Product Manual
Accuglide Live Roller Conveyor

Application Guidelines, Specifications, Installation Procedures, Maintenance, Parts Identification and Product Index

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Read these documents thoroughly before attempting to perform maintenance or repairs to the applicable Intelligrated conveyor system components or devices. Exercise extreme caution when working around moving and rotating conveyor 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.

The information presented in these documents are 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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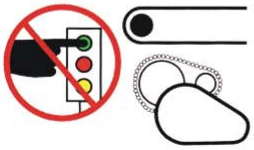
Package Conveyors

SAFETY IS IN YOUR HANDS

Do Not Climb, Sit, Stand, Walk, Ride, or Touch the Conveyor at Any Time

Do Not Perform Maintenance on Conveyor Until Electrical, Air, Hydraulic and Gravity Energy Sources Have Been Locked Out or Blocked



Operate Equipment Only With All Approved Covers and Guards in Place

Do Not Load a Stopped Conveyor or Overload a Running Conveyor

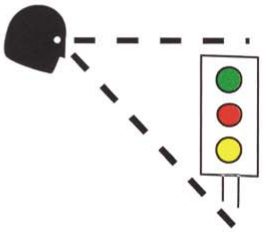
Ensure That All Personnel Are Clear of Equipment Before Starting

Allow Only Authorized Personnel To Operate or Maintain Material Handling Equipment

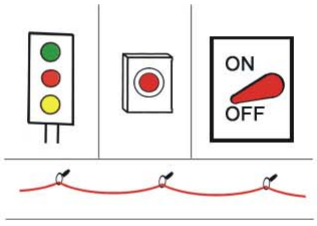
Do Not Modify or Misuse Conveyor Controls

Keep Clothing, BodyParts, and Hair Away from Conveyors

Remove Trash, Paperwork, and Other Debris Only When Power is Locked Out and Tagged Out



Ensure That ALL Controls and Pull Cords are Visible and Accessible



Know the Location and Function of All Stop and Start Controls

Report All Unsafe Conditions Jams should be cleared ONLY BY Authorized, Trained, Personnel

POST IN PROMINENT AREA

Product Manual Issue and Revision Date(s)

First Issue	March, 2006
Previous Revision	December, 2006
Current Revision	September, 2007
Current Revision	October, 2007
Current Revision	July, 2008
Current Revision	June, 2009
Current Revision	September, 2009
Current Revision	October, 2009
Current Revision	December, 2009

Product Manual Revision Summary

Revision Date	Section(s)	Revision Summary
March, 2006	All	Footer Update - Product No. and Issue Date.
	Section D	Table Heading and Text Change - Pg. D-16.
December, 2006	Section I	Updated Carrier Roller Part Numbers.
September, 2007	All	AGPE, Accumulation-Type Curve Sections Added
	Section C	New PE Sensor and Reflector Info
	Section G	Revised Cutting Length - Driver Pad
	Section I	Part Numbers for New PE Sensor and Reflector Revised Part Numbers for Driver Pad
October, 2007	Section J	Part changed for 180 Degree Curve - 90 Degree Operational Zones (16” width)
July, 2008	Section D	Change to Table D-11 Speed for Over 27”. Change to text for Postion “A” and Position “B”.
June, 2009	Section G	Added new topic “Attach Air Lines from Solenoid Control Module to Zone Control Valve for 90 Degree and 180 Degree Curves
September, 2009	Section J Section H	Drawing number change on page J-11, and misspelled word in the title. Updated information for Drive Chain / Drivers Pad Maintenance
October, 2009	Section G and H	Updated information for Air Tensioner - added additional step and note.

Revision Date	Section(s)	Revision Summary
October, 2009	Section A and C	Updated information on accumulation and release functionality. Remove the 60 degree information from topic Arcs, Accumulation-type, see page C-9

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SECTION A:PRODUCT SUMMARY

Overview:

The Accuglide powered-roller accumulation conveyor provides: 1) quiet and efficient transportation of product (in straight and curve sections); and 2) gentle, zero-pressure accumulation of product (cartons, cases, totes, etc.). Multiple operational-modes are available to meet any specific conveyor's application requirements.

Designation (LEO)

AG (for mechanical sensor accumulation and transportation)
AGPE (for electric sensor accumulation)

Widths (Conveyor):

Standard - 16", 22", 28", 34" & 40" (Between Frame)

Capacity:

100 lbs./ft. Live Load; (200 lbs. max. item weight)

Drive Section:

6'-0" lg., 650 lbs. Effective Pull Capacity; with power unit, spring-type chain tensioner, magnetic-type track lubricator, and 6'-0" lg. operational zone; Right Hand / Left Hand assembly. Roller set high or low.

Power Units:

3/4 to 5 HP C-Face motor (Reliance and Baldor) and C-Face, right-angle reducer (Reliance and Grove) providing 60-240 fpm (all speeds are not available in all horse-powers); standard and premium-efficiency motors; direct drive. Under-hung mount (standard), side-mount (optional).

Intermediate Section - Straight:

"Accumulation" and "Transportation" types; (standard) 3'-0" – 12'-0" lg. in operational-zone length increments; bolted crossmembers; low-pressure, air actuators support the drive components; Carrier Rollers at 2", 3", or 4" centers with fixed or pop-out type roller mounting; Right Hand / Left Hand assembly;

Accumulation / Roller Sensor – 3'-0" lg. operational zones; each zone controlled by 3-way, normally-closed, pneumatic valve with single or dual (aluminum) sensor rollers; trailing-zone control; Carrier Rollers set High; unique operational mode piping (singulation, auto-slug, or slug) (1" Incremental lengths - 3'-1" thru 5'-11").

Accumulation / Photo-Eye Sensor – 3'-0" lg. operational zones; each zone controlled by Solenoid Control Module and photo-eye sensor (24VDC); trailing-zone control; Carrier Roller set High or Low; common piping for all operational modes (singulation, auto-slug, dual-zone and slug). (1" Incremental lengths - 3'-1" thru 5'-11").

Additional accumulation and release functionality is available with the GEN2® control module. Refer to the *Product Manual 8420 GEN2® Photo-Eye Accuglide* for more information.

Transportation – Same as "accumulation-type" without zone-control components.

Intermediate Section - Curved:

Accumulation Type - 60^o, 90^o & 180^o with tapered rollers set high or low at 2" roller centers (nominal at inside rail) in Type 26IR or TTF frame, 11" lg. straight tangent at each end.
Controlled Operational-Zones allow product transporting through the curve to stop and accumulate in the curve.

Transportation Type - 30^o, 45^o, 60^o, 90^o and 180^o with tapered rollers set high at 2" or 3" roller centers (nominal at inside rail) in Type 26IR or TTF frame, 11" lg. straight tangent at each end. Constant drive to Carrier Rollers.

Intermediate Section - Sawtooth Junction:

$30^o/45^o$ merge with fixed Carrier Rollers set high at 2” roller centers. RH and LH merge assembly(s) for RH/LH Chain Drive; transportation only; requires separate air supply (30 psi).

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

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

Idler Section:

3’-0” lg. O.A. with 3’-0” lg. accumulation zone, (controlled by solenoid valve remote 110VAC or 24VDC release signal); Carrier Rollers set High or Low at 2” centers w/fixed-type mounting; all Carrier Rollers powered. Located at discharge end of conveyor.

Carrier Rollers:

Straight – 1.9” x .065” (16 ga.) galvanized steel tubing with either commercial-type or precision-type ABEC bearings; 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.

Tapered – 2.50”/1.63” O.D. x .087” (14 ga.) tapered, galvanized-steel tubing with ABEC-type bearing only.

Bearings:

C1 - Precision-type - ABEC, with tapered-axle (7/16” hex) insert.
A1 - Precision-type - ABEC, with axle (7/16” hex) shaft.
GH - Commercial-type, with axle (hex) shaft.

Drive Components:

RC50 with extended pins and extruded urethane drive pad (gray with red indicator stripe).

Power Requirement:

For Power Unit – 230-460/3/60 VAC or 575/3/60 VAC
For Zone Control/Actuation Components – 110/3/60 VAC (7 AMP)
For Component Solenoid-valves – 115 VAC or 24 VDC

Finish:

Powder-coated – Satin Gray

Accessories: Solenoid-controlled chain-track lubricator; air-actuated chain tensioner; Blade Stop or Brake Module (for Discharge End Idler); Intermediate Roller Stop or Brake Module (for Straight Intermediate Sections); Floor Supports; Ceiling Hangers; Side Guides; Power Supplies; Power/Communication Cables.

