABEL CEMA #930002
49	1	29305700	Label Accuglide	53	510	510146	510 CHAN CRV 180D OUT 2C 5-0IR CTR BF LH
50	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)	54	1	<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF
51	1	29002500	LABEL CEMA # 930001			<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF



**510122 - 510 Crv 180 Deg Assy TT 2C 34-40 BF (90 Deg 2 of 2)**





## 510 CRV 180D ASSY RR 2C 34-40BF (90D 2 OF 2) 510122

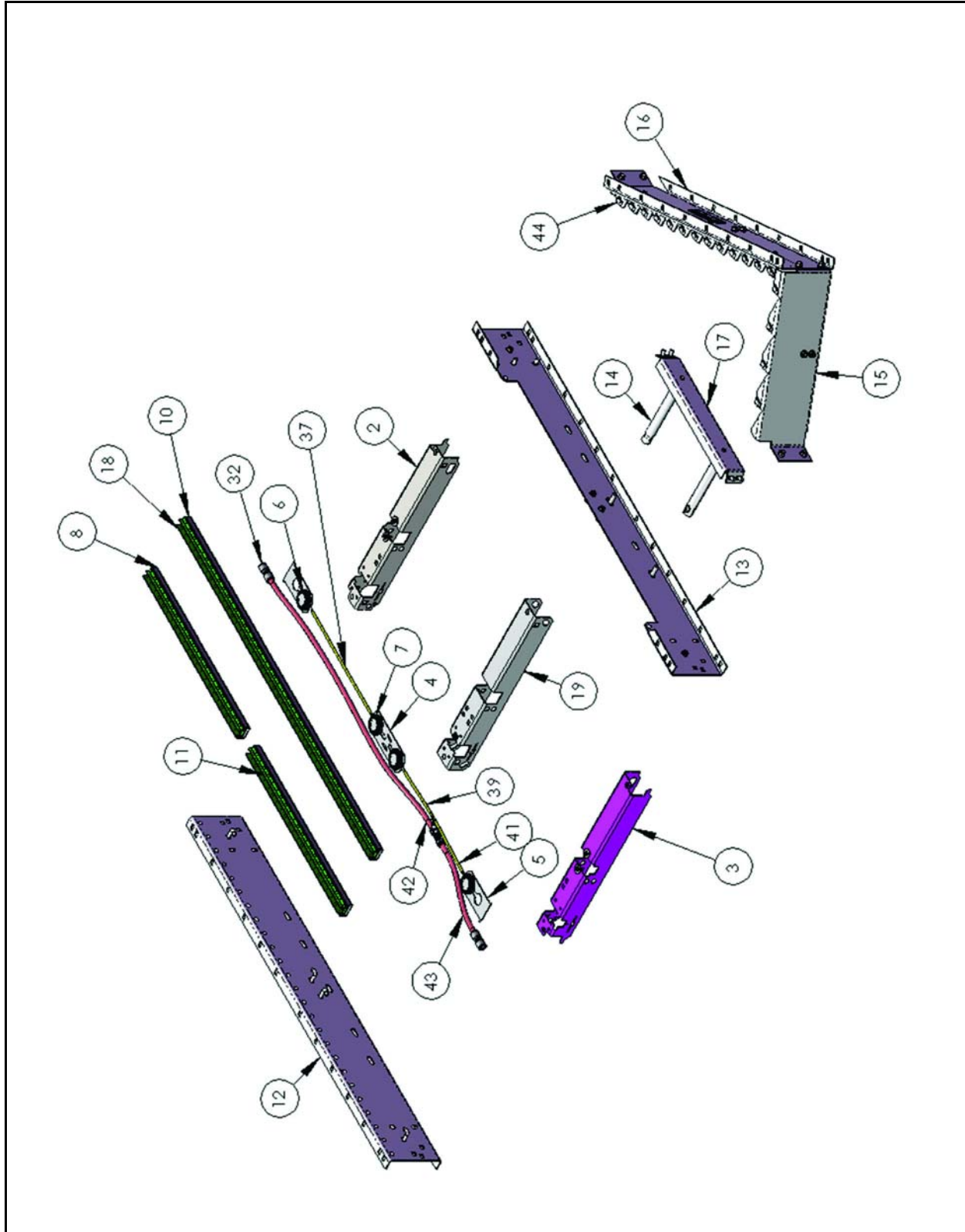
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	510144__	510 CHAN CRV 180D IN 2C __IR_H	25	1	<a href="#">24022400</a>	TUBING, 1/2" OD X 3/8" ID RED
2	3	51025501	510 CRV SPKT SPACER x 0.115				
3	7	20014400	WASHER LOCK .750	26	2	<a href="#">24004900</a>	Legris# 3106 56 00 1/4 X 1/4 Straight Union
4	7	221232	WASHER FLAT .750 SAE TYPE A	27	1	<a href="#">24022300</a>	TUBING, 1/4" OD X 5/32" ID YELLOW
5	7	225233	NUT HEX .750-10	28	4	225030	BOLT CAR .250-20 X .500
6	4	20118100	BOLT HEX .750-10 X 2.250	29	2	51038300	510 CRV ADV TRK ALIGNMENT TOOL
7	16	220075	WASHER FLAT .250 SAE TYPE A	30	12	225283	BOLT CAR .250-20 X .750
8	8	220066	NUT NYLOCK .250-20 ZC	31	3	510253__	510 CRV CTR CHAN __IR __BF
9	8	220923	BOLT HEX .250-20 X 1.750	32	1	51000700	510 CRV ADV TRK RETAINER PLATE
10	16	225021	NUT FLANGE .313-18	33	3	51000600	510 CRV ADV SPKT GUARD
11	16	20065300	BOLT_J 5-16 X 1.38	34	1	51027600	510 CRV SGL SPKT SUPPORT PLATE
12	34	221281	NUT FLANGE .250-20	35	1	510237__	510 CRV END CHAN __BF
13	18	20011400	BOLT HEX .250-20 X .625	36	3	20118200	BOLT HEX .750-10 X 2.750 SPCL
14	9	20118300	SCREW PN HD PHL SHT MET #8 X .375 TYPE F (FKI PN 0609625)	37	1	510286__	510 CRV __IR END DRIPPAN WLDMT
15	2	510246__	510 CRV __ CTR GUIDE X __.____	38	2	510285__	510 CRV __IR CTR DRIPPAN WLDMT
16	1	510277__	510 CRV __ END GUIDE X __.____ RH	39	510	510145__	510 CHAN CRV 180D OUT 2C __IR __BF RH
17	2	510245__	510 CRV __ CTR STRUT X __.____	40	5	<a href="#">140002340</a>	ROL G196AB 34.00"BF AX7
18	1	510283__	510 CRV __ END STRUT X __.____ RH			<a href="#">140002400</a>	ROL G196AB 40.00"BF AX7
19	4	51025601	510 CRV CHAIN RETAINER x 1.00	41	10	<a href="#">140334340</a>	ROL TG254AB AX7 DT 34.00"BF
20	7	51009102	510 STD IDLER SPKT #50 25T			<a href="#">140334400</a>	ROL TG254AB AX7 DT 40.00"BF
21	3	51025505	510 CRV SPKT SPACER x 0.545	42	20	220014	BOLT HEX .313-18 X .750
22	1	51025502	510 CRV SPKT SPACER x 0.174	43	20	220070	WASHER LOCK .313
23	3	51025400	510 CRV DBL SPKT SUPPORT PLATE	44	2	51002000	510 END ROLLER RETAINER FLAT
24	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00	45	10	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK

**510 CRV 180D ASSY RR 2C 34-40BF (90D 2 OF 2) 510122**

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
46	10	221055	NUT FLANGE .375-16	53	1	29002500	LABEL CEMA # 930001
47	1	51041800	510 CRV END SPROCKET GUARD	54	1	29025700	LABEL CEMA #9300002
48	20	220076	WASHER FLAT .313 SAE TYPE A	55	44	<a href="#">140024340</a>	ROL TG254HS AX7 SLEEVE 34.00"BF
49	1	29002600	LABEL CEMA # 930004			<a href="#">140024400</a>	ROL TG254HS AX7 SLEEVE 40.00"BF
50	1	29002800	LABEL CEMA # 930009	56	510	510147	510 CHAN CRV 180D OUT 2C 5-0IR CTR BF RH
51	1	29305700	Label Accuglide	57	1	51038400	510 CRV SPLICE ANGLE
52	2	29316400	LABEL END ROLR RETAINER REMOVE UNDER 8' (FKI# 7065865)				



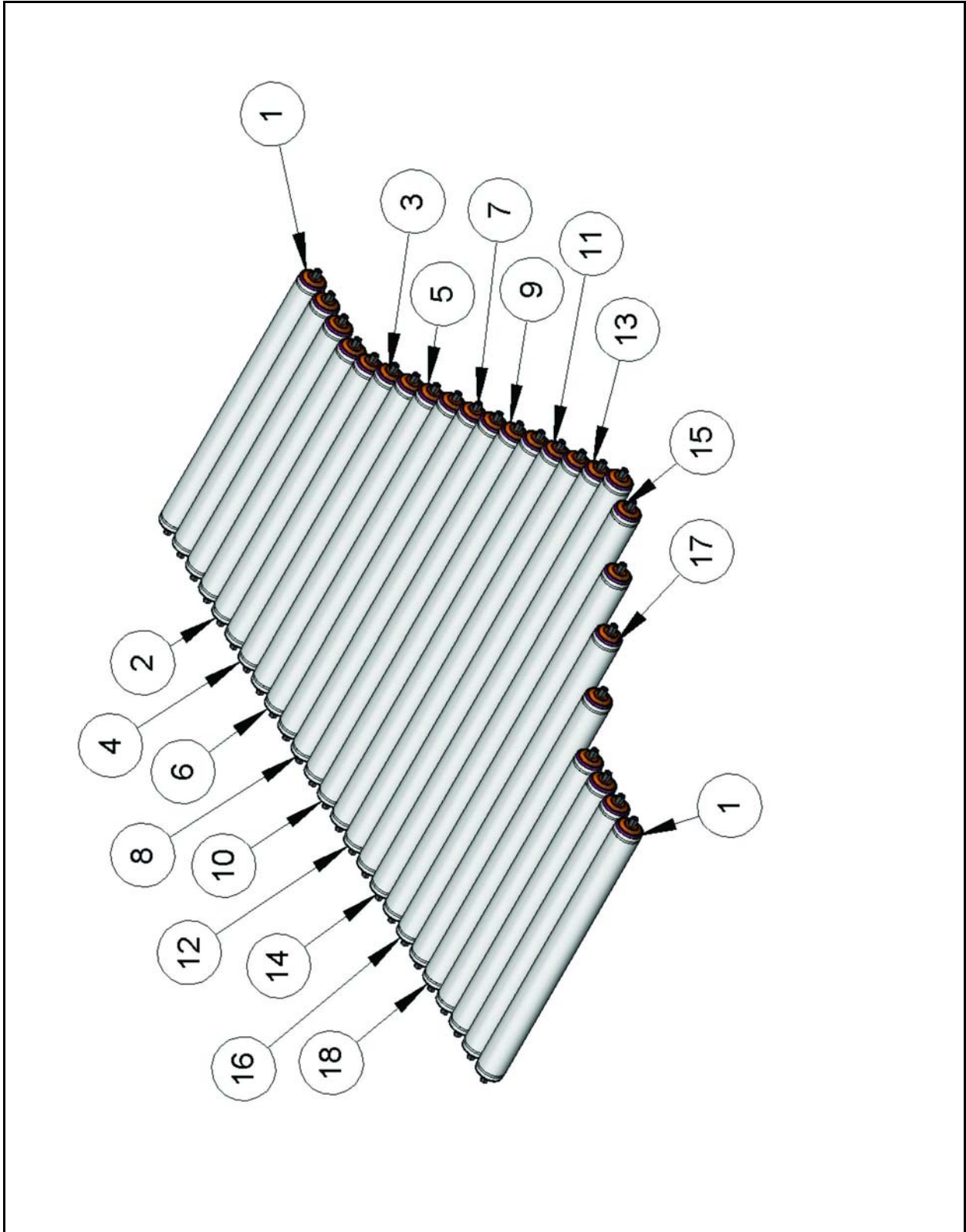
**510168 - 510 30 Deg Sawtooth Mrg 2C W22**



## 510 30 DEG SAWTOOTH MRG 2C W22 510168

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
2	1	51000102	510 END CROSS CHANNEL LH W22	19	1	51000302	510 END CROSS CHANNEL INT W22
3	1	51000202	510 END CROSS CHANNEL RH W22	20	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK
4	1	51000400	BRKT SUPT DOUBLE ACTUATOR	21	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75
5	2	51000500	BRKT SUPT SINGLE ACTUATOR	22	8	20065300	BOLT,J 5-16 X 1.38
6	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	23	8	225021	NUT FLANGE .313-18
7	2	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	24	4	225687	HHFB 0.438-14 X 1.25 GRADE 2
8	2	51000811	SUPPORT, TRACK 23.125	25	13	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
9	1	51001600	AG DRIVE TRACK END STOP 3/4"	26	13	221055	NUT FLANGE .375-16
10	1	51000812	SUPPORT, TRACK 48.125	27	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
11	2	<a href="#">51001711</a>	GUIDE, CHAIN 23.125 ADV/RET	28	1	29003000	LABEL PRODUCT TRAVEL
12	1	51026500	510 SAWTOOTH RAIL 49.938/6.50	29	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
13	1	51026600	510 SAWTOOTH RL 49.94/6.50 NOTHCED	30	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
14	2	4-11515-009	TUBETIE X 9LG	31	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
15	1	5103810_	510 SAWTOOTH ROLR MTG ANG 30D/16 BG _H	32	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
16	1	5103820_	510 SAWTOOTH RAIL 30D/W16/6.50/_H	44	17	<a href="#">47036800</a>	810 VB JCT SPUR ROLLER SUPPORT CLIP
17	1	51038000	510 SAWTOOTH CTR SUPPORT 30D W22	45	1	5103980_	5120 SAWTOOTH AXLE SUPT MNT RAIL W22/30D
18	1	<a href="#">51001712</a>	GUIDE, CHAIN 48.125 ADV/RET				

**510168 - 510 30 Deg Sawtooth Mrg 2C W22 Rollers**

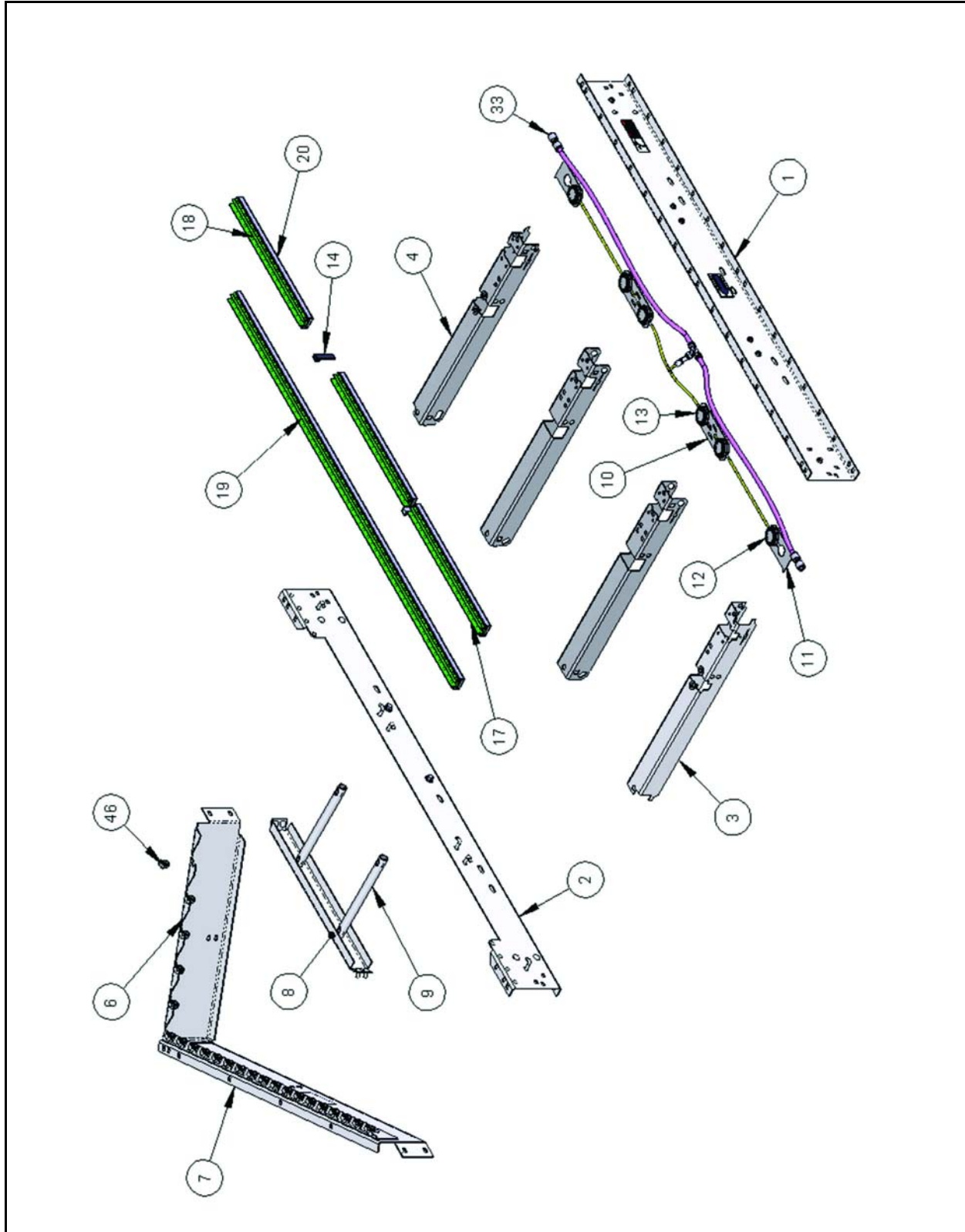


## 510 30 DEG SAWTOOTH MRG 2C W22 ROLLERS 510168

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	8	<a href="#">140061220</a>	ROL G196__ 22.00BF	10	1	<a href="#">140061317</a>	ROL G196__ 31.88BF
2	1	<a href="#">140061225</a>	ROL G196__ 22.63BF	11	1	<a href="#">140061330</a>	ROL G196__ 33.00BF
3	1	<a href="#">140061236</a>	ROL G196__ 23.75BF	12	1	<a href="#">140061341</a>	ROL G196__ 34.13BF
4	1	<a href="#">140061247</a>	ROL G196__ 24.88BF	13	1	<a href="#">140061352</a>	ROL G196__ 35.25BF
5	1	<a href="#">140061260</a>	ROL G196__ 26.00BF	14	1	<a href="#">140061364</a>	ROL G196__ 36.5BF
6	1	<a href="#">140061272</a>	ROL G196__ 27.25BF	15	1	<a href="#">140061356</a>	ROL G196__ 35.75BF
7	1	<a href="#">140061283</a>	ROL G196__ 28.38BF	16	1	<a href="#">140061322</a>	ROL G196__ 32.25BF
8	1	<a href="#">140061294</a>	ROL G196__ 29.5BF	17	1	<a href="#">140061287</a>	ROL G196__ 28.88BF
9	1	<a href="#">140061305</a>	ROL G196__ 30.63BF	18	1	<a href="#">140061253</a>	ROL G196__ 25.38BF



**510169 - 510 30 Deg Sawtooth Mrg 2C W 28**

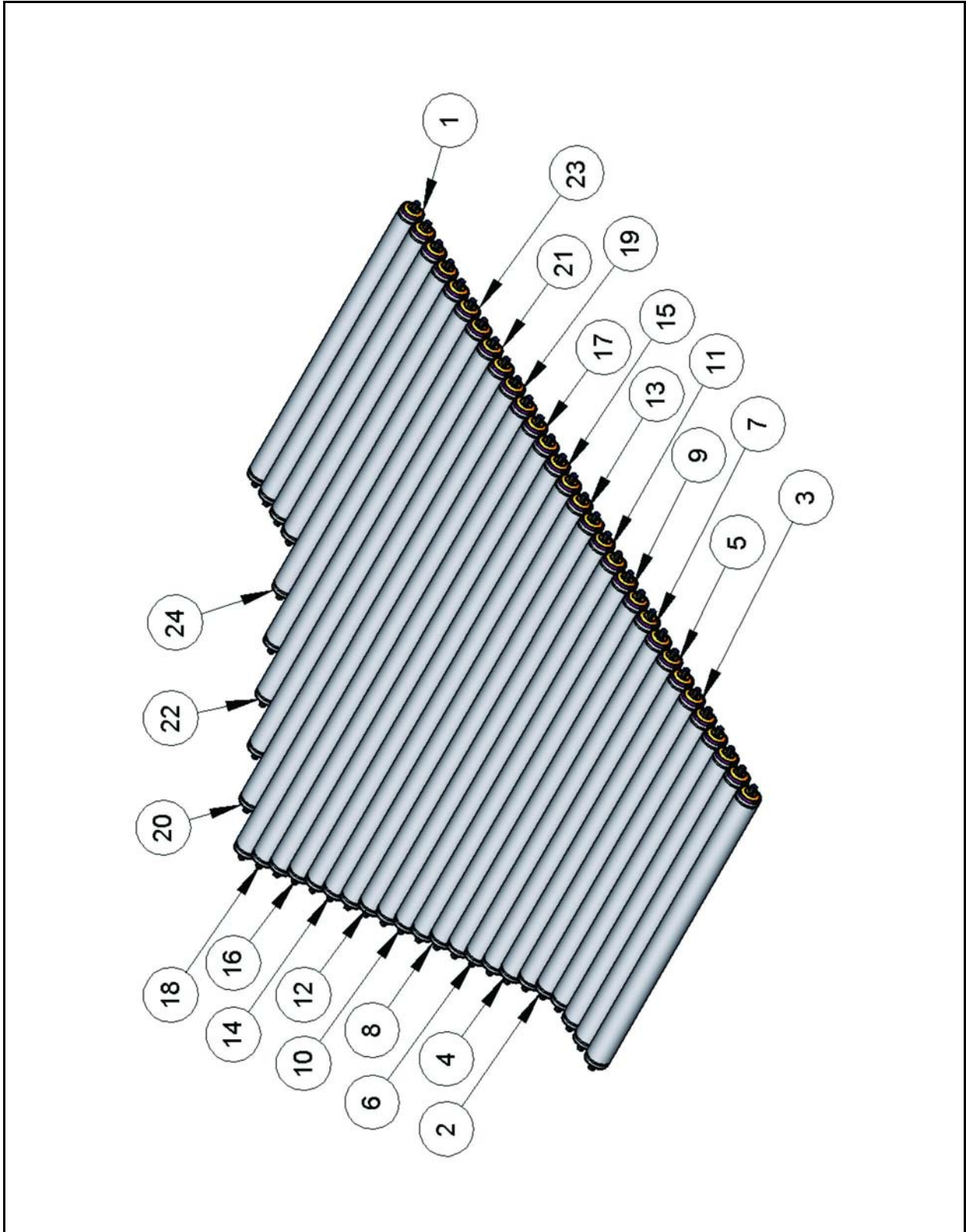




## 510 30 DEG SAWTOOTH MRG 2C W 28 510169

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51037500	510 SAWTOOTH RAIL 61.938/6.500	19	1	<a href="#">51001719</a>	GUIDE,CHAIN 60.125 ADV/RET
2	1	51037600	510 SAWTOOTH RAIL 61.938/6.500 NOTCHED	20	2	51000817	SUPPORT,TRACK 33.75
3	1	5100010_	510 END CROSS CHANNEL LH W__	21	1	51000819	SUPPORT,TRACK 33.75
4	1	510002_	AG END CROSS CHANNEL RH W__	22	1	51000818	SUPPORT,TRACK 33.75
5	2	51000303	510 END CROSS CHANNEL INT W28	23	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK
6	1	5103780_	510 SAWTOOTH TAB RLR MTG ANG 30D/22_H	24	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75
7	1	5103790_	510 SAWTOOTH RAIL 30DW22 6.50_H	25	14	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
8	1	51037700	510 SAWTOOTH CTR SUPPORT 30D W22	26	14	221055	NUT FLANGE .375-16
9	2	4-11515-0 12	TUBETIE X 12LG	27	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
10	2	51000400	BRKT SUPT DOUBLE ACTUATOR	28	1	29003000	LABEL PRODUCT TRAVEL
11	2	51000500	BRKT SUPT SINGLE ACTUATOR	29	4	225687	HHFB 0.438-14 X 1.25 GRADE 2
12	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	30	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
13	4	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	31	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
14	2	51001600	AG DRIVE TRACK END STOP 3/4"	32	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
15	12	20065300	BOLT,J 5-16 X 1.38	33	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD
16	12	225021	NUT FLANGE .313-18	46	23	<a href="#">47036800</a>	PUSH LEGRIS 3106-62-00 810 VB JCT SPUR ROLLER SUPPORT CLIP
17	2	<a href="#">51001718</a>	GUIDE,CHAIN 18.75 ADV/RET	47	1	5103990_	520 SAWTOOTH AXLE SUPT MNT RAIL W22/30D_H
18	1	<a href="#">51001720</a>	GUIDE,CHAIN 19.625 ADV/RET				

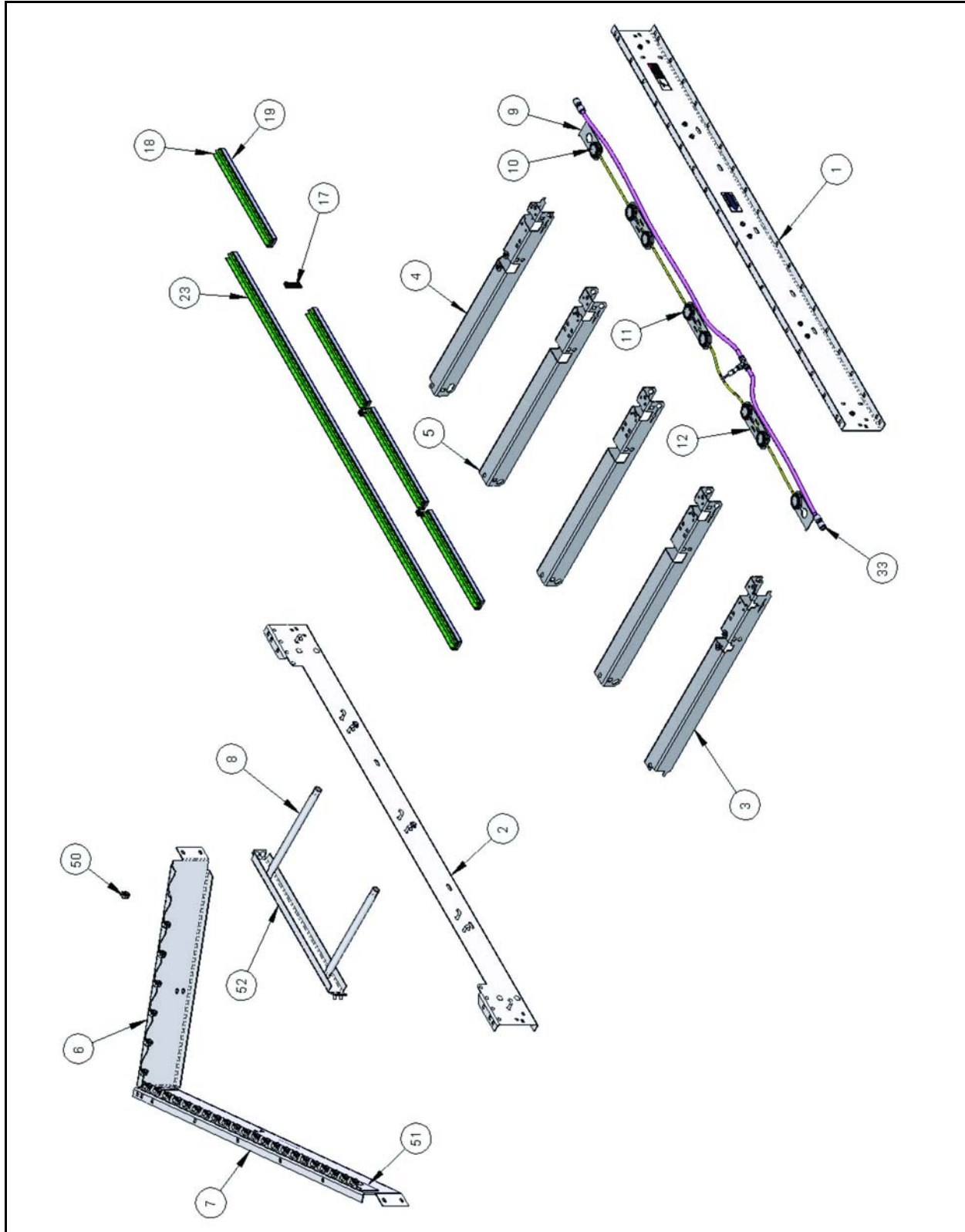
**510169 - 510 30 Deg Sawtooth Mrg 2C W 28 Rollers**