SECTION B:APPLICATION GUIDELINES

Introduction

The Accuglide powered-roller, accumulation conveyors provide:

1. quiet, high-speed transportation of product (cartons, cases, totes, etc.);
2. gentle, zero-pressure accumulation of product; and
3. efficient, high-rate release of accumulated product.

The Carrier Rollers are driven from below by a polyurethane driver pad that is attached to a precision, roller chain with extended pins. Intermediate Straight Sections feature operational groupings (zones) of Carrier Rollers that are either “powered” or “non-powered”. A zone’s operational-state is determined by its associated controlling sensor that is typically located in the next forward (downstream) zone. The sensor is either a raised, pivoting roller or a photo-eye.

Products transport positively along the length of the conveyor. When “accumulation” is required, the “first” product stops when it reaches a “first” remotely-controlled, non-powered discharge-zone where it actuates the sensor in that zone and causes the next, rearward (upstream) zone to become non-powered. This process repeats as each trailing product reaches the first available non-powered zone.

When product movement is again required, the first product in the controlled discharge zone is released and product from upstream zones follow.

Intermediate Curve Sections provide controlled product movement where directional change(s) are required.

Intermediate Merge Sections provide for the positive drive and transition when the merging of product from spur lines onto a main-line Accuglide conveyor is required.

An Accuglide Conveyor consists of the following components, see Figure B - 1:

- AG Drive Section with Power Unit (required)
- AG-AGPE Intermediate Straight Section(s) (required)
- AG Idler Section (required)
- AG Intermediate Curve Section(s) (optional)
- AG Intermediate Merge Section(s) (optional)
- Accessories: Power Supply(s); Supports / Hangers; Side Guides

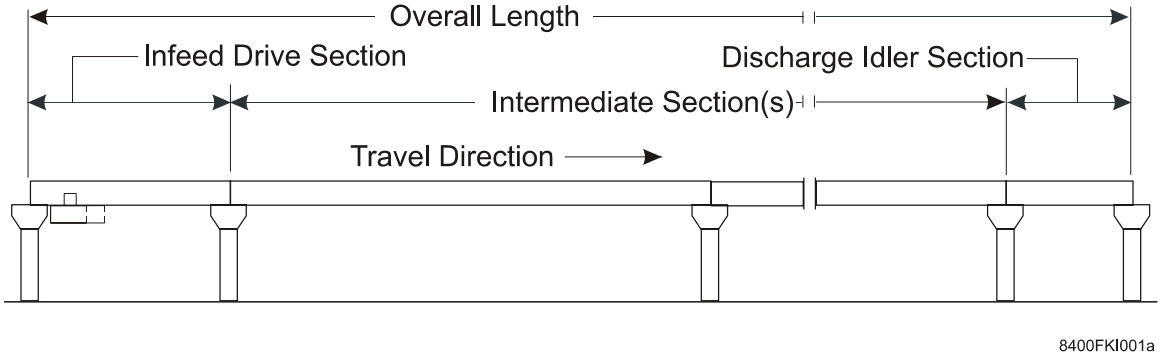


Figure B - 1 Accuglide Conveyor Components

The following is a basic overview of Accuglide Conveyor's components. For more detail, refer to Section "C" - Specifications.

Product Overview

Drive Section

Drive Section (located at the conveyor's infeed end); 6'-0" lg., under-hung power unit (3/4 - 5 HP), 60-240 fpm, 600 lbs effective pull; spring-type chain tensioner (air-type tensioner optional); magnetic-type chain/track lubricator (solenoid-actuated type optional), and a 6'-0" lg. operational zone. Carrier Rollers are factory-installed at 2" ctrs. with fixed-type mounting ONLY; all rollers are powered; available in Right-Hand (RH) or Left-Hand (LH) assembly* (as determined by the side of the conveyor on which the drive chain/pad are located when looking in the direction of travel).

(*) If a conveyor features an Intermediate Curve Section, the assembly designations of all of the conveyor's components must be the same as the directional change that the curve makes.

Example - An Accuglide Conveyor that includes an Intermediate Curve Section that turns to the "right" (when looking in the direction of travel) requires that all components be supplied with "RH" assembly.

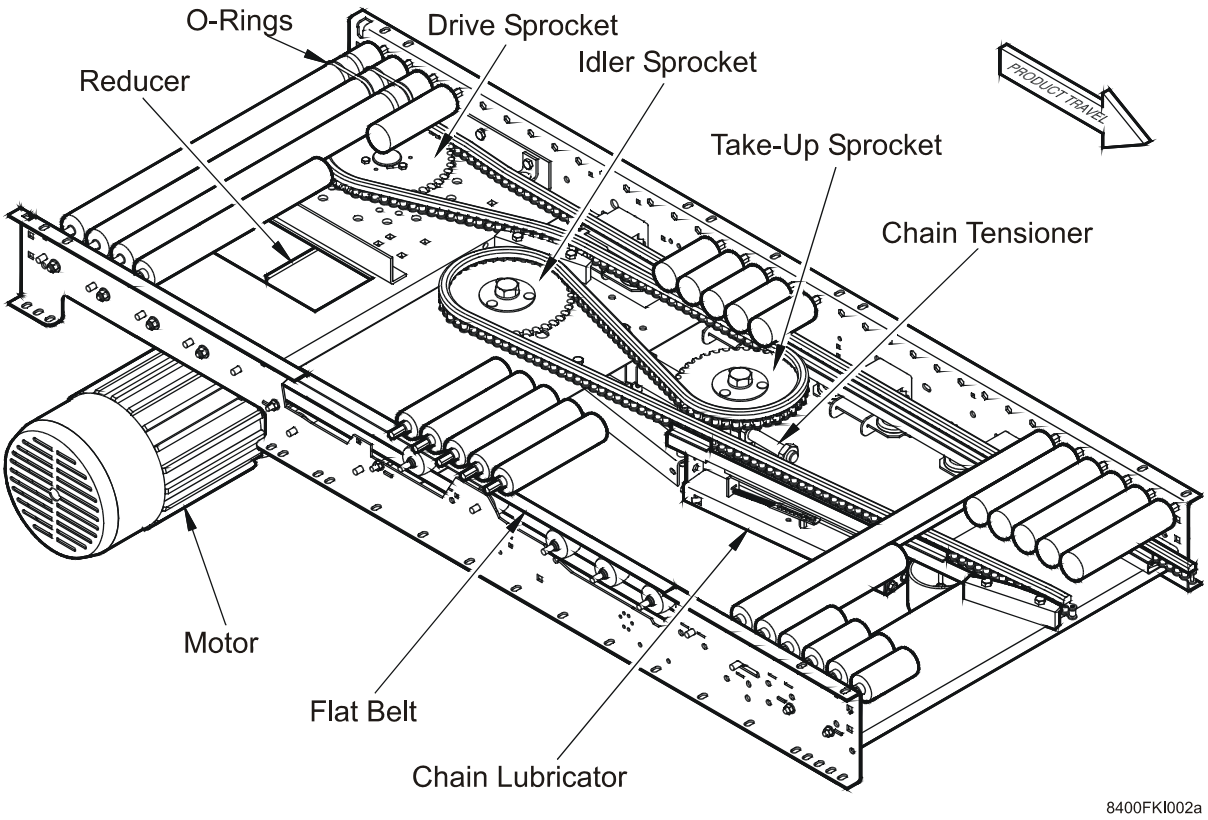


Figure B - 2 Accuglide Infeed Drive Section (LH Assembly Shown)

Intermediate Straight Section - AGPE

AGPE Intermediate Straight Sections consist of: channel-type frame with Carrier Rollers* set-high or set-low at 2", 3" or 4” ctrs., in fixed or pop-out type mounting. Available in RH / LH assembly; Solenoid Control Modules and photo-eye sensors are mounted on the same side of the section as the drive chain/pad.

Accumulation-type sections with 3'-0" operational zones.

Transportation-type sections are the same as accumulation-type except there are no operational zones. The section's drive chain/pad is always engaged with the Carrier Rollers.

(*) Carrier Rollers are shipped separate and installed in the field.

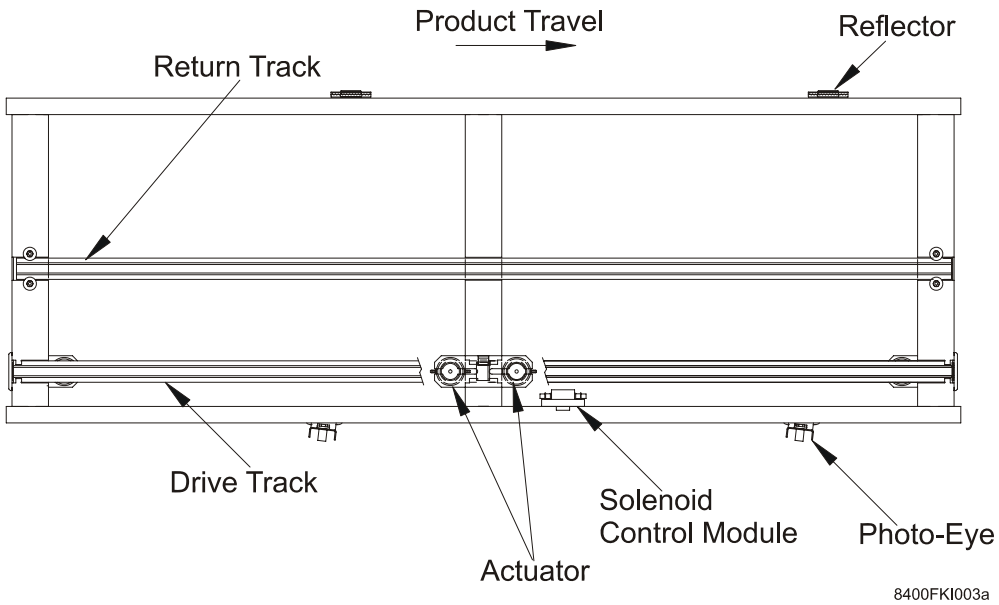


Figure B - 3 AGPE Accuglide Intermediate Straight Section (RH Assembly Shown)

Intermediate Straight Section - AG

AG Intermediate Straight Sections consist of: channel-type frame with Carrier Rollers* set-high at 2", 3", 4" or 6" ctrs., in fixed or pop-out type mounting. Available in RH / LH assembly; single or dual raised roller sensors.

Accumulation-type sections with 3'-0" operational zones.

Transportation-type sections are the same as accumulation-type except there are no operational zones. The section's drive chain/pad is always in driving engagement with the Carrier Rollers.

(*) Carrier Rollers are shipped separate and installed in the field.

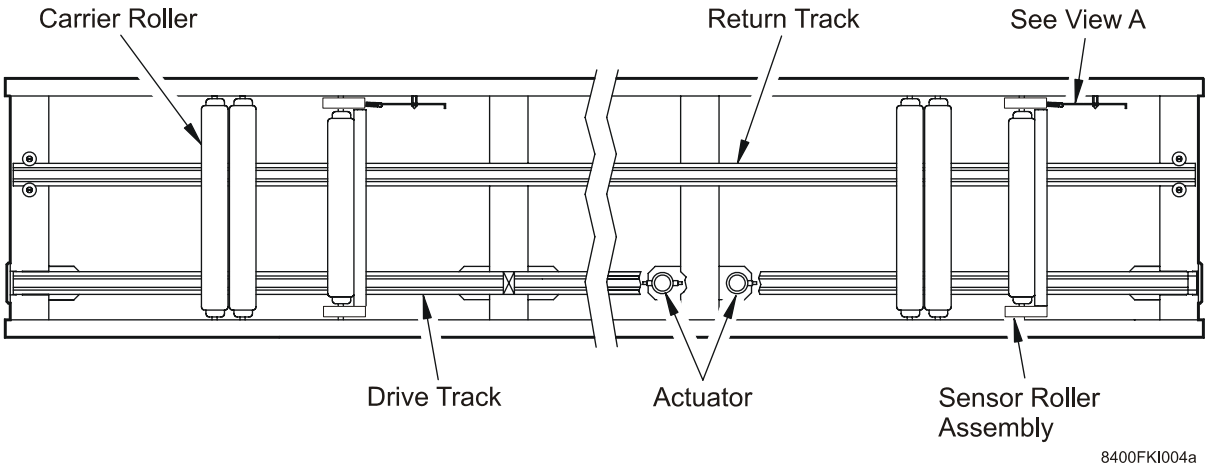


Figure B - 4 AG Accuglide Intermediate Straight Section (RH Assembly Shown)

Idler Section

The Idler Section, 3'-0" lg. is located at the conveyor's discharge end. It includes an idler sprocket around which the drive chain and pad's path changes from its "drive" run to its "return" run. It incorporates one (1) 3’-0” lg. operational zone that is controlled by a solenoid valve and an external "release" signal. Carrier Rollers are factory-assembled into the section at 2" centers with fixed-type mounting ONLY; all rollers are powered.

Available in RH / LH assembly (to match Intermediate Drive Section assembly).

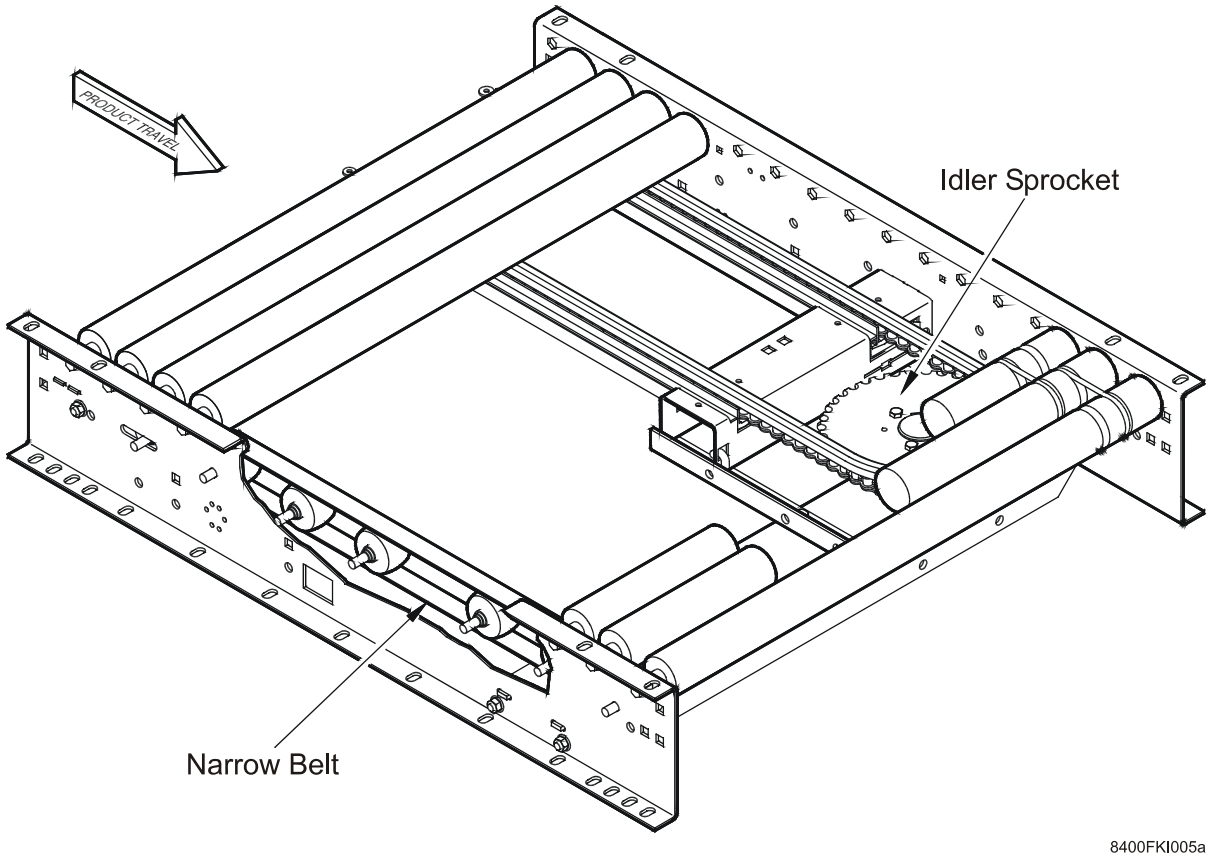


Figure B - 5 Accuglide Idler Section (LH Assembly Shown)

Intermediate Curve Section

Accumulation Type - 60°, 90°, and 180°; Type 26IR or Type TTF frame; 11" lg. straight tangent at each end; tapered Carrier Rollers set high or low at 2" roller centers (nominal at curve's inside rail).

Carrier Rollers are constantly driven by the fixed-height drive chain/pad. When the downstream operational zones are filled with accumulated product, the curve's operational zone(s) (with Local Zone Control) stop the forward movement of product when detected by photo-eye sensors within each zone.