## 510 30 DEG SAWTOOTH MRG 2C W28 ROLLERS 510169

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	8	<a href="#">140061280</a>	ROL G196__ 28.00BF	13	1	<a href="#">140061414</a>	ROL G196__ 41.5BF
2	1	<a href="#">140061286</a>	ROL G196__ 28.75BF	14	1	<a href="#">140061425</a>	ROL G196__ 42.63BF
3	1	<a href="#">140061297</a>	ROL G196__ 29.88BF	15	1	<a href="#">140061436</a>	ROL G196__ 43.75BF
4	1	<a href="#">140061311</a>	ROL G196__ 31.13BF	16	1	<a href="#">140061447</a>	ROL G196__ 44.88BF
5	1	<a href="#">140061322</a>	ROL G196__ 32.25BF	17	1	<a href="#">140061461</a>	ROL G196__ 46.13BF
6	1	<a href="#">140061333</a>	ROL G196__ 33.38BF	18	1	<a href="#">140061472</a>	ROL G196__ 47.25BF
7	1	<a href="#">140061344</a>	ROL G196__ 34.5BF	19	1	<a href="#">140061483</a>	ROL G196__ 48.38BF
8	1	<a href="#">140061355</a>	ROL G196__ 35.63BF	20	1	<a href="#">140061454</a>	ROL G196__ 45.5BF
9	1	<a href="#">140061367</a>	ROL G196__ 36.88BF	21	1	<a href="#">140061420</a>	ROL G196__ 42.00BF
10	1	<a href="#">140061380</a>	ROL G196__ 38.00BF	22	1	<a href="#">140061385</a>	ROL G196__ 38.63BF
11	1	<a href="#">140061391</a>	ROL G196__ 39.13BF	23	1	<a href="#">140061351</a>	ROL G196__ 35.13BF
12	1	<a href="#">140061402</a>	ROL G196__ 40.25BF	24	1	<a href="#">140061315</a>	ROL G196__ 31.63BF

**510170 - 510 30 Deg Sawtooth Mrg 2C W 34**

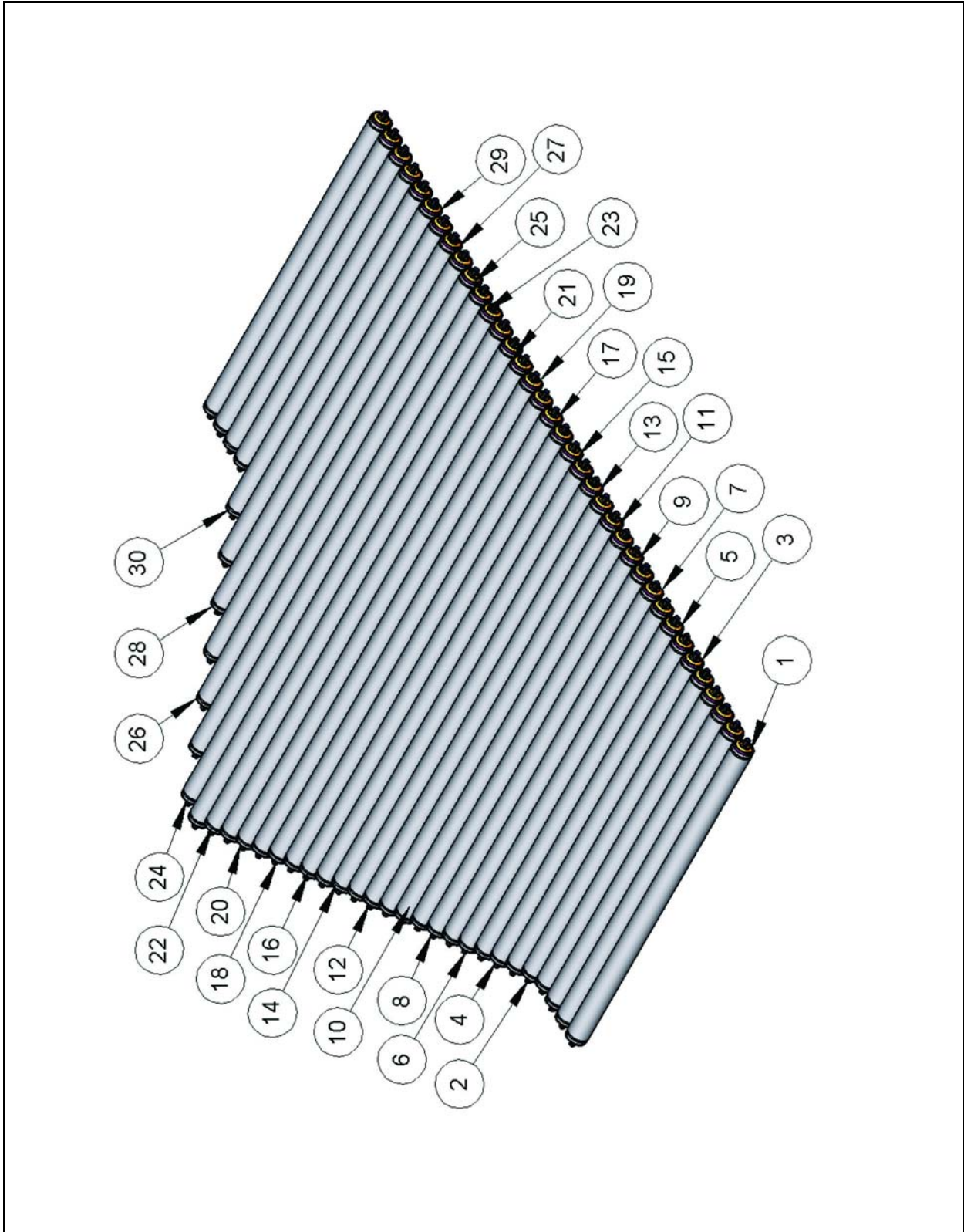


## 510 30 DEG SAWTOOTH MRG 2C W34 510170

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51030200	510 SAWTOOTH RAIL 73.938/6.500	19	2	51000813	SUPPORT, TRACK 16.813
2	1	51030300	510 SAWTOOTH RAIL 73.938/6.500 NOTCHED	20	2	51000815	SUPPORT, TRACK 17.375
3	1	51000104	510 END CROSS CHANNEL LH W34	21	2	<a href="#">51001715</a>	GUIDE, CHAIN 17.375 ADV/RET
4	1	51000204	510 END CROSS CHANNEL RH W34	22	1	51000814	SUPPORT, TRACK 72.125
5	3	51000304	510 END CROSS CHANNEL INT W34	23	1	<a href="#">51001714</a>	GUIDE, CHAIN 71.25 ADV/RET
6	1	5103050_	510 SAWTOOTH TAB RLR MTG ANG 30D/28_H	24	1	14000_340	ROL G196__ 34.00BF
7	1	5103060_	510 SAWTOOTH RAIL 30D/W28 6.50_H	25	4	20052600	BOLT HEX FLG .375-16 X .750
8	2	4-11515-016	SPDR 1" DIA TUBE ASSY 16BF	26	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK
9	2	51000500	BRKT SUPT SINGLE ACTUATOR	27	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75
10	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	28	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
11	6	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	29	1	29003000	LABEL PRODUCT TRAVEL
12	3	51000400	BRKT SUPT DOUBLE ACTUATOR	30	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
13	16	20065300	BOLT, J 5-16 X 1.38	31	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
14	16	225021	NUT FLANGE .313-18	32	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
15	11	221055	NUT FLANGE .375-16	33	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
16	11	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	50	29	<a href="#">47036800</a>	810 VB JCT SPUR ROLLER SUPPORT CLIP
17	3	51001600	AG DRIVE TRACK END STOP 3/4"	51	1	5104000_	5120 SAWTOOTH AXLE SUPT MNT RAIL W28/30D_H
18	2	<a href="#">51001713</a>	GUIDE, CHAIN 16.813 ADV/RET	52	1	51030400	510 SAWTOOTH CTR SUPPORT 30D W28



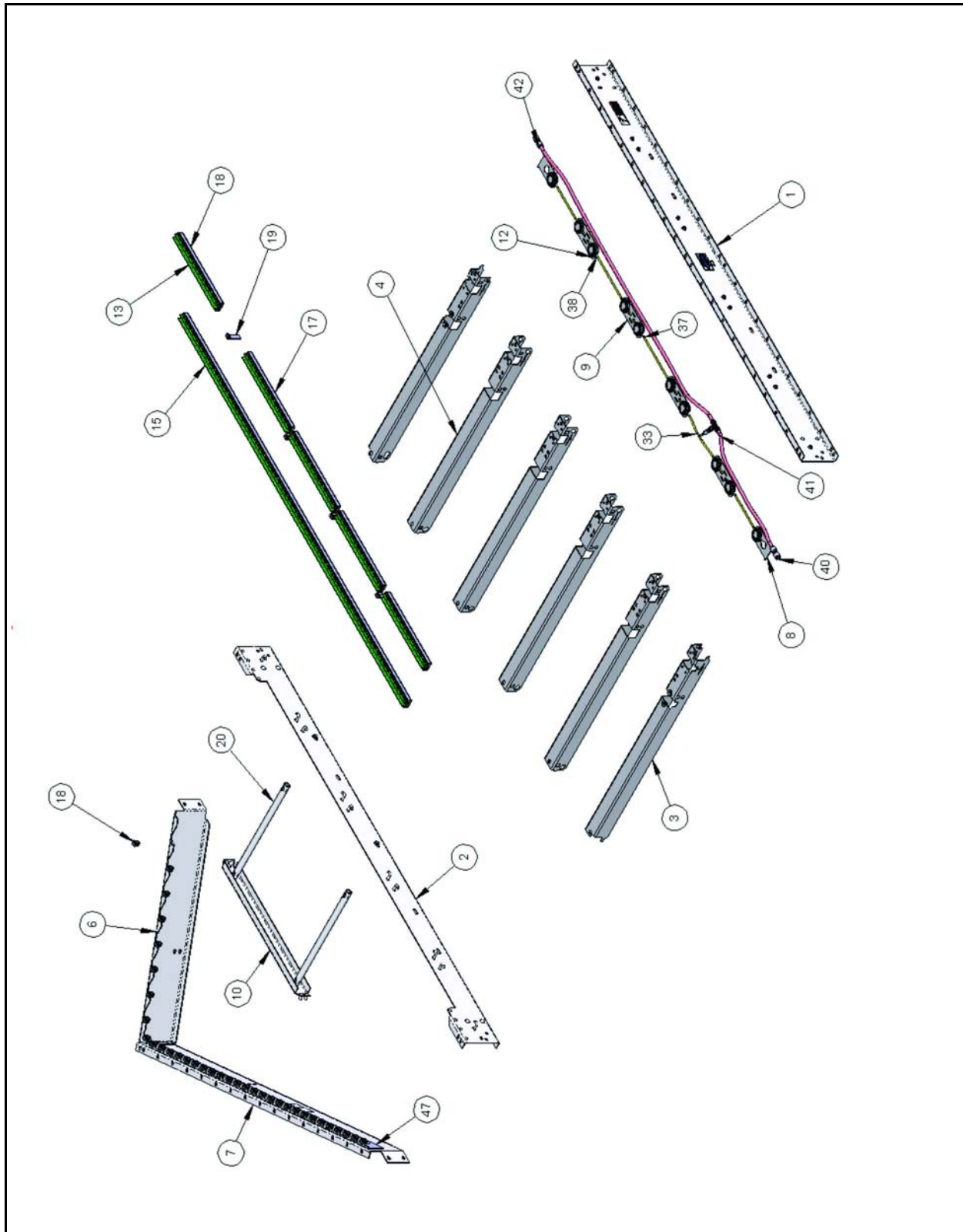
**510170 - 510 30 Deg Sawtooth Mrg 2C W 34 Rollers**



## 510 30 DEG SAWTOOTH MRG 2C W34 ROLLERS 510170

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	8	<a href="#">140002340</a>	ROL G196__ 34.00BF	16	1	<a href="#">140061507</a>	ROL G196__ 50.88BF
2	1	<a href="#">140061346</a>	ROL G196__ 34.75BF	17	1	<a href="#">140061520</a>	ROL G196__ 52.00BF
3	1	<a href="#">140061357</a>	ROL G196__ 35.88BF	18	1	<a href="#">140061531</a>	ROL G196__ 53.13BF
4	1	<a href="#">140061370</a>	ROL G196__ 37.00BF	19	1	<a href="#">140061543</a>	ROL G196__ 54.38BF
5	1	<a href="#">140061381</a>	ROL G196__ 38.13BF	20	1	<a href="#">140061554</a>	ROL G196__ 55.5BF
6	1	<a href="#">140061393</a>	ROL G196__ 39.38BF	21	1	<a href="#">140061565</a>	ROL G196__ 56.63BF
7	1	<a href="#">140061404</a>	ROL G196__ 40.5BF	22	1	<a href="#">140061576</a>	ROL G196__ 57.75BF
8	1	<a href="#">140061415</a>	ROL G196__ 41.63BF	23	1	<a href="#">140061590</a>	ROL G196__ 59.00BF
9	1	<a href="#">140061426</a>	ROL G196__ 42.75BF	24	1	<a href="#">140061583</a>	ROL G196__ 58.38BF
10	1	<a href="#">140061440</a>	ROL G196__ 44.00BF	25	1	<a href="#">140061547</a>	ROL G196__ 54.88BF
11	1	<a href="#">140061451</a>	ROL G196__ 45.13BF	26	1	<a href="#">140061513</a>	ROL G196__ 51.38BF
12	1	<a href="#">140061462</a>	ROL G196__ 46.25BF	27	1	<a href="#">140061480</a>	ROL G196__ 48.00BF
13	1	<a href="#">140061473</a>	ROL G196__ 47.38BF	28	1	<a href="#">140061444</a>	ROL G196__ 44.5BF
14	1	<a href="#">140061484</a>	ROL G196__ 48.5BF	29	1	<a href="#">140061410</a>	ROL G196__ 41.00BF
15	1	<a href="#">140061496</a>	ROL G196__ 49.75BF	30	1	<a href="#">140061374</a>	ROL G196__ 37.5BF