- Type 26IR frame widths of 16", 22" and 28"W.
- Type TTF widths of 16", 22", 28", and 34"W.

Supplied with photo-eye sensor(s) and necessary air control components.

Transportation Type - 30°, 45°, 60°, 90°, and 180°; Type 26IR or Type TTF frame; 11" lg. straight tangent at each end; tapered Carrier Rollers set high at 2" or 3" roller centers (nominal at curve's inside rail).

Because the fixed-height drive chain/pad constantly powers the Carrier Rollers, product should not be accumulated within the curve section.

- Type 26IR and Type TTF widths of 16", 22", 28", 34", and 40"W.

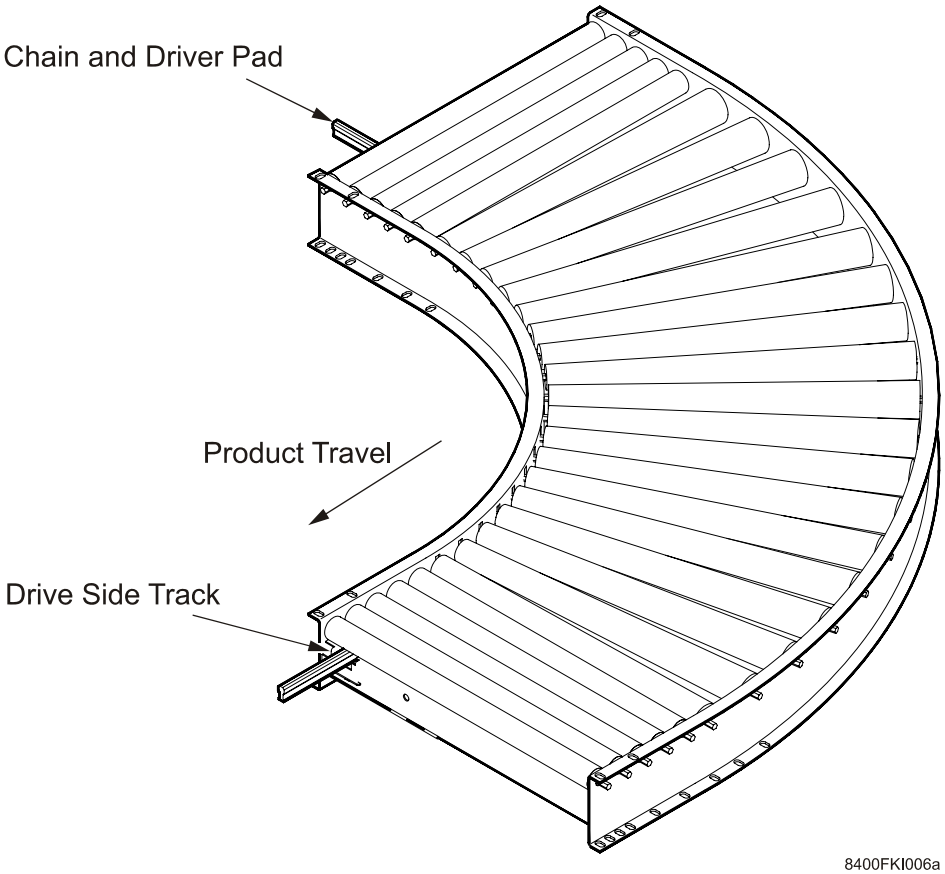


Figure B - 6 Accuglide Intermediate Curve Section (90°, RH Curve Shown)

Intermediate Merge Section

Intermediate (Sawtooth-type) Merge Sections (30^{o} or 45^{o} merge angles) consist of a RSH / CF Type channel-type frame with ABEC Carrier Rollers factory-installed at 2" ctrs. (set high) with fixed-type mounting ONLY.

Available in RH/LH assembly (to match drive chain/pad assembly of adjoining sections) and RH/LH "spur-line" location (when looking in the direction of travel).

The sections are "transportation-type" with constant drive to the Carrier Rollers and are not to be used for product accumulation.

Supplied with filter/regulator for separate air-supply (30 psi).

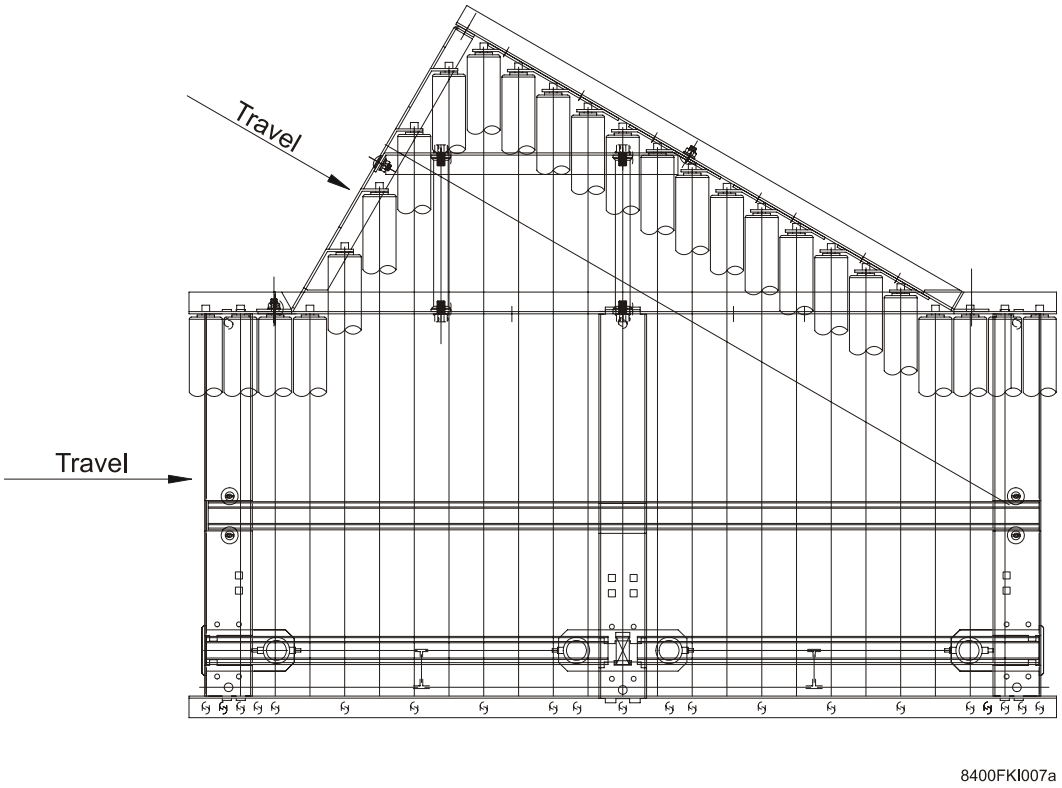


Figure B - 7 Accuglide Intermediate Merge Section (LH Merge; RH Assembly Shown)

Frame Types

Accuglide Conveyors are available with a variety of frame types.

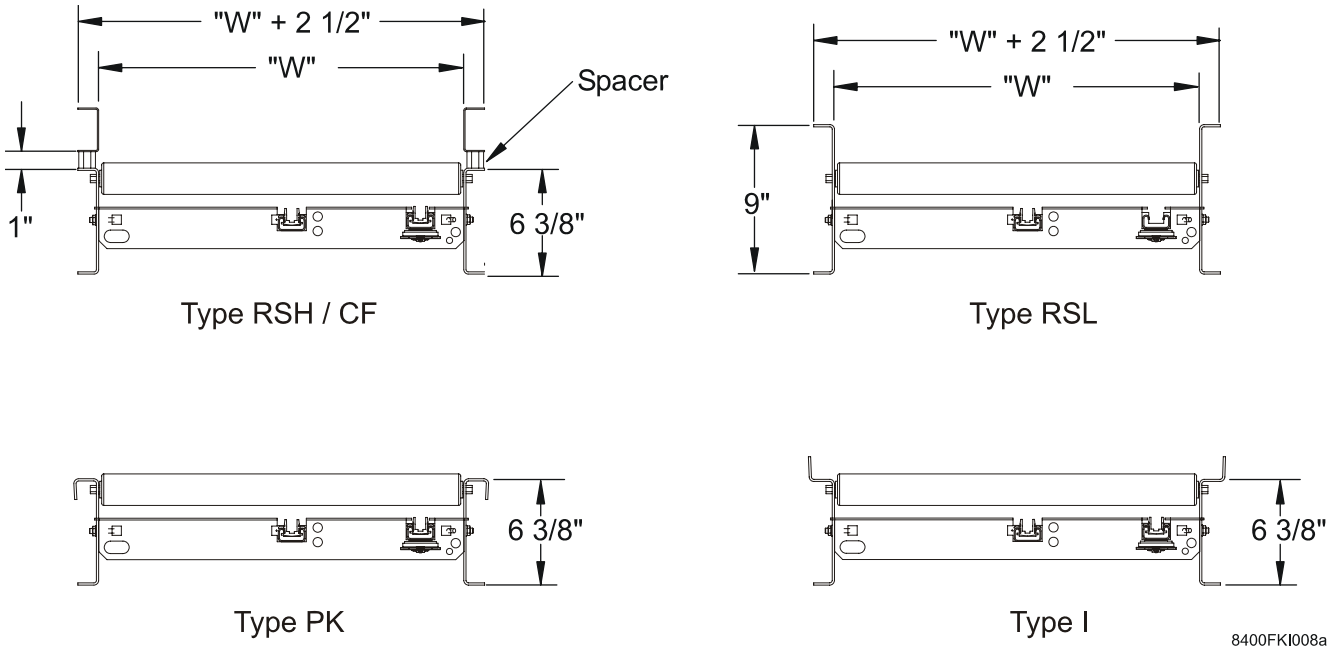


Figure B - 8 Accuglide Frame Types

Type "RSH"/"CF"

Frame (6-3/8" deep rail with 1-1/ 4" top / bottom flanges) - The standard frame depth for all of the company's powered belt and roller product lines with the top of the rollers extending 5/16" above the top flange.

Side Guides (Type A, B, C or D) are required to contain product on the conveyor as well as protect the photo-eye sensors. For AGPE conveyors, the side-guides are mounted to the frame using 1" lg. spacers to provide an opening for the photo-eye and reflector.

Type "RSL"

Frame (9" deep rail with 1-1/ 4" top / bottom flanges) - The frame provides an integral side-guide with the top of the rollers being 2-5/16" below the top flange. Flared, 1" dia. openings in the rail allow the photo-eye's beam to be transmitted to the reflector on the other side. If required, additional side guides can be bolted to the top rail flanges.

Type "PK"

Frame (6-3/8" deep rail with 1-1/2" wide "top" / 1-1/4" "down" flanges) - The frame provides a "smooth" contact area in applications where personnel are working near the conveyor.

Type "I"

Frame (6'3/8" deep rail with 1-1 /2" "top" flange and 1-1/8" "integral" side guide) - Suitable for "low" elevation applications and where product needs to overhang the Carrier Rollers.

Table B - 1 Frame Type Availability

Section Type	**Conveyor-Type**	
	AGPE	**AG**
Drive	RSH, RSL	CF,PK, I
Intermediate Straight	RSH, RSL	CF, PK, I
Intermediate Curve	RSH	CF
Intermediate Sawtooth Junction	RSH	CF
Idler	RSH, RSL	CF, PK, I

Carrier Rollers - Straight / Tapered

Three (3) Carrier Roller options are available for an Accuglide Conveyor.

Table B - 2 Available Carrier Rollers

Items	Carrier Roller		
Straight Carrier Rollers			
LEO Designation	No.G196C1	No.G196A1	No.G196GH
Tubing (galv.)	1.9” dia. x 16 ga.		
Bearing Code	B2000	B2006	B1815
Bearing type	ABEC (Cartridge)	ABEC	Commercial
Bearing Lubrication	Grease-Packed	Grease-Packed	Greased
Bearing Seal	Non-Contacting		Labyrinth
7/16” Axle (Hex)	Tapered Stud	Thru Shaft	
Roller Capacity	290 lbs.	290 lbs.	290 lbs.
Applications	Low Noise Up to 240 fpm Minimizes Frame Wear	Low Noise Up to 240 fpm	Economical Up to 180 fpm
Tapered Carrier Rollers			
LEO Designation	No.251AB		
Eng. Designation	S7A		
Tubing (galv.)	2.5”/1.62” dia. x 14 ga		
Bearing Code	6002/6203		
Bearing Type	ABEC		
Bearng Lubrication	Grease-Packed		
Bearing Seal	Non-Contacting		
7/16” Axle (Hex)	Thru Shaft		
Roller Capacity	290 lbs.		

Carrier Roller Mounting - Fixed

A “fixed” Carrier Roller has either a “spring-loaded” hex axle or two (2) spring-loaded, tapered stud-axles that extend through the axle holes in the frame rails.

Carrier Roller Mounting - Pop-Out

AG - The Carrier Roller's "spring-loaded" hex axle sets in elongated axle slots that extend into the frame rail's top flange.

AGPE - 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.

Figure B - 9 Pop-Out Carrier Roller Mounting (Intermediate Straight Section ONLY)

Table B - 3 Carrier Roller / Mounting-Type Availability

Section Type	Carrier Roller - Mounting-Type	
	Fixed	**Pop-Out**
Drive	C1, A1, GH	Not Available
Intermediate Straight - AGPE	C1, A1, GH	A1, GH
Intermediate Straight - AG	C1, A1, GH	A1, GH
Intermediate Curve	A1	Not Available
Intermediate Sawtooth Junction	A1	Not Available
Idler	C1, A1, GH	Not Available

Carrier Roller Centers

Table B - 4 Carrier Roller Centers Availability

Section Type	Carrier Roller - Mounting-Type	
	Fixed Mounting	Pop-Out Mounting
Drive	2”	Not Available
Intermediate Straight - AGPE	2”, 3”, 4” and 6”	2”, 3” and 4”
Intermediate Straight - AG	2”, 3”, 4” and 6”	3”, 4” and 6”
Intermediate Curve	2” and 3”*	Not Available
Intermediate Sawtooth Junction	2”	Not Available
Idler	2”	Not Available

(*) Roller Centers measured at curve’s Inside Rail

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. (Figure B-10).

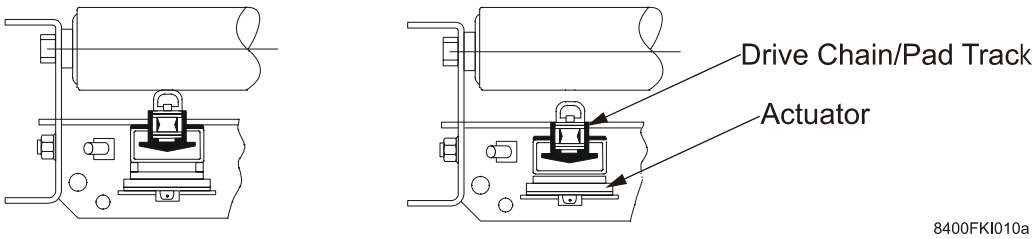


Figure B - 10 Drive Chain/Pad and Track - Raised (left); Lowered (right)

Sequential-Zone Control (SZC)

Sequential Zone-Control is the standard for AG and AGPE Intermediate Straight Sections. The powered/non-powered state of each operational zone (Local Zone) 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.

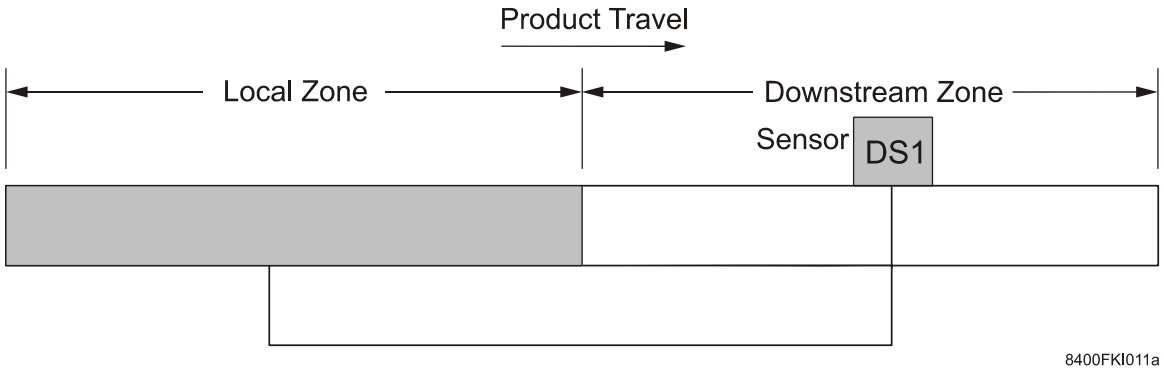


Figure B - 11 Sequential-Zone Control

Local-Zone Control (LZC)

Local-Zone Control is the standard for AGPE Intermediate Curve Sections (accumulation-type). The powered/non-powered state of each Local Zone is controlled by: 1) photo-eye sensor (DS1) located in the next forward downstream zone; and 2) photo-eye sensor (LS2) located in the Local Zone. When both sensors detect product, the Local-Zone becomes non-powered and accumulates product.