**510171 - 510 30 Deg Sawtooth Mrg 2C W 40**

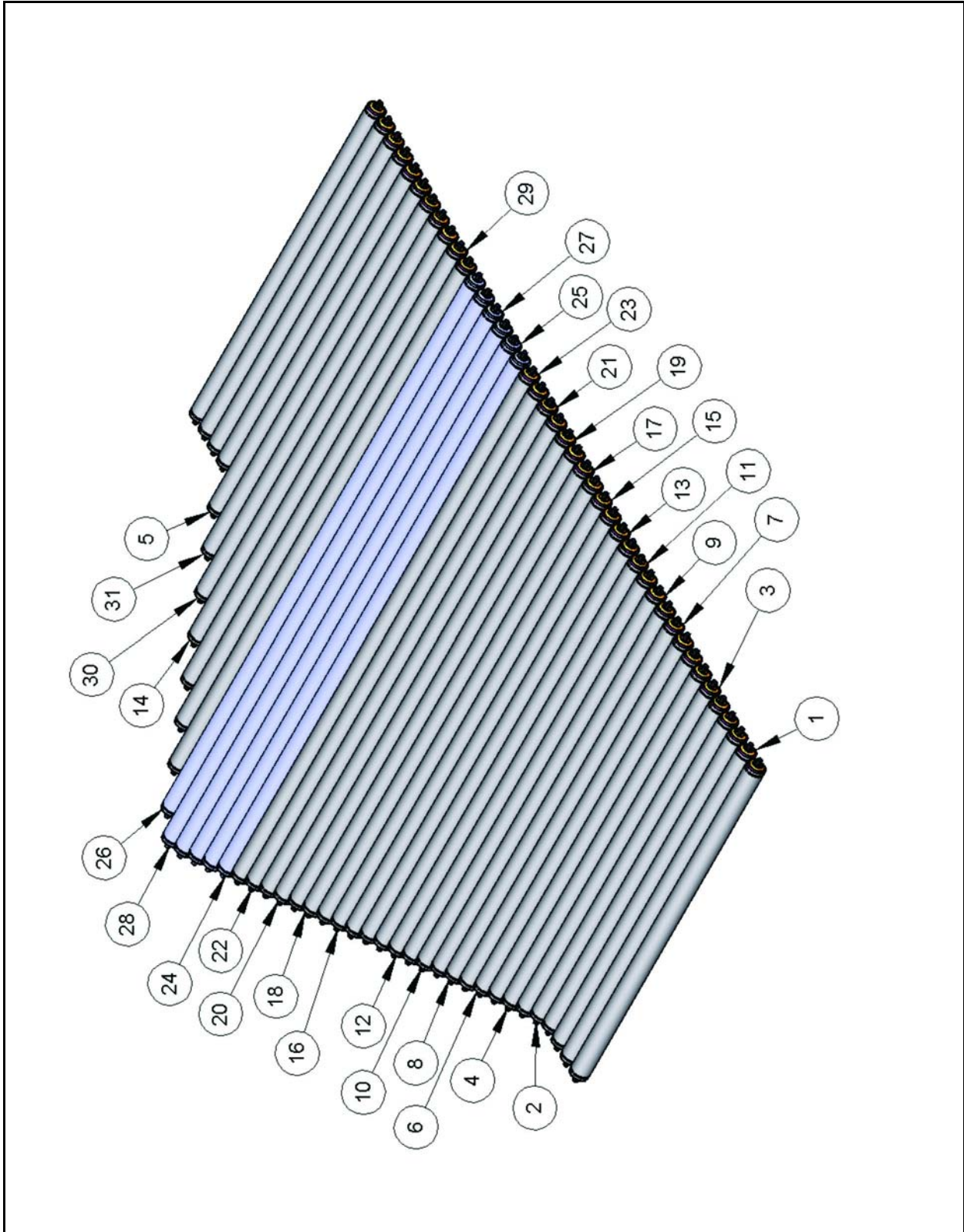




## 510 30 DEG SAWTOOTH MRG 2C W40 510171

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51026100	510 SAWTOOTH RAIL 85.938/6.500	19	4	51001600	AG DRIVE TRACK END STOP 3/4"
2	1	51026200	510 SAWTOOTH RAIL 85.938/6.500 NOTCHED	20	2	4-11515-020	TUBETIE X 20LG
3	1	51000105	510 END CROSS CHANNEL LH W40	21	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75
4	1	51000205	510 END CROSS CHANNEL RH W40	22	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK
5	4	51000305	510 END CROSS CHANNEL INT W40	23	16	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
6	1	51026301	510 SAWTOOTH TAB RLR MTG ANG 30D/34 RH	24	4	20052600	BOLT HEX FLG .375-16 X .750
7	1	51026401	510 SAWTOOTH RAIL 30DW34 6.50 RH	25	16	221055	NUT FLANGE .375-16
8	2	51000500	BRKT SUPT SINGLE ACTUATOR	26	20	20065300	BOLT,J 5-16 X 1.38
9	4	51000400	BRKT SUPT DOUBLE ACTUATOR	27	20	225021	NUT FLANGE .313-18
10	1	51027300	510 SAWTOOTH CTR SUPPORT 30D W34	28	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
11	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	29	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
12	8	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	30	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
13	2	51001708	GUIDE,CHAIN 15.50 RETURN	33	1	14000_400	ROL G196__ 40.00BF (SEE ROLLER LIST)
14	1	51000809	SUPPORT,TRACK 84.125	34	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
15	1	51001709	GUIDE,CHAIN 84.125 ADV/RET	35	1	29003000	LABEL PRODUCT TRAVEL
16	3	51001710	GUIDE,CHAIN 16.188 RETURN	44	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
17	3	51000810	SUPPORT,TRACK 16.188	47	1	5104010_	5120 SAWTOOTH AXLE SUPT MNT RAIL W22/30D
18	2	51000808	SUPPORT,TRACK 15.50	48	35	<a href="#">47036800</a>	810 VB JCT SPUR ROLLER SUPPORT CLIP

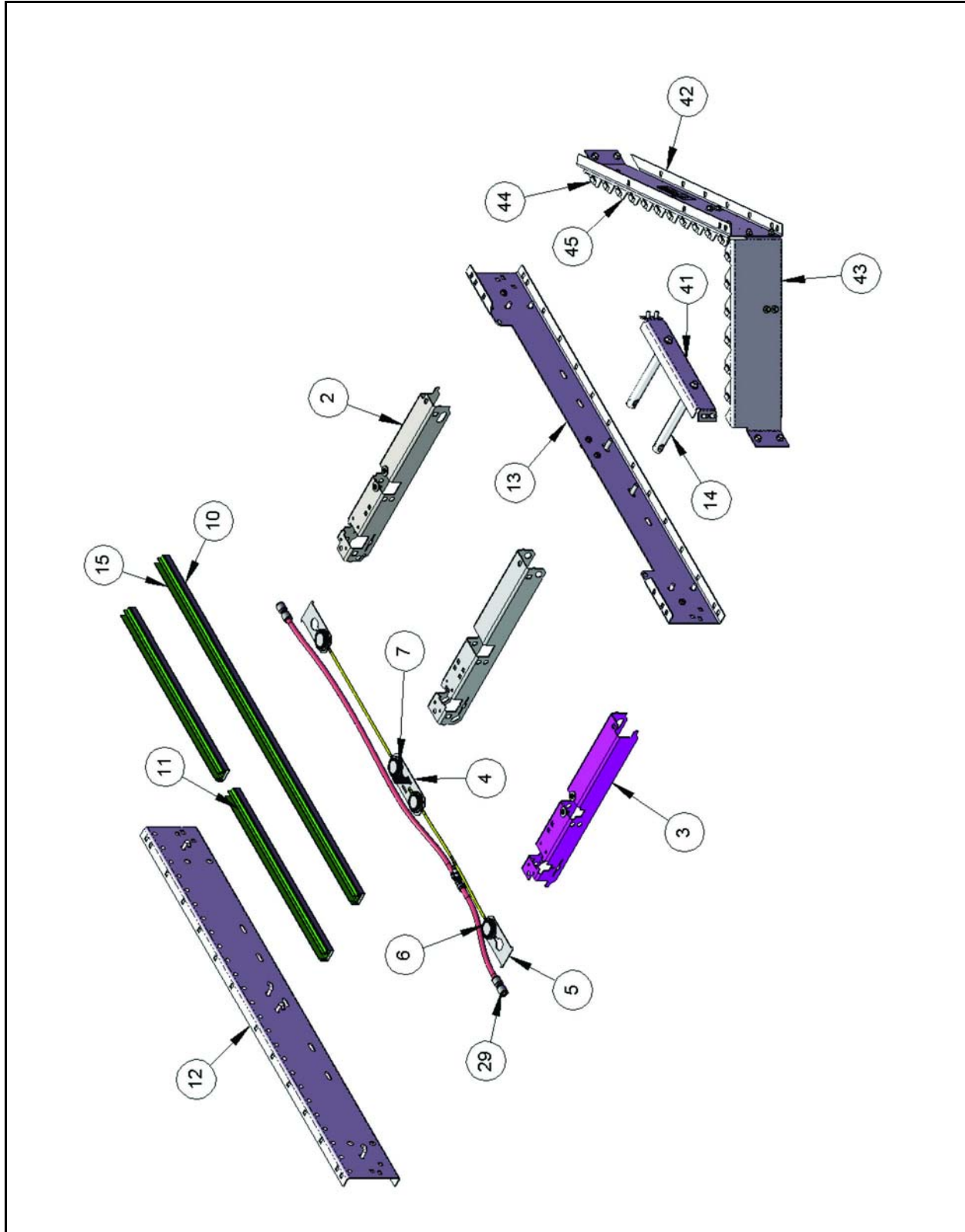
**510171 - 510 30 Deg Sawtooth Mrg 2C W 40 Rollers**



## 510 30 DEG SAWTOOTH MRG 2C W40 ROLLERS 510171

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	8	<a href="#">140061400</a>	ROL G196__ 40.00BF	17	2	<a href="#">140061577</a>	ROL G196__ 57.88BF
2	1	<a href="#">140061405</a>	ROL G196__ 40.63BF	18	1	<a href="#">140061590</a>	ROL G196__ 59.00BF
3	1	<a href="#">140061416</a>	ROL G196__ 41.75BF	19	1	140061601	ROL G196__ 60.13BF
4	1	<a href="#">140061427</a>	ROL G196__ 42.88BF	20	1	140061613	ROL G196__ 61.38BF
5	2	<a href="#">140061440</a>	ROL G196__ 44.00BF	21	1	140061624	ROL G196__ 62.5BF
6	1	<a href="#">140061451</a>	ROL G196__ 45.13BF	22	1	140061636	ROL G196__ 63.75BF
7	1	<a href="#">140061463</a>	ROL G196__ 46.38BF	23	2	140061647	ROL G196__ 64.88BF
8	1	<a href="#">140061474</a>	ROL G196__ 47.5BF	24	1	140061660	ROL G196__ 66BF
9	1	<a href="#">140061485</a>	ROL G196__ 48.63BF	25	1	140061672	ROL G196__ 67.25BF
10	1	<a href="#">140061497</a>	ROL G196__ 49.88BF	26	2	140061683	ROL G196__ 68.38BF
11	1	<a href="#">140061510</a>	ROL G196__ 51.00BF	27	1	140061694	ROL G196__ 69.5BF
12	1	<a href="#">140061521</a>	ROL G196__ 52.13BF	28	1	140061702	ROL G196__ 70.25BF
13	1	<a href="#">140061532</a>	ROL G196__ 53.25BF	29	1	140061612	ROL G196__ 61.25BF
14	2	<a href="#">140061543</a>	ROL G196__ 54.38BF	30	1	<a href="#">140061507</a>	ROL G196__ 50.88BF
15	1	<a href="#">140061555</a>	ROL G196__ 55.63BF	31	1	<a href="#">140061473</a>	ROL G196__ 47.38BF
16	1	<a href="#">140061566</a>	ROL G196__ 56.75BF				

**510172 - 510 45 Deg Sawtooth Mrg 2C W 22**

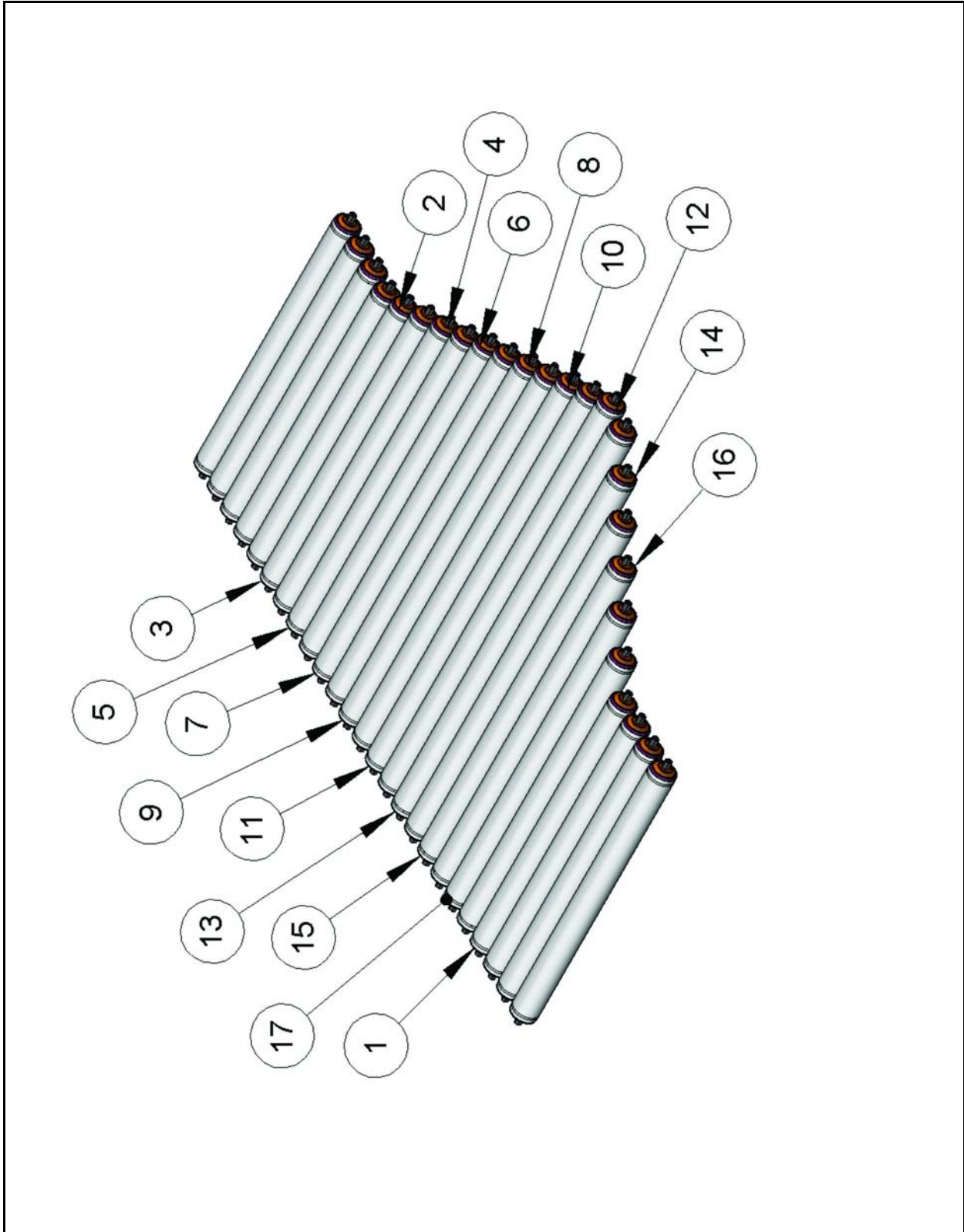


## 510 45 DEG SAWTOOTH MRG 2C W22 510172

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51000302	510 END CROSS CHANNEL INT W22	18	8	20065300	BOLT, J 5-16 X 1.38
2	1	51000102	510 END CROSS CHANNEL LH W22	19	8	225021	NUT FLANGE .313-18
3	1	51000202	510 END CROSS CHANNEL RH W22	20	4	225687	H HFB 0.438-14 X 1.25 GRADE 2
4	1	51000400	BRKT SUPT DOUBLE ACTUATOR	21	13	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
5	2	51000500	BRKT SUPT SINGLE ACTUATOR	22	13	221055	NUT FLANGE .375-16
6	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	24	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
7	2	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	25	1	29003000	LABEL PRODUCT TRAVEL
8	2	51000811	SUPPORT, TRACK 23.125	26	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
9	1	51001600	AG DRIVE TRACK END STOP 3/4"	27	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
10	1	51000812	SUPPORT, TRACK 48.125	28	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
11	2	<a href="#">51001711</a>	GUIDE, CHAIN 23.125 ADV/RET	29	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
12	1	51026500	510 SAWTOOTH RAIL 49.938/6.50	41	1	51026700	510 SAWTOOTH IS CENTER SUPT 45D W16
13	1	51026600	510 SAWTOOTH RL 49.94/6.50 NOTCHED	42	1	51027101	510 SAWTOOTH 45D/W16/6.50 _H
14	2	4-11515-009	TUBETIE X 9LG	43	1	5102680_	510 SAWTOOTH TAB RLR MTG ANG 45D/16 _H
15	1	<a href="#">51001712</a>	GUIDE, CHAIN 48.125 ADV/RET	44	17	<a href="#">47036800</a>	810 VB JCT SPUR ROLLER SUPPORT CLIP
16	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK	45	1	5104020_	510 SAWTOOTH AXLE SUPT MNT RAIL W16/45D _H
17	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75				



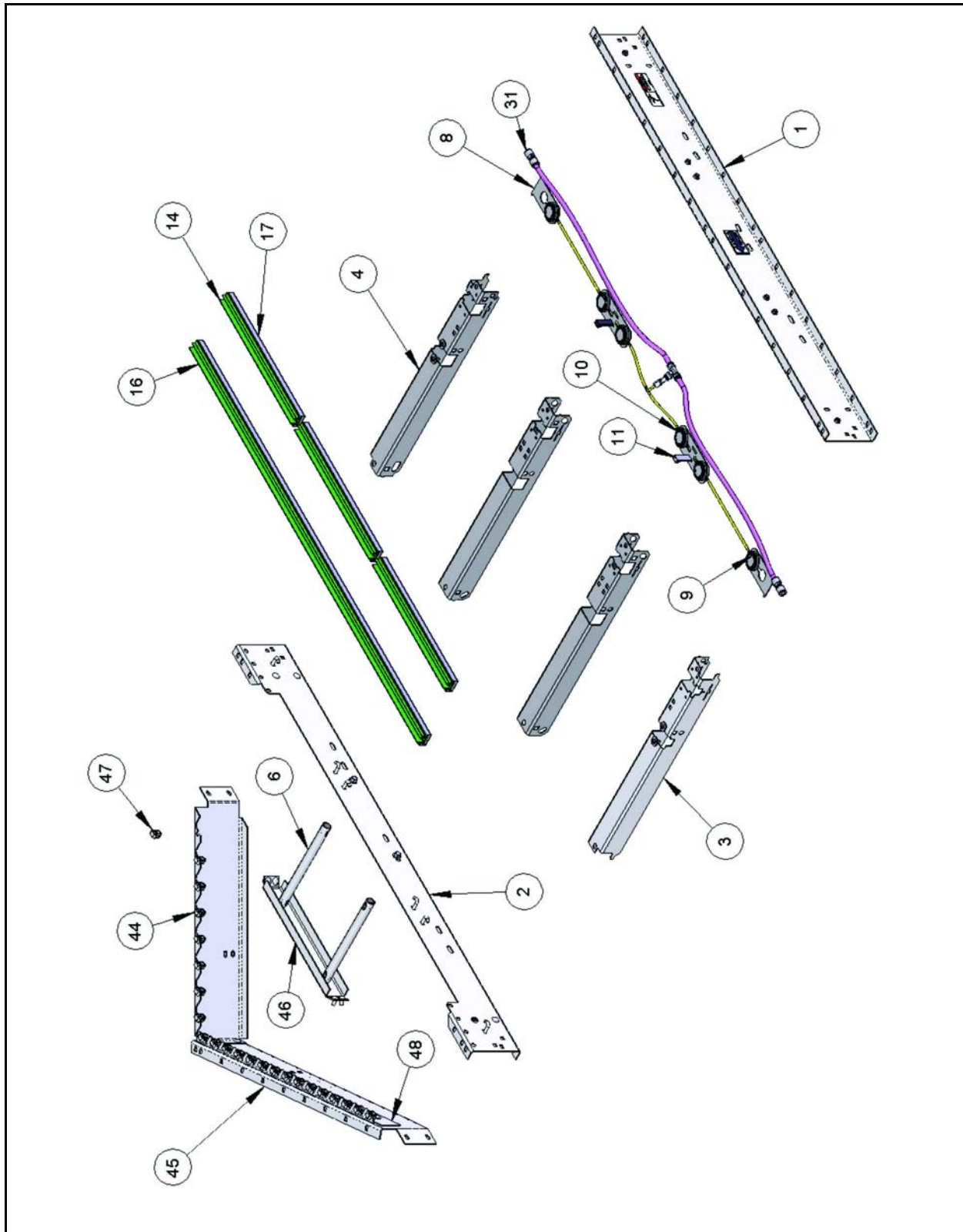
**510172 - 510 45 Deg Sawtooth Mrg 2C W 22 Rollers**



## 510 45 DEG SAWTOOTH MRG 2C W22 ROLLERS 510172

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	8	<a href="#">140061220</a>	ROL G196__ 22.00BF	10	1	<a href="#">140061320</a>	ROL G196__ 32.00BF
2	1	<a href="#">140061226</a>	ROL G196__ 22.75BF	11	1	<a href="#">140061331</a>	ROL G196__ 33.13BF
3	2	<a href="#">140061237</a>	ROL G196__ 23.88BF	12	1	<a href="#">140061342</a>	ROL G196__ 34.25BF
4	1	<a href="#">140061250</a>	ROL G196__ 25.00BF	13	1	<a href="#">140061337</a>	ROL G196__ 33.88BF
5	1	<a href="#">140061261</a>	ROL G196__ 26.13BF	14	1	<a href="#">140061317</a>	ROL G196__ 31.88BF
6	1	<a href="#">140061273</a>	ROL G196__ 27.38BF	15	1	<a href="#">140061297</a>	ROL G196__ 29.88BF
7	1	<a href="#">140061284</a>	ROL G196__ 28.5BF	16	1	<a href="#">140061277</a>	ROL G196__ 27.88BF
8	1	<a href="#">140061295</a>	ROL G196__ 29.63BF	17	1	<a href="#">140061257</a>	ROL G196__ 25.88BF
9	1	<a href="#">140061306</a>	ROL G196__ 30.75BF				

**510173 - 510 45 Deg Sawtooth Mrg 2C W 28**

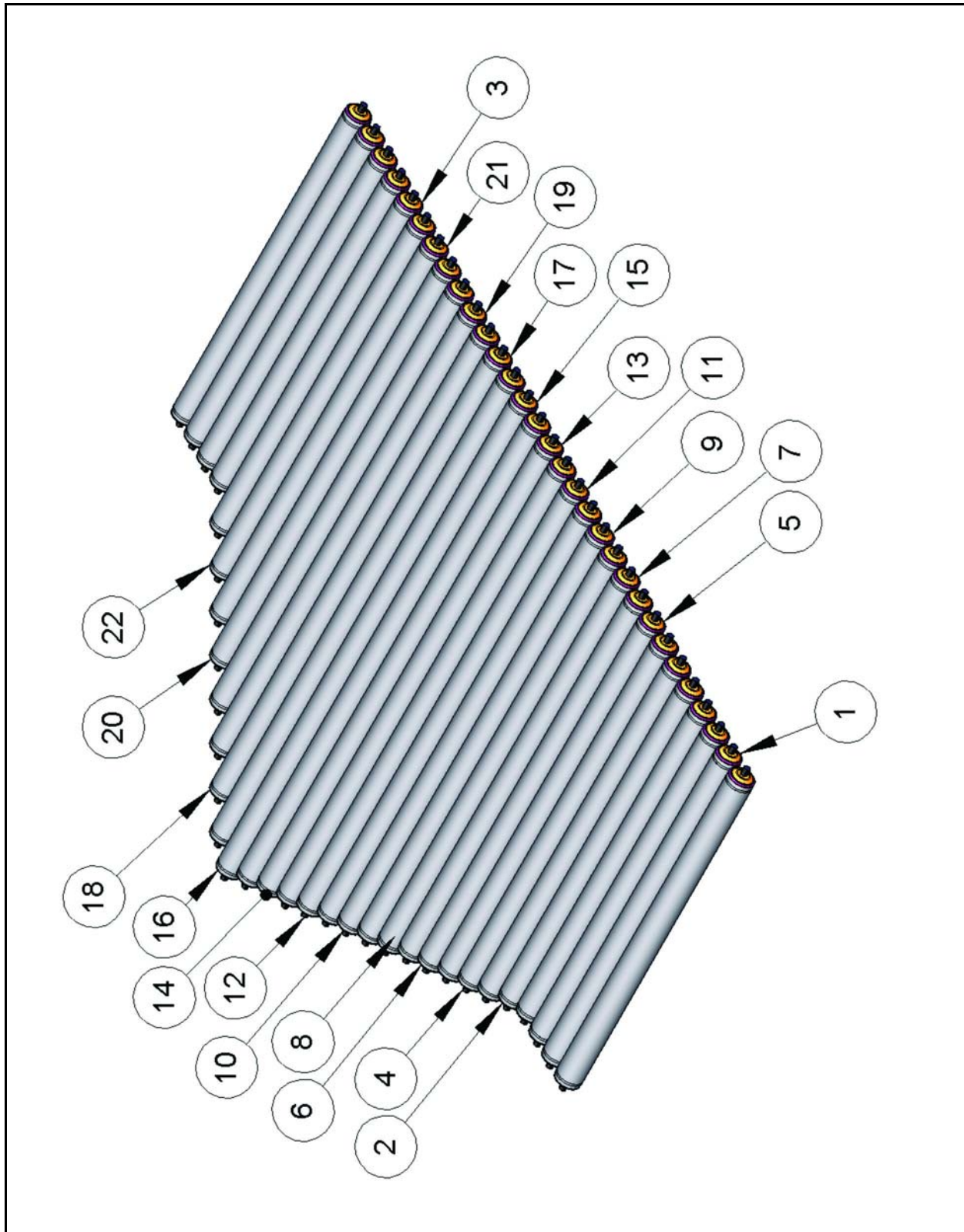




## 510 45 DEG SAWTOOTH MRG 2C W28 510173

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51037500	510 SAWTOOTH RAIL 61.938/6.500	19	1	51000818	SUPPORT, TRACK 33.75
2	1	51037600	510 SAWTOOTH RAIL 61.938/6.500 NOTCHED	20	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK
3	1	5100010_	510 END CROSS CHANNEL LH W ___	21	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75
4	1	510002_	AG END CROSS CHANNEL RH W ___	22	14	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
5	2	51000303	510 END CROSS CHANNEL INT W28	23	14	221055	NUT FLANGE .375-16
6	2	4-11515-012	TUBETIE X 12LG	24	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
7	2	51000400	BRKT SUPT DOUBLE ACTUATOR	25	1	29003000	LABEL PRODUCT TRAVEL
8	2	51000500	BRKT SUPT SINGLE ACTUATOR	26	4	225687	HHFB 0.438-14 X 1.25 GRADE 2
9	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	27	1	14000_28.000	ROL G196__ 28.00BF (SEE ROLLER LIST)
10	4	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	28	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
11	2	51001600	AG DRIVE TRACK END STOP 3/4"	29	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
12	12	20065300	BOLT, J 5-16 X 1.38	30	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
13	12	225021	NUT FLANGE .313-18	31	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
14	2	<a href="#">51001718</a>	GUIDE, CHAIN 18.75 ADV/RET	44	1	5103900_	510 SAWTOOTH TAB RLR MTG ANG 45D/22_H
15	1	<a href="#">51001720</a>	GUIDE, CHAIN 19.625 ADV/RET	45	1	5103910_	510 SAWTOOTH RAIL 45DW22 6.50 RH
16	1	<a href="#">51001719</a>	GUIDE, CHAIN 60.125 ADV/RET	46	1	51038900	510 SAWTOOTH CTR SUPPORT 45D W22
17	2	51000817	SUPPORT, TRACK 33.75	47	23	<a href="#">47036800</a>	810 VB JCT SPUR ROLLER SUPPORT CLIP
18	1	51000819	SUPPORT, TRACK 33.75	48	1	5104030_	5120 SAWTOOTH AXLE SUPT MNT RAIL W22/30D

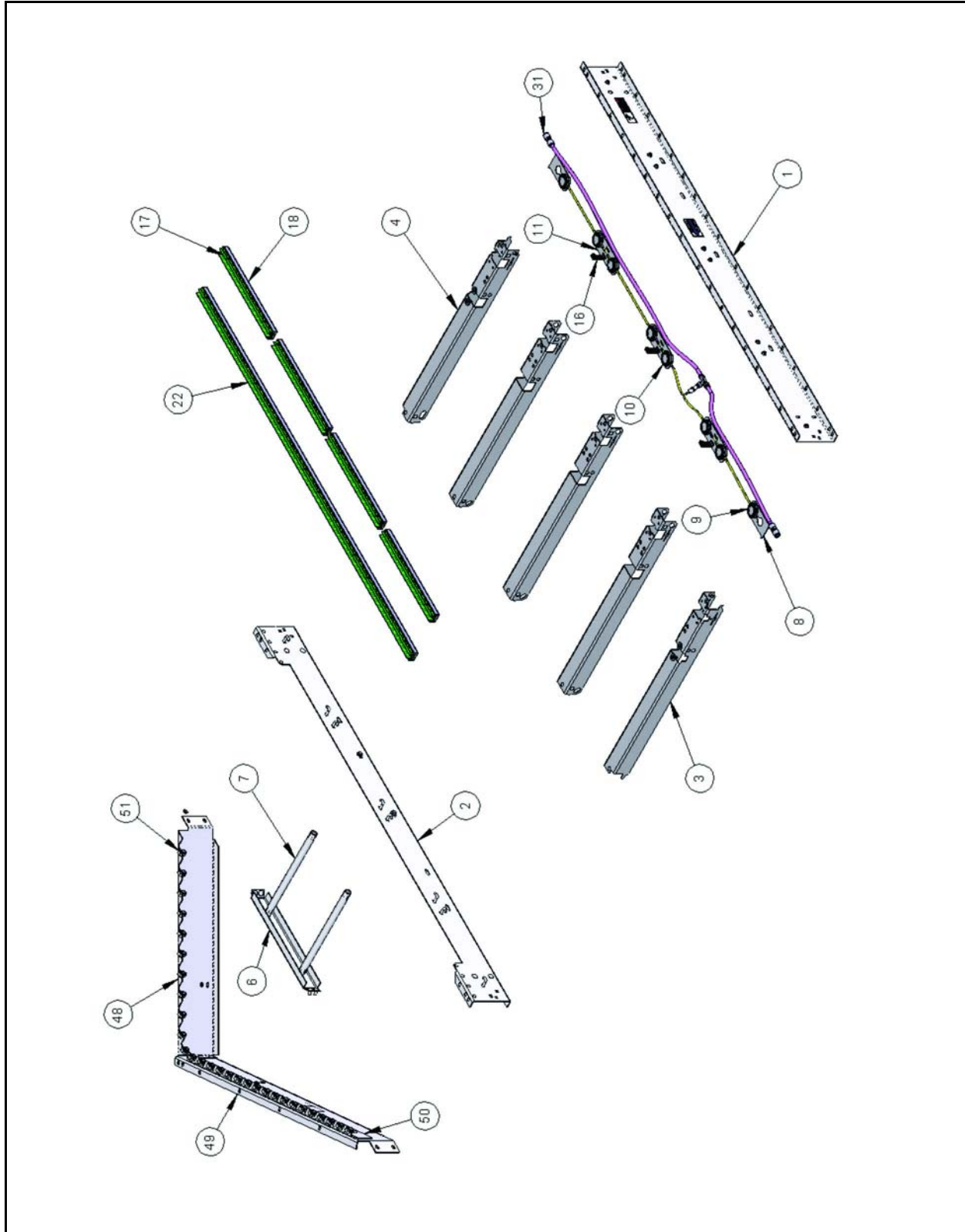
**510173 - 510 45 Deg Sawtooth Mrg 2C W 28 Rollers**