When neither sensor (DS1 nor LS2) detect product, the Local-Zone resumes its powered state.

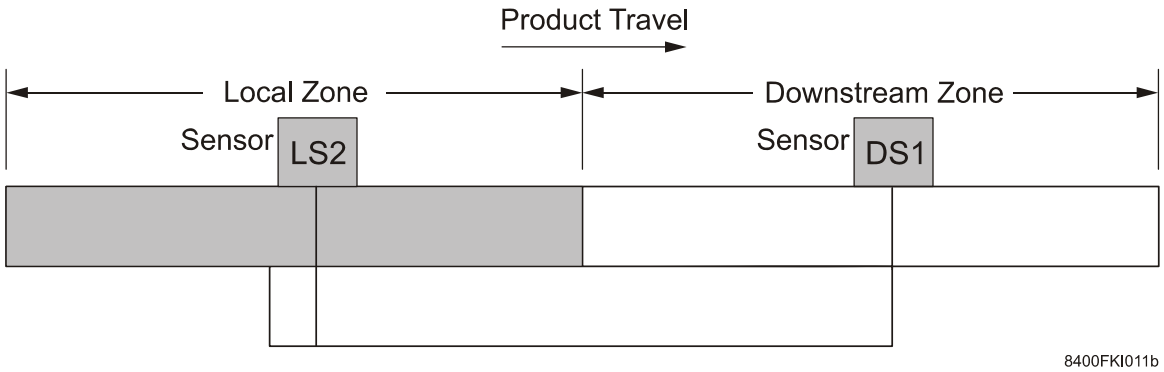


Figure B - 12 Local-Zone Control

Sensors

Each "local" operational-zone has a sensor that detects the presence or absence of product within that zone.

AGPE Intermediate Straight Sections feature a non-contacting, reflective-type photo-eye sensor that is connected to a solenoid-type air valve.

AG Intermediate Straight Sections utilize pivoting-type "raised" roller sensor that physically actuates an air-valve.

Sensor Positions - For 3'-0" lg. Sequentially-Controlled Zones

Two (2) sensor positions are available: Position "A" positions the sensor 24" forward of the "Local-Zone" it controls; Position "B" positions the sensor 12" forward of the "Local-Zone".

Refer to Section D - Engineering Data of this manual for selection criteria.

Sensor Positions - For Accumulation-Type Curve Zones (LZC)

Photo-eye sensors are field-mounted approximately 30^{o}, from the discharge end of the curve's operational zone(s).

Depending on product length and weight, and conveyor speed, sensor position may need to be moved. Pre-operation testing will determine the proper location.

Photo-Eye / Reflector Offset

For AGPE, two (2) photo-eye / reflector "offset" options are available, see Figure B - 13.

The 2" offset will normally be supplied unless the optional 6" offset is specified. The 6" offset serves the same function as "dual" roller sensors.

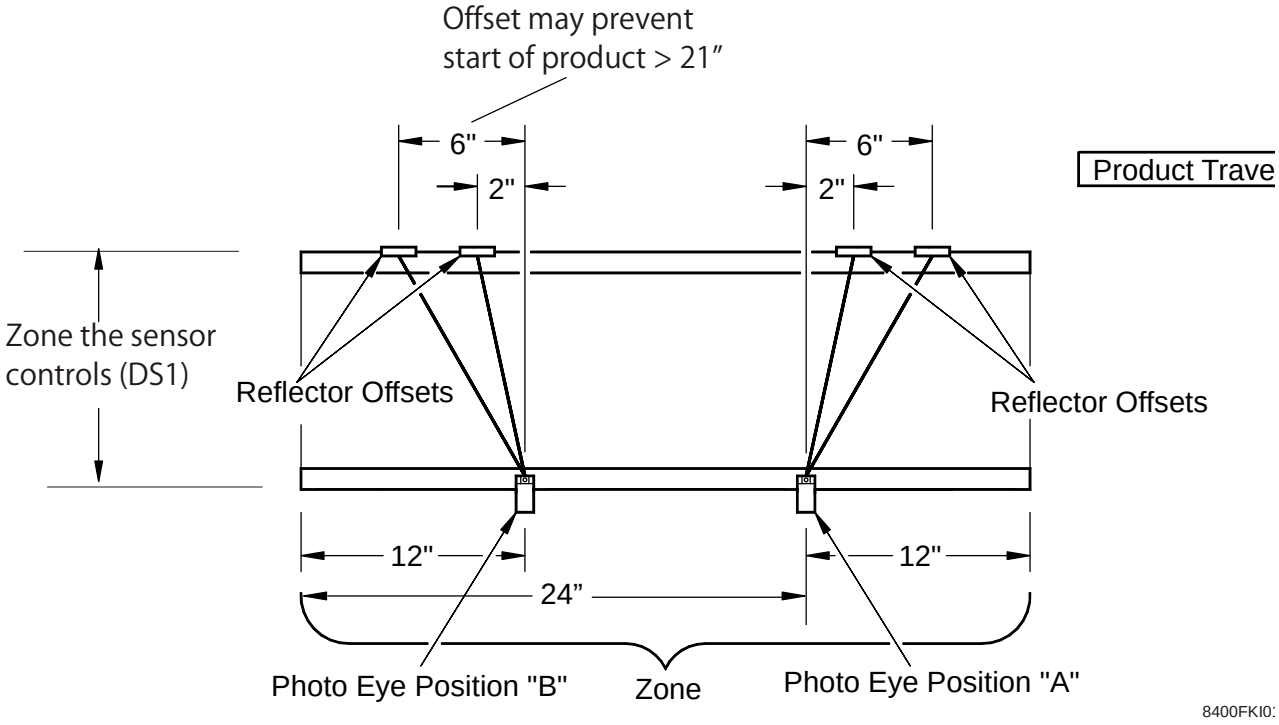


Figure B - 13 AGPE Photo-Eye / Reflector Offset

Dual Sensor Rollers - AG

Dual-Sensor Rollers are available when conveying totes (with tapered end) or other products that accumulate with spacing between the end surfaces. The linked second roller will be depressed even when the other is not covered by the product.

Available for Sensor-Position "B" ONLY.

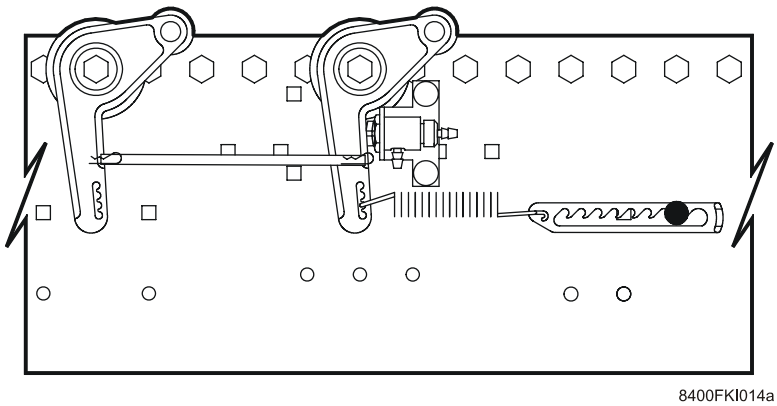


Figure B - 14 AG Dual Sensor

Sensor Position / Reflector Offset

Use Table B-5 to select the appropriate sensor position based on the maximum product length, weight and speed.

Table B - 5 Maximum Product Length

Operational Mode	Operational Zone Length		
	3'-0"		6'-0"
	Sensor Position		
	"A"	"B"	"A"
Singulation (SZC) [a,c,d,f]	48"	24"	n.a.
Singulation (LZC) [b,c,e,f]	n.a.	n.a.	48"
Auto-Slug [a,c,d,f]	48"	24"	n.a.
Dual-Zone [a,b,g,h]	60"	48"	n.a.

(a) Sequential-Zone Control
(b) Local-Zone Control
(c) Bottom surface of product is firm and flat
(d) Content evenly distributed
(e) Content NOT evenly distributed
(f) Powered Carrier Rollers beneath 50% of the product's length
(g) Powered Carrier Rollers beneath 100% of the product's length
(h) Product weighing 100 lbs./ft (max.)