## 510 45 DEG SAWTOOTH MRG 2C W28 ROLLERS 510173

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	8	<a href="#">140061280</a>	ROL G196__ 28.00BF	12	1	<a href="#">140061403</a>	ROL G196__ 40.38BF
2	1	<a href="#">140061286</a>	ROL G196__ 28.75BF	13	1	<a href="#">140061414</a>	ROL G196__ 41.5BF
3	2	<a href="#">140061300</a>	ROL G196__ 30.00BF	14	1	<a href="#">140061425</a>	ROL G196__ 42.63BF
4	1	<a href="#">140061311</a>	ROL G196__ 31.13BF	15	1	<a href="#">140061436</a>	ROL G196__ 43.75BF
5	1	<a href="#">140061322</a>	ROL G196__ 32.25BF	16	1	<a href="#">140002450</a>	ROL G196__ 45.00BF
6	1	<a href="#">140061333</a>	ROL G196__ 33.38BF	17	1	<a href="#">140061440</a>	ROL G196__ 44.00BF
7	1	<a href="#">140061344</a>	ROL G196__ 34.5BF	18	1	<a href="#">140061420</a>	ROL G196__ 42.00BF
8	1	<a href="#">140061356</a>	ROL G196__ 35.75BF	19	1	<a href="#">140061400</a>	ROL G196__ 40.00BF
9	1	<a href="#">140061367</a>	ROL G196__ 36.88BF	20	1	<a href="#">140061360</a>	ROL G196__ 36.00BF
10	2	<a href="#">140061380</a>	ROL G196__ 38.00BF	21	1	<a href="#">140002340</a>	ROL G196__ 34.00BF
11	1	<a href="#">140061391</a>	ROL G196__ 39.13BF	22	1	<a href="#">140061320</a>	ROL G196__ 32.00BF

**510174 - 510 45 Deg Sawtooth Mrg 2C W 34**

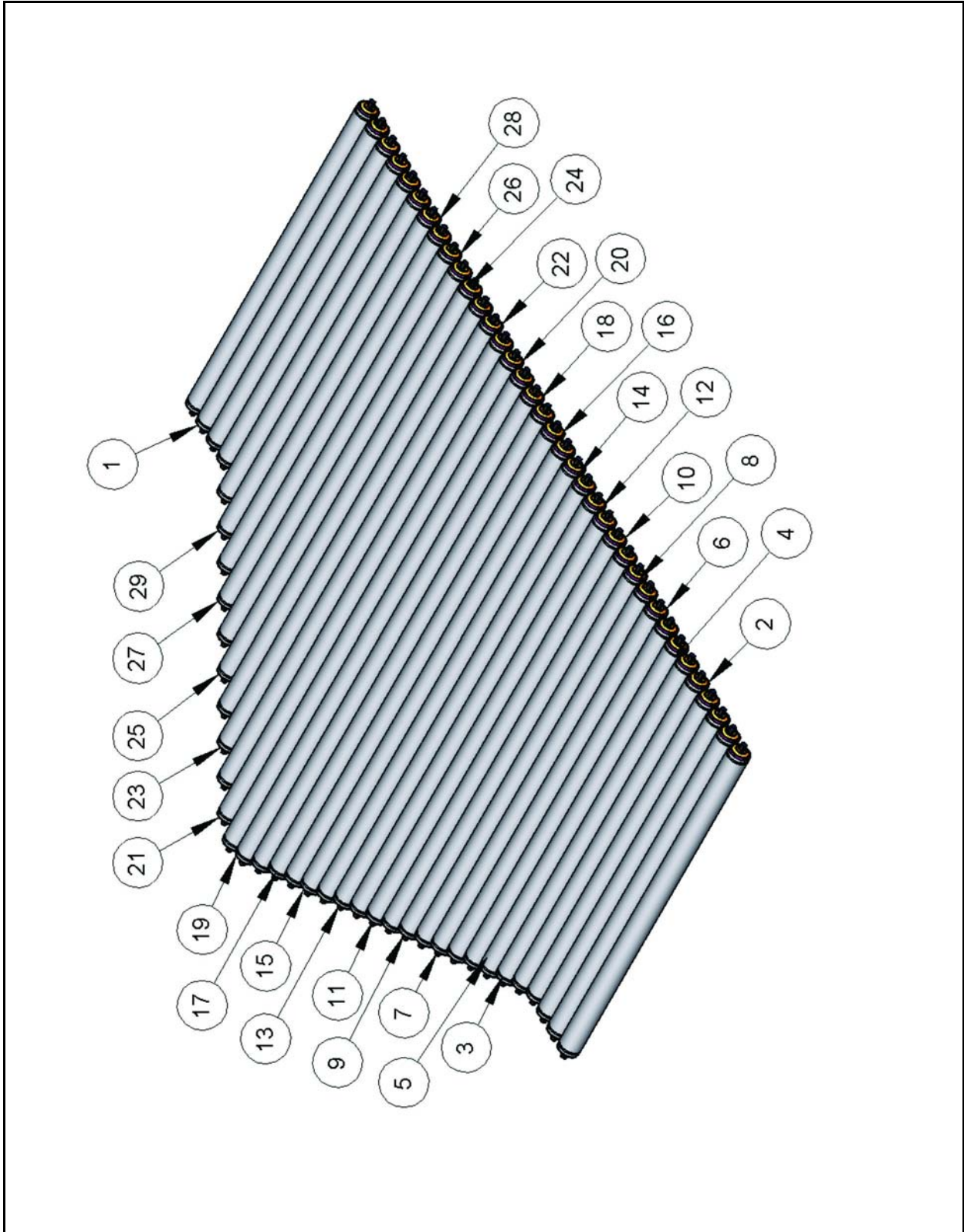


## 510 45 DEG SAWTOOTH MRG 2C W34 510174

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51030200	510 SAWTOOTH RAIL 73.938/6.500	19	2	51000815	SUPPORT, TRACK 17.375
2	1	51030300	510 SAWTOOTH RAIL 73.938/6.500 NOTCHED	20	2	<a href="#">51001715</a>	GUIDE, CHAIN 17.375 ADV/RET
3	1	51000104	510 END CROSS CHANNEL LH W34	21	1	51000814	SUPPORT, TRACK 72.125
4	1	51000204	510 END CROSS CHANNEL RH W34	22	1	<a href="#">51001714</a>	GUIDE, CHAIN 71.25 ADV/RET
5	3	51000304	510 END CROSS CHANNEL INT W34	23	4	20052600	BOLT HEX FLG .375-16 X .750
6	1	51039200	510 SAWTOOTH CTR SUPPORT 45D W8	24	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X.125 THK
7	2	4-11515-016	SPDR 1" DIA TUBE ASSY 16BF	25	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75
8	2	51000500	BRKT SUPT SINGLE ACTUATOR	26	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
9	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	27	1	29003000	LABEL PRODUCT TRAVEL
10	6	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	28	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
11	3	51000400	BRKT SUPT DOUBLE ACTUATOR	29	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
12	16	20065300	BOLT, J 5-16 X 1.38	30	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
13	16	225021	NUT FLANGE .313-18	31	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
14	14	221055	NUT FLANGE .375-16	48	1	5103930_	510 SAWTOOTH TAB RLR MTG ANG 45D/28_H
15	14	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK	49	1	5103940_	510 SAWTOOTH RAIL 45DW28 6.50_H
16	3	51001600	AG DRIVE TRACK END STOP 3/4"	50	1	5104040_	5120 SAWTOOTH AXLE SUPT MNT RAIL W22/30D
17	2	<a href="#">51001713</a>	GUIDE, CHAIN 16.813 ADV/RET	51	29	<a href="#">47036800</a>	810 VB JCT SPUR ROLLER SUPPORT CLIP
18	2	51000813	SUPPORT, TRACK 16.813				



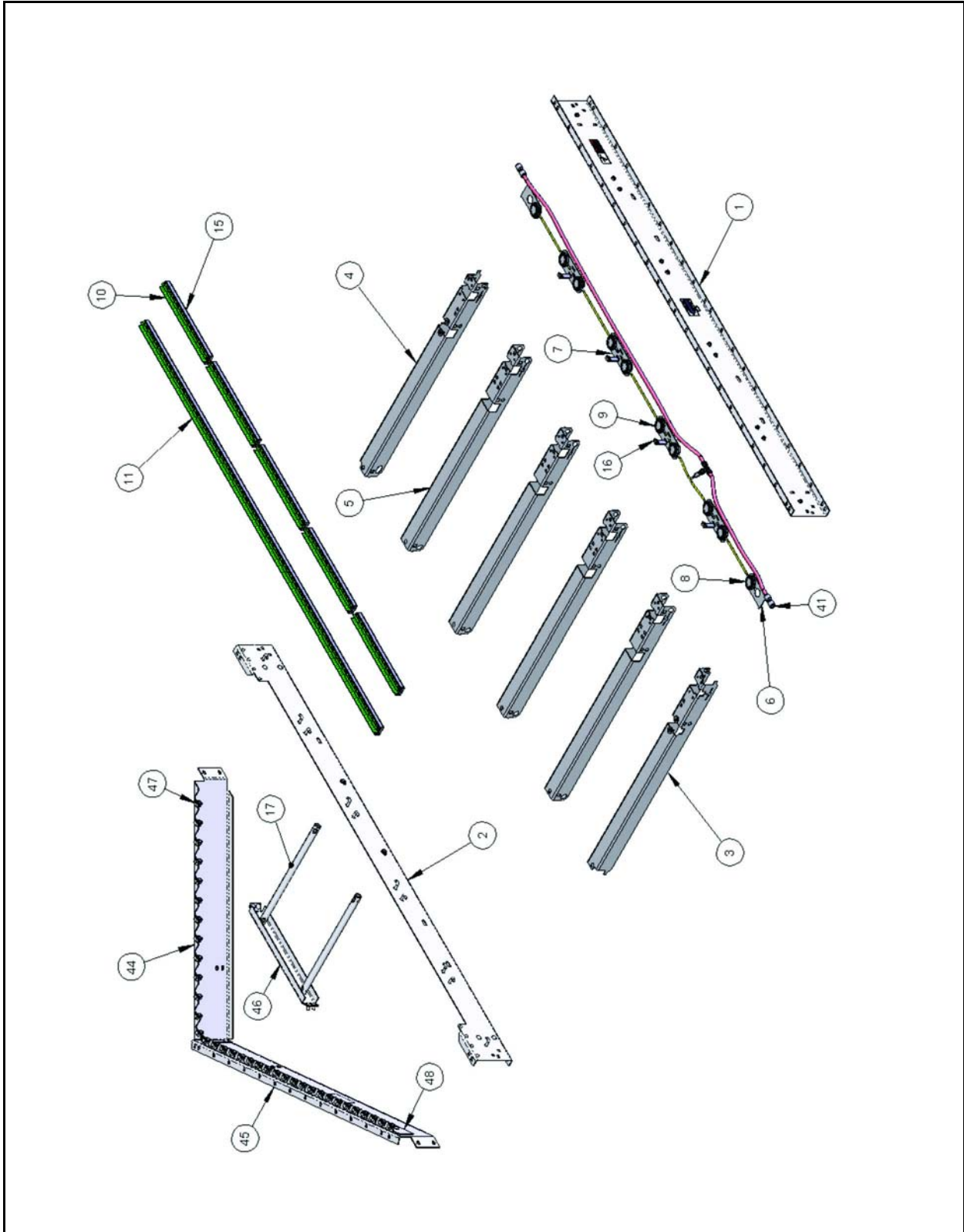
**510174 - 510 45 Deg Sawtooth Mrg 2C W 34 Rollers**



## 510 45 DEG SAWTOOTH MRG 2C W34 ROLLERS 510174

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	7	<a href="#">140002340</a>	ROL G196__ 34.00BF	16	1	<a href="#">140061507</a>	ROL G196__ 50.88BF
2	1	<a href="#">140061346</a>	ROL G196__ 34.75BF	17	1	<a href="#">140061520</a>	ROL G196__ 52.00BF
3	2	<a href="#">140061357</a>	ROL G196__ 35.88BF	18	1	<a href="#">140061532</a>	ROL G196__ 53.25BF
4	1	<a href="#">140061370</a>	ROL G196__ 37.00BF	19	1	<a href="#">140061543</a>	ROL G196__ 54.38BF
5	1	<a href="#">140061381</a>	ROL G196__ 38.13BF	20	1	<a href="#">140061547</a>	ROL G196__ 54.88BF
6	1	<a href="#">140061393</a>	ROL G196__ 39.38BF	21	1	<a href="#">140061537</a>	ROL G196__ 53.88BF
7	1	<a href="#">140061404</a>	ROL G196__ 40.5BF	22	1	<a href="#">140061517</a>	ROL G196__ 51.88BF
8	1	<a href="#">140061415</a>	ROL G196__ 41.63BF	23	1	<a href="#">140061497</a>	ROL G196__ 49.88BF
9	1	<a href="#">140061426</a>	ROL G196__ 42.75BF	24	1	<a href="#">140061477</a>	ROL G196__ 47.88BF
10	1	<a href="#">140061440</a>	ROL G196__ 44.00BF	25	1	<a href="#">140061457</a>	ROL G196__ 45.88BF
11	1	<a href="#">140061451</a>	ROL G196__ 45.13BF	26	1	<a href="#">140061437</a>	ROL G196__ 43.88BF
12	1	<a href="#">140061462</a>	ROL G196__ 46.25BF	27	1	<a href="#">140061417</a>	ROL G196__ 41.88BF
13	1	<a href="#">140061473</a>	ROL G196__ 47.38BF	28	1	<a href="#">140061397</a>	ROL G196__ 39.88BF
14	1	<a href="#">140061485</a>	ROL G196__ 48.63BF	29	1	<a href="#">140061377</a>	ROL G196__ 37.88BF
15	1	<a href="#">140061496</a>	ROL G196__ 49.75BF				

**510175 - 510 45 Deg Sawtooth Mrg 2C W 40**

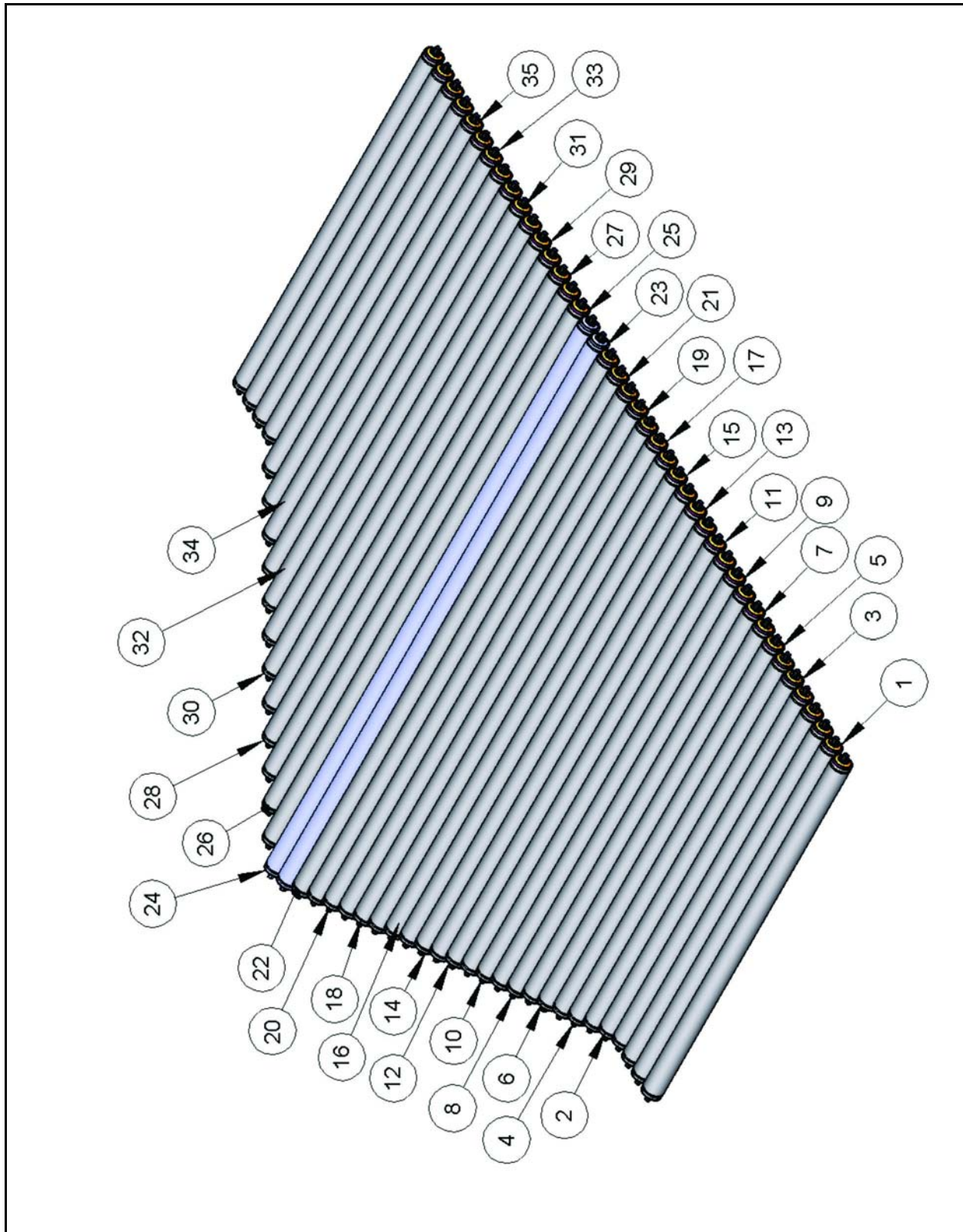




## 510 45 DEG SAWTOOTH MRG 2C W40 510175

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	51026100	510 SAWTOOTH RAIL 85.938/6.500	19	4	20028500	WASHER FLAT 1/4 LRG OD BLK 9/32 X 1 X .125 THK
2	1	51026200	510 SAWTOOTH RAIL 85.938/6.500 NOTCHED	20	15	220003	BOLT CAR .375-16 X .750 SHORT SQ NECK
3	1	51000105	510 END CROSS CHANNEL LH W40	21	4	20052600	BOLT HEX FLG .375-16 X .750
4	1	51000205	510 END CROSS CHANNEL RH W40	22	15	221055	NUT FLANGE .375-16
5	4	51000305	510 END CROSS CHANNEL INT W40	23	20	20065300	BOLT,J 5-16 X 1.38
6	2	51000500	BRKT SUPT SINGLE ACTUATOR	24	20	225021	NUT FLANGE .313-18
7	4	51000400	BRKT SUPT DOUBLE ACTUATOR	25	1	<a href="#">24023000</a>	FITTING TEE 1/2" PTC
8	2	<a href="#">51003801</a>	AIR ACTUATOR W/AIR INLET	26	1	<a href="#">24022900</a>	FITTING ADAP 1/2 TO 1/4 OD PTC
9	8	<a href="#">51003802</a>	AIR ACTUATOR W 2 AIR INLETS	27	1	<a href="#">24024600</a>	TEE 5/32"ID X 5/32"ID X 5/32"ID TUBE
10	2	51001708	GUIDE,CHAIN 15.50 RETURN	30	1	14000_400	ROL G196__ 40.00BF (SEE ROLLER LIST)
11	1	51000809	SUPPORT,TRACK 84.125	31	2	29042700	LABEL CEMA #CHR930004 SHORT (1.75 X 5.00)
12	1	51001709	GUIDE,CHAIN 84.125 ADV/RET	32	1	29003000	LABEL PRODUCT TRAVEL
13	3	51001710	GUIDE,CHAIN 16.188 RETURN	41	2	<a href="#">24023300</a>	FITTING AIR CONN 1/2OD X 1/2 OD PUSH LEGRIS 3106-62-00
14	3	51000810	SUPPORT,TRACK 16.188	44	1	5103960_	510 SAWTOOTH TAB RLR MTG ANG 45D/34_H
15	2	51000808	SUPPORT,TRACK 15.50	45	1	5103970_	510 SAWTOOTH RAIL 45DW34 6.50 RH
16	4	51001600	AG DRIVE TRACK END STOP 3/4"	46	1	51039500	510 SAWTOOTH CTR SUPPORT 45D W34
17	2	4-11515-0 20	TUBETIE X 20LG	47	35	<a href="#">47036800</a>	810 VB JCT SPUR ROLLER SUPPORT CLIP
18	4	20112200	SCR HEX WSHR HD TYPE F .250-20 x .75	48	1	5104050_	5120 SAWTOOTH AXLE SUPT MNT RAIL W22/30D

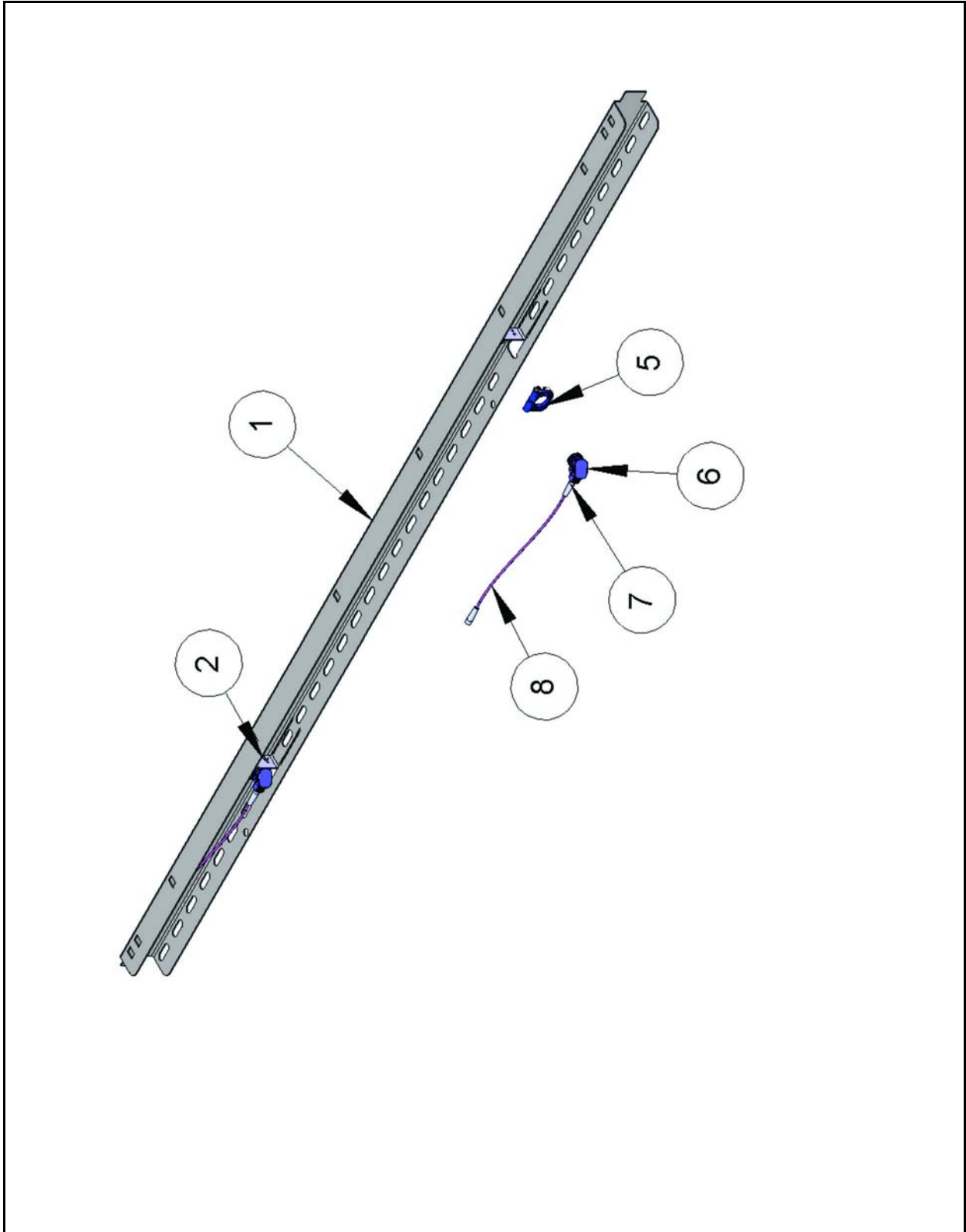
**510175 - 510 45 Deg Sawtooth Mrg 2C W 40 Rollers**



## 510 45 DEG SAWTOOTH MRG 2C W40 ROLLERS 510175

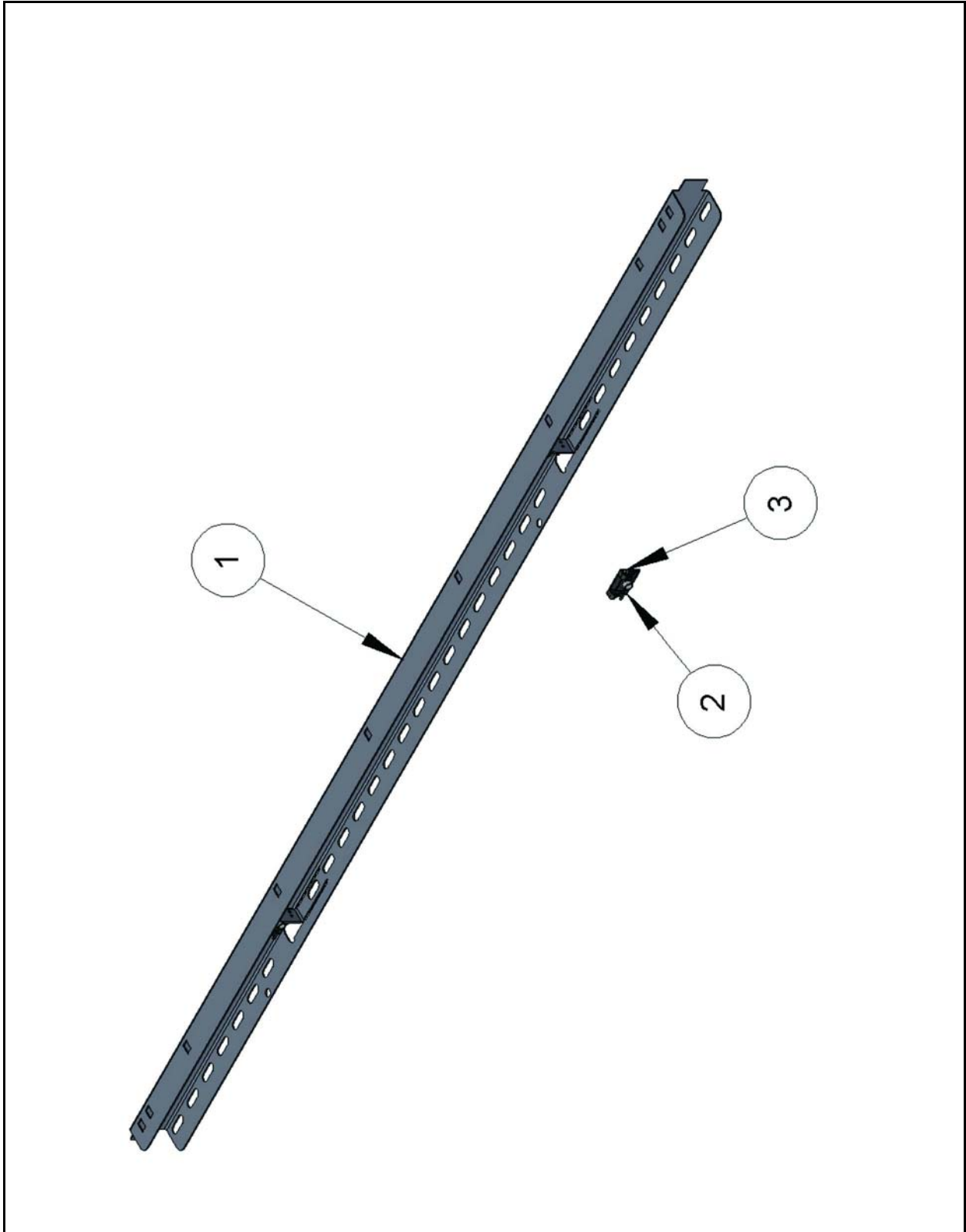
SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	8	<a href="#">140061400</a>	ROL G196__ 40.00BF	19	1	140061603	ROL G196__ 60.38BF
2	1	<a href="#">140061406</a>	ROL G196__ 40.75BF	20	1	140061614	ROL G196__ 61.5BF
3	1	<a href="#">140061417</a>	ROL G196__ 41.88BF	21	1	140061626	ROL G196__ 62.75BF
4	1	<a href="#">140061431</a>	ROL G196__ 43.13BF	22	1	140061640	ROL G196__ 64BF
5	1	<a href="#">140061442</a>	ROL G196__ 44.25BF	23	1	140061651	ROL G196__ 65.13BF
6	1	<a href="#">140061453</a>	ROL G196__ 45.38BF	24	1	140061655	ROL G196__ 65.63BF
7	1	<a href="#">140061464</a>	ROL G196__ 46.5BF	25	1	140061641	ROL G196__ 64.13BF
8	1	<a href="#">140061476</a>	ROL G196__ 47.75BF	26	1	140061620	ROL G196__ 62BF
9	1	<a href="#">140061487</a>	ROL G196__ 48.88BF	27	1	<a href="#">140061600</a>	ROL G196__ 60.00BF
10	2	<a href="#">140061500</a>	ROL G196__ 50.00BF	28	1	<a href="#">140061580</a>	ROL G196__ 58.00BF
11	1	140061511	ROL G196__ 51.13BF	29	1	<a href="#">140061560</a>	ROL G196__ 56.00BF
12	1	<a href="#">140061522</a>	ROL G196__ 52.25BF	30	1	<a href="#">140061540</a>	ROL G196__ 54.00BF
13	1	<a href="#">140061534</a>	ROL G196__ 53.5BF	31	1	<a href="#">140061520</a>	ROL G196__ 52.00BF
14	1	<a href="#">140061545</a>	ROL G196__ 54.63BF	32	1	<a href="#">140061480</a>	ROL G196__ 48.00BF
15	1	<a href="#">140061556</a>	ROL G196__ 55.75BF	33	1	<a href="#">140061460</a>	ROL G196__ 46.00BF
16	1	<a href="#">140061567</a>	ROL G196__ 56.88BF	34	1	<a href="#">140061440</a>	ROL G196__ 44.00BF
17	1	<a href="#">140061581</a>	ROL G196__ 58.13BF	35	1	<a href="#">140061420</a>	ROL G196__ 42.00BF
18	1	140061592	ROL G196__ 59.25BF				