Description of Operation

Functional Modes

The primary function of a "powered" conveyor is to provide positive, horizontal movement of product along the conveyor.

Accumulation-type powered conveyors have the additional functional requirement of providing product "accumulation". Product is "queued" at the discharge end of the conveyor while upstream product continues to advance towards the accumulation area.

Optional Operational-Modes are available that allow the conveyor to meet the application's flow-rates (acceptance/release).

Operational Modes

Intermediate Straight Sections are available with various "operational-modes" that affect the product flow-rate (release / acceptance rates).

AGPE sections feature Solenoid Control Modules (SCM). Each SCM has two (2) solenoid-valves for controlling two (2) adjoining "operational-zones". The SCM has the intelligence to allow each Local-Zone's primary operational-mode to be "set" to meet an application's requirements.

AG sections have a basic mechanically-actuated air-valve for each Operational-Zone. Sections must be ordered for each specific operational-mode requirement and cannot be easily changed once installed.

Note: When engineering a conveyor system, it is important that the operational-mode requirement(s) for each conveyor be shown on the system layout drawing(s).

For AGPE conveyors, this will show the installers what field-changes may be required to the SCM operational-mode settings; for AG conveyors, it will show the locations for specifically-piped AG sections.

Table B - 6 Frame Type Availability

Optional Mode	Conveyor-Type	
	AGPE	AG
	Zone Length	
	3’-0”	3’-0”
Primary		
Singulation (SZC)	Yes[a]	Yes[c]
Auto-slug	Yes[b]	Yes[c]
Dual-Zone	Yes[b]	No
Slug	No	Yes[c]
Secondary		
Slug	Yes[d]	No

(a) Factory setting of SCM.
(b) SCM(s) must be reset in field.
(c) Sections are factory-piped for specific operational-mode.
(d) Requires Slug-Release Module.

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.

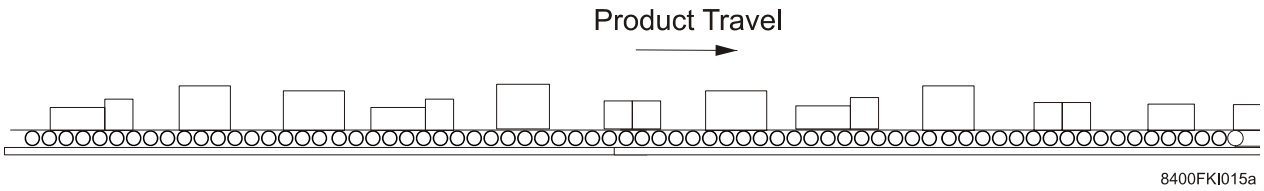


Figure B - 15 Singulation Operational Mode

Operational Mode - Auto Slug

"Auto-Slug" - 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'-0") gap between groups.

For AGPE sections, the extended "auto-slug" group length can be any desired length (up to the full length of the conveyor).

For AG sections, the extended "auto-slug" group length is 12'-0".

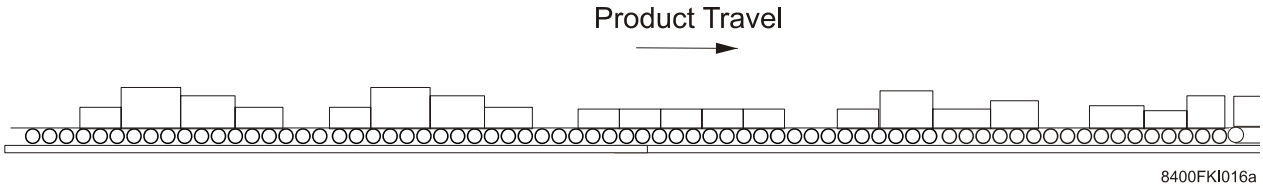


Figure B - 16 Auto-Slug Operational Mode

Operational Mode - DUAL-ZONE

"Dual-Zone" - 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'-0" lg.) zero gap between product groupings (nominal 6'-0" lg.).

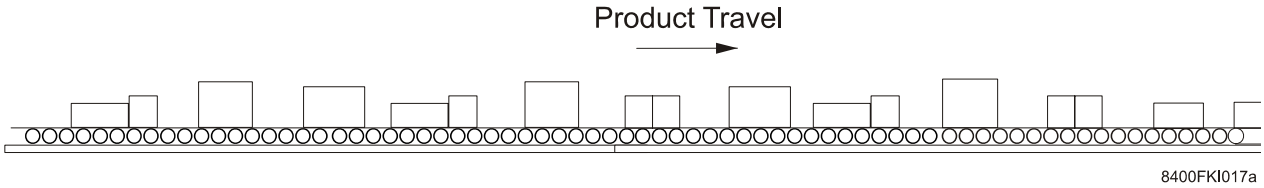


Figure B - 17 Dual-Zone Operational Mode

Operational Mode - Slug

"Slug" - 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.

For AGPE sections, "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.

For AG sections, "Slug" is the "primary" operational mode. When the external "slug-release" signal is removed, the section will transport and accumulate product in the "singulation" mode.

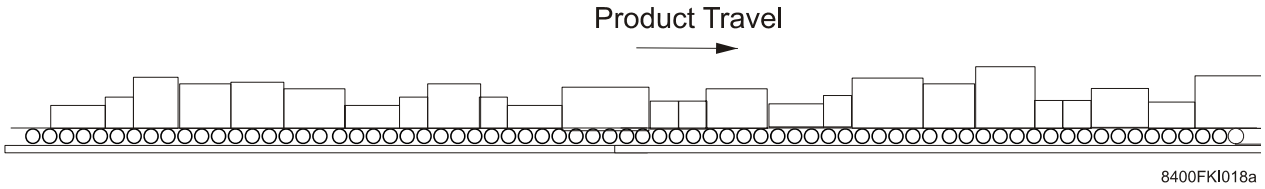


Figure B - 18 Slug Operational Mode

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.

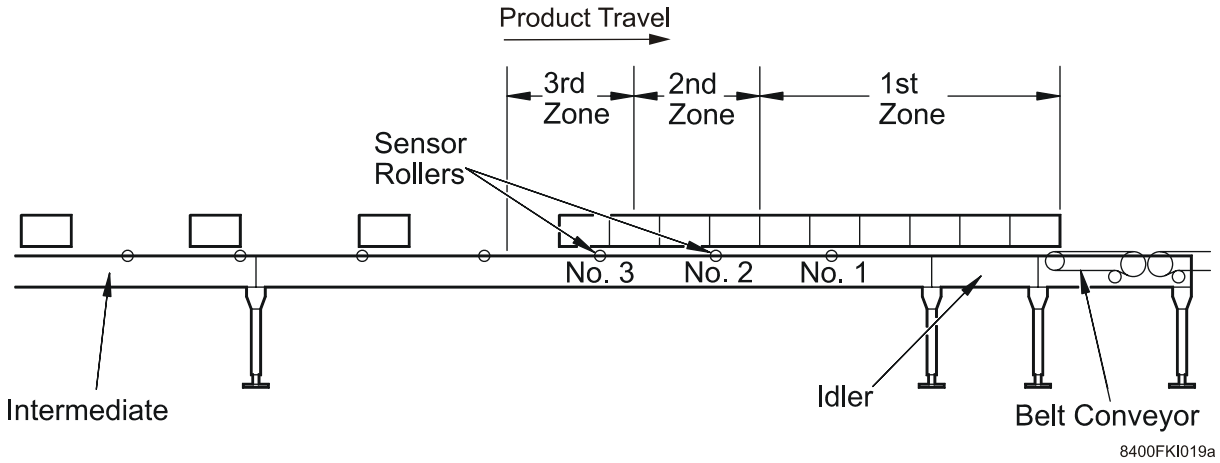


Figure B - 19 Accumulation of Product

Product Requirements

The following must be considered when engineering a material handling system to ensure satisfactory operation.

Product Weight

Table B - 7 Product Weight (Minimum/Maximum)

	AGPE	AG	
	N.A.	Single Sensor	Dual Sensor
Primary			
Product - Up to 12” lg.	0*	3 lbs.	4.5 lbs.
Product - Over 12” lg.	0*	2 lbs./ft.	4.5 lbs./ft.
Secondary			
3’-0” lg. Zone	200 lbs.**	200 lbs.**	200 lbs.**

(*) Minimum Product Weight

While there is no minimum product weight limitation, it is important to consider the following two factors.