**510145 - 510 Guide Rail Photo-eye with Cable Assy**



<b>510 GUIDE RAIL PHOTO EYE W/CABLE ASSY 510145</b>						
SEQ	QTY.	PART NO	DESCRIPTION	SEQ	QTY.	PART NO DESCRIPTION
1	1	40027801	610 GUIDE RAIL PE/REFL SICK 6'LG/3'ZN LOW	5	2	<a href="#">23117000</a> BRKT PE BALL/CLAMP SICK #7029350
2	2	20045800	SMS #8 X .375 UNSLOT FLANGED HEX HEAD (S&S#8N37TUWZ)	6	2	<a href="#">23116700</a> PHOTOEYE W/ MTG BALL SICK #1047826 EL4-P2638
3	2	20023100	SHCS #8-32 x 1.750	7	4	sick pe cable connector
4	2	20040300	WASHER FLAT #8	8	2	Tube .125in OD X .010in Wall

**400127 - 510 Guide Rail Reflector Assy**



### 510 GUIDE RAIL REFLECTOR ASSY 400127

SEQ	QTY	PART NO	DESCRIPTION	SEQ	QTY	PART NO	DESCRIPTION
1	1	400278	610 GUIDE RAIL PE/REFL SICK 'LG/ 'ZN LOW UNPAINTED	3	2	20045800	SMS #8 X .375 UNSLOT FLANGED HEX HEAD (S&S#8N37TUWZ)
2	2	<a href="#">49091900</a>	REFLECTOR MICROCUBE SICK				





**Accessories**

## Accuglide Accessories

Part No.	Description	Part No.	Description
FK420012	9.75/6.5 Trans Brkt Field Kit	12013203	Guide Transition End 10.00 in.
<a href="#">29001300</a>	Drip Pan	12013204	Guide Transition End 10.00 in.
<a href="#">70074201</a>	Air Control Assy Kit (Filter/Reg)	12013205	Guide Transition End 6.50 in.
<a href="#">23380501</a>	Slug Terminator Cord 0-6 Black	12013206	Guide Transition End 10.00 in.
<a href="#">23380502</a>	Power Isolation Cord	12019601	Guide Rail PE 6ft. LG 3ft. ZN 2.5in. H Assy
<a href="#">23381000</a>	510 Power Supply Installation 24V	12019602	Guide Rail PE 6ft. LG 6ft. ZN 2.5in. H Assy
51043100	BM Curve Air Control 3-0	12019701	Guide Rail PE 12ft. LG 3ft. ZN 2.5in. H Assy
51043200	BM Curve Air Control 3-0	12019702	Guide Rail PE 12ft. LG 6ft. ZN 2.5in. H Assy
51043301	BM Curve System Control 3-0	12019801	Guide Rail PE 12ft. LG 3ft. ZN 10.0in. H Assy
51043302	BM Curve System Control 3-0	12019802	Guide Rail PE 12ft. LG 6ft. ZN 10.0in. H Assy
51043501	BM IS System Control 3-0	12019901	Guide Rail PE 12ft. LG 3ft. ZN 10.0in. H Assy
51043502	BM IS System Control 3-0	12019902	Guide Rail PE 12ft. LG 6ft. ZN 10.0in. H Assy
51043700	Interface Head-Tail Field Kit	12017901	Guide Rail SKWL PE 6ft. LG 3ft. ZN 2.5in. H Assy
51043800	Field Cut Kit Template	12017902	Guide Rail SKWL PE 6ft. LG 6ft. ZN 2.5in. H Assy
6-09723	Package Stop Angle Type	12018001	Guide Rail SKWL PE 12ft. LG 3ft. ZN 2.5in. H Assy
FK410241	Additional Splice Plate Kit	12018002	Guide Rail SKWL PE 12ft. LG 6ft. ZN 2.5in. H Assy
51046500	Terminal End Cover	12018101	Guide Rail SKWL PE 6ft. LG 3ft. ZN 6.5in. H Assy
10005900	Knee Brace	12018202	Guide Rail SKWL PE 6ft. LG 6ft. ZN 6.5in. H Assy
12012001	Guide Transition End 2.50 in.	12018101	Guide Rail SKWL PE 6ft. LG 3ft. ZN 6.5in. H Assy
12012002	Guide Transition End 6.50 in.	12018202	Guide Rail SKWL PE 6ft. LG 6ft. ZN 6.5in. H Assy
12012003	Guide Transition End 10.00 in.	12018301	Guide Rail SKWL PE 12ft. LG 3ft. ZN 6.5in. H Assy
12012007	Guide Transition End 7.50 in.	12018302	Guide Rail SKWL PE 12ft. LG 6ft. ZN 6.5in. H Assy
12012101	Guide Transition End 2.50 in.	12018401	Guide Rail SKWL PE 6ft. LG 3ft. ZN 10.0in. H Assy
12012102	Guide Transition End 6.50 in.	12018402	Guide Rail SKWL PE 6ft. LG 6ft. ZN 10.0in. H Assy
12012103	Guide Transition End 10.00 in.	12019501	Guide Rail SKWL PE 12ft. LG 3ft. ZN 10.0in. H Assy
12012107	Guide Transition End 7.50 in.	12019502	Guide Rail SKWL PE 12ft. LG 6ft. ZN 10.0in. H Assy
12013201	Guide Transition End 10.00 in.	12018401	Guide Rail SKWL REFL 6ft. LG 3ft. ZN 2.5in. H Assy
12013202	Guide Transition End 6.50 in.	12018402	Guide Rail SKWL REFL 6ft. LG 6ft. ZN 2.5in. H Assy

## Accuglide Accessories

Part No.	Description	Part No.	Description
12018501	Guide Rail SKWL REFL 12ft. LG 3ft. ZN 2.5in. H Assy	12002411	SG 30 DEG IR CRV 60" Rad. 6.50" H
12018502	Guide Rail SKWL REFL 12ft. LG 6ft. ZN 2.5in. H Assy	12002412	SG 30 DEG IR CRV 60" Rad. 10.00" H
12018601	Guide Rail SKWL REFL 6ft. LG 3ft. ZN 6.5in. H Assy	12002601	SG 45 DEG IR CRV 30" Rad. 2.50" H
12018602	Guide Rail SKWL REFL 6ft. LG 6ft. ZN 6.5in. H Assy	12002602	SG 45 DEG IR CRV 30" Rad. 6.50" H
12018701	Guide Rail SKWL REFL 12ft. LG 3ft. ZN 6.5in. H Assy	12002603	SG 45 DEG IR CRV 30" Rad. 10.00" H
12018702	Guide Rail SKWL REFL 12ft. LG 6ft. ZN 6.5in. H Assy	12002604	SG 45 DEG IR CRV 40" Rad. 2.50" H
12018801	Guide Rail SKWL REFL 6ft. LG 3ft. ZN 10.0in. H Assy	12002605	SG 45 DEG IR CRV 40" Rad. 6.50" H
12018802	Guide Rail SKWL REFL 6ft. LG 6ft. ZN 10.0in. H Assy	12002606	SG 45 DEG IR CRV 40" Rad. 10.00" H
12018901	Guide Rail SKWL REFL 12ft. LG 3ft. ZN 10.0in. H Assy	12002607	SG 45 DEG IR CRV 50" Rad. 2.50" H
12018902	Guide Rail SKWL REFL 12ft. LG 6ft. ZN 10.0in. H Assy	12002608	SG 45 DEG IR CRV 50" Rad. 6.50" H
12000600	Skate Wheel Side Guard Assy 1.33"	12002609	SG 45 DEG IR CRV 50" Rad. 10.00" H
12000601	Skate Wheel Side Guard Assy 5.33"	12002610	SG 45 DEG IR CRV 60" Rad. 2.50" H
12000602	Skate Wheel Side Guard Assy 8.83"	12002611	SG 45 DEG IR CRV 60" Rad. 6.50" H
12002401	SG 30 DEG IR CRV 30" Rad. 2.50" H	12002612	SG 45 DEG IR CRV 60" Rad. 10.00" H
12002402	SG 30 DEG IR CRV 30" Rad. 6.50" H	12003201	SG 90 DEG IR CRV 30" Rad. 2.50" H
12002403	SG 30 DEG IR CRV 30" Rad. 10.00" H	12003202	SG 90 DEG IR CRV 30" Rad. 6.50" H
12002404	SG 30 DEG IR CRV 40" Rad. 2.50" H	12003203	SG 90 DEG IR CRV 30" Rad. 10.00" H
12002405	SG 30 DEG IR CRV 40" Rad. 6.50" H	12003204	SG 90 DEG IR CRV 40" Rad. 2.50" H
12002406	SG 30 DEG IR CRV 40" Rad. 10.00" H	12003205	SG 90 DEG IR CRV 40" Rad. 6.50" H
12002407	SG 30 DEG IR CRV 50" Rad. 2.50" H	12003206	SG 90 DEG IR CRV 40" Rad. 10.00" H
12002408	SG 30 DEG IR CRV 50" Rad. 6.50" H	12003207	SG 90 DEG IR CRV 50" Rad. 2.50" H
12002409	SG 30 DEG IR CRV 50" Rad. 10.00" H	12003208	SG 90 DEG IR CRV 50" Rad. 6.50" H
12002410	SG 30 DEG IR CRV 60" Rad. 2.50" H	12003209	SG 90 DEG IR CRV 50" Rad. 10.00" H

## Accuglide Accessories

Part No.	Description	Part No.	Description
12003210	SG 90 DEG IR CRV 60" Rad. 2.50" H	12012609	Side Guide MRG/DIV Plain 45DEG 10.00"H
12003211	SG 90 DEG IR CRV 60" Rad. 6.50" H	12012610	Side Guide MRG/DIV Plain 45DEG 7.50"H
12003212	SG 90 DEG IR CRV 60" Rad. 10.00" H	12012501	Side Guide Bullnose Rail 30 DEG 2.50"H
51023501-510	510 Track SOL-OIL 115V AC	12012502	Side Guide Bullnose Rail 30 DEG 6.50"H
51023502-510	510 Track SOL-OIL 24V AC	12012503	Side Guide Bullnose Rail 30 DEG 10.00"H
<a href="#">51020300-510</a>	Magnetic Sensor Chain Lubricator Assembly	12012504	Side Guide Bullnose Rail 30 DEG 7.50"H
<a href="#">23381700</a>	510 Cable Tee Power Humphrey	51023300-510	Oil Reservoir Assembly 1 Liter
51007701	Case Stop Assembly, Idler W16 115V	51023400-510	Oil Reservoir Assembly 1 Liter with Float Switch
51007702	Case Stop Assembly, Idler W22 115V	<a href="#">51022000</a>	510 HD Spring Tensioner (52210B)
51007703	Case Stop Assembly, Idler W28 115V	5102300-510	Cylinder Tensioner
51007704	Case Stop Assembly, Idler W34 115V	51025700	Switch Assembly
51007705	Case Stop Assembly, Idler W40 115V	24024200	High Pressure Regulator
51007706	Case Stop Assembly, Idler W16 24V	<a href="#">51021201</a>	510 Chain RC50 W/EXT PIN
51007707	Case Stop Assembly, Idler W22 24V	<a href="#">51024000</a>	510 Connection Link RC50 W/EXT PIN
51007708	Case Stop Assembly, Idler W28 24V	<a href="#">51021301</a>	510 Pad Driver W/Wear Indicator
51007709	Case Stop Assembly, Idler W34 24V	<a href="#">70074200</a>	P610 Filter/Regulator MTG Kit (VCC-823)
51007710	Case Stop Assembly, Idler W40 24V	<a href="#">23381000</a>	510 Power Supply Installation 24V
51007800	610 Idler Drop In Brake Module	FK410241	Splice Flat
<a href="#">51044100</a>	510 Drop In 3ft Brake Module	FK510384	Splice Angle for Curves and Drive
51044000	Field Kit 510 3ft Brake Module	<a href="#">51045100</a>	510 Skewed Driver Field Kit
41048200	Interface Head-Tail Field Kit (Gen 2)	<a href="#">51024901</a>	Cable Humphrey Connector 1-0
12012601	Side Guide MRG/DIV Plain 20DEG 2.50"H	<a href="#">51024902</a>	Cable Humphrey Connector 2-0
12012602	Side Guide MRG/DIV Plain 30DEG 2.50"H	<a href="#">51024903</a>	Cable Humphrey Connector 3-0
12012603	Side Guide MRG/DIV Plain 45DEG 2.50"H	51024904	Cable Humphrey Connector 4-0
12012604	Side Guide MRG/DIV Plain 20DEG 6.50"H	<a href="#">51024905</a>	Cable Humphrey Connector 6-0
12012605	Side Guide MRG/DIV Plain 30DEG 6.50"H	<a href="#">51024906</a>	Cable Humphrey Connector 9-0
12012606	Side Guide MRG/DIV Plain 45DEG 6.50"H	<a href="#">51024907</a>	Cable Humphrey Connector 12-0
12012607	Side Guide MRG/DIV Plain 20DEG 10.00"H		
12012608	Side Guide MRG/DIV Plain 30DEG 10.00"H		



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