Product Transportation

Light weight product (less than 2 lbs.) may not convey smoothly as they have a tendency to bounce around due to conveyor vibration, air currents, etc. especially at higher speeds.

Product Accumulation

Light weight product stops abruptly upon entering a non-powered operational zone if the rollers have had sufficient time to stop turning. The next, trailing product will bump the non-moving product and push it further into the non-powered zone.

(**) Maximum Product Weight

A conveyed product must not exceed the frame's rated capacity of 100 lbs. per foot. When conveying heavier product, it is necessary to account for their greater mass and increased momentum.

Product Release

Heavier products restart and accelerate at a slower rate than lighter products. This adversely affects the conveyor's "Release Rate". (See the Weight Compensation chart in Section D).

Product Accumulation

Heavy products will coast further than light loads into a non-powered zone. This may limit the conveyor's maximum speed especially when handling a mix of load weights.

Product Height - Minimum

For AGPE Intermediate Straight Sections, the minimum product height should be at least 1" to ensure that the photo-eye sensor can detect the conveyed product.

Product Height - Maximum

The maximum product height is limited by the ability of an accumulated product to remain upright when its "non-powered" operational zone returns to its "powered" state and/or transferring through an Intermediate Sawtooth Merge Section.

Product Length - Minimum

Minimum product length is determined by the roller centers of the conveyor's Intermediate Straight Sections. A product's length must be at least 3X the roller centers to insure that the product is supported by three (3) rollers at all times.

Product Length - Maximum

A product's maximum length is limited only by its ability to "restart" from the accumulation mode and its ability to be handled through the rest of the system.

Factors that can affect a product's ability to restart include: a) zone length; b) sensor position; c) operational-mode; d) zone-control type; and e) distribution of product weight.

See Table B - 8 for the maximum product length for each of the various options. The lengths shown assume that the product has flat and firm bottom surfaces.

Table B - 8 Maximum Product Length

Operation Mode	Operational Zone Length	
	3'-0"	
	Sensor Position	
	"A"	"B"
Singulation (SZC)[a,b,c,d]	48"	24"
Auto-Slug[a,b,d,c,d]	48"	24"
Dual-Zone[a,e,f]	60"	48"

(a) Sequential-Zone Control
(b) Bottom surface of product is firm and flat
(c) Content evenly distributed
(d) Powered Carrier Rollers beneath 50% of the product's length
(e) Powered Carrier Rollers beneath 100% of the product's length
(f) Product weighing 100 lbs./ft (max.)

For 3'-0" lg. zones (Singulation and Auto-Slug Operational Modes) the product length shown is based on 50% of the accumulated product's length being in driving contact with powered rollers.

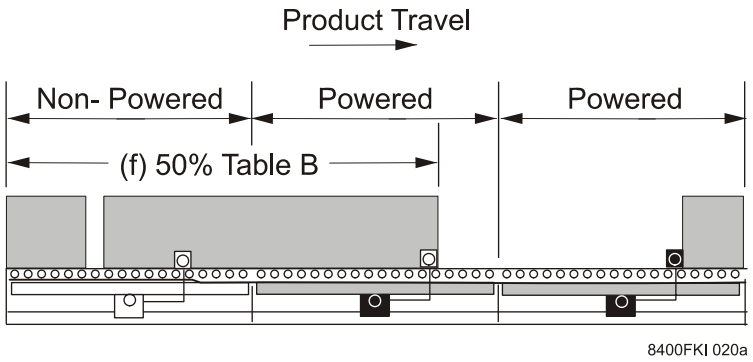


Figure B - 20 Singulation / Auto-Slug Release

For Dual-Zone Operational Mode (6'-0" lg. operational zones) the lengths shown are based on 100% of an accumulated product's length being in driving contact with powered rollers.

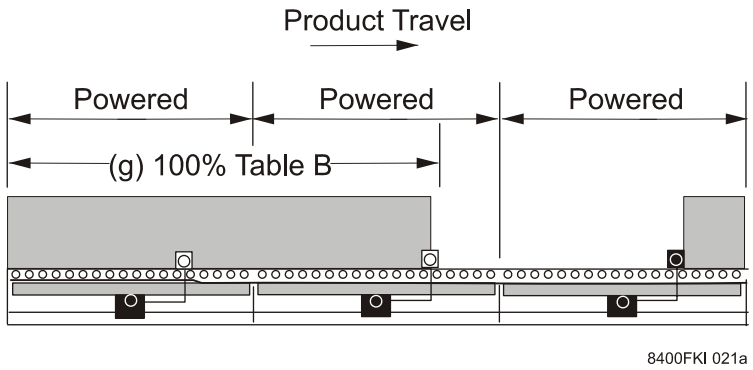


Figure B - 21 Dual Zone

Product Width - Minimum

The minimum product width should be equal to 3X the roller centers of the Intermediate Section, sufficient to allow the product to properly convey when accidentally turned sideways on the conveyor.

The maximum product width should be equal to the conveyor's width (W) less 2".

Product Width - Maximum

The maximum product width should be equal to the conveyor's width (W) less 2".

For a conveyor with an Intermediate Curve Section, the curve's width requirement (Section "D" - Curve Width Requirements) determines the conveyor's width.

Product Width(s) - Mixed

The minimum/maximum product width ratio should not exceed 3:1. (Refer to Product Alignment - this Section).

Product Surface(s)

For AGPE conveyors, the side surfaces of the product must not reflect the light beam and cause sensor error.

Product must not be transparent or have openings that would allow the photo-eye light beam to pass through and cause sensor error.

Product Structure/Integrity

Products must be able to withstand the momentary impact that may occur when a trailing product coasts into an occupied accumulation zone.

Products transferring onto the main-line via an Intermediate Sawtooth Merge Section must be able to absorb side impact when contacting the merge-section's wheel-face side-guide.

Product Alignment

Positioning product to one side of the conveyor is recommended for maintaining product orientation and reducing the chance of narrow product conveying side by side.

Skewed Carrier Rollers

Carrier Rollers in Intermediate Straight Sections may be "skewed" (one end of a Carrier Roller's axle advanced ahead of the other end) to move a conveyed product to the opposite side of the conveyor.

Refer to Section D - Engineering Data for information.

Application Considerations

The following must be considered when engineering a material handling system to ensure satisfactory operation.

Conveyor Length

An Accuglide Conveyor is available in 1" incremental lengths from a 12'-0” minimum* length to a maximum length that is limited by the drive/power unit's capability.

(*) The 12'-0" "minimum" length is based on using: a) an Infeed Drive Section (6'-0" lg.); b) a single-zone Intermediate Straight Section (3'-0" lg.); and c) a Discharge Idler Section (3'-0" lg.).

Multiple Inline Conveyors

When a conveyor-line length requirement exceeds the capability of a single conveyor, two (2) or more Accuglide conveyors will need to be supplied end-to-end that function as a single conveyor.

Flow-Rate

Flow-Rate is the amount of product that a conveyor will transport and is measured in "case-feet-per-minute" (CFPM).

An Accuglide Conveyor must have sufficient Flow Rate to: 1) match or exceed the upstream conveyor's flow-rate; and 2) release sufficient product to meet the downstream conveyor's product flow-rate requirement. Both requirements must be identified.

Selection of the conveyor's operational-mode and speed is based on its flow-rate requirement.

Refer to Section D - Engineering Data for further Flow Rate information.

Environmental Conditions

The Accuglide Plus conveyor is suited for:

- Operation in temperatures between 40° to 140°F.
- Installation in soft drink plants, breweries, etc.
    - If infrequent product spillage is possible, the sensor valves must shielded. Sensor valve shields are not a standard part; a special drawing is required.

Do not install the conveyor in:

- Wash down areas.
- Excessive spillage areas. Spillage often occurs downstream of case packers.
- Excessively dirty and corrosive environments.
- Oily product areas. Oily products can cause slippage between the driver pad and the carrier rollers.

Accumulation Density

Accumulation density is a measure of a conveyor's accumulation efficiency (carton-feet of accumulated product per length of a conveyor's accumulation capacity).

The extent that advancing product will accumulate in a non-powered accumulation zone is dependent on: 1) the products' weight, length, bottom surface condition; and 2) the conveyor's width, sensor position, pitch, Carrier Roller(s), and speed.

Refer to Table B-9 for further information.

Table B - 9 Minimum Conveyor Speeds for 100% Accumulation Density

Product Weight	Roller Bearings**	Conveyor Speed - fpm							
		Product Length / Sensor Position							
		9”-14”		14”-21”		21”-24”		27”-48”	
		A	B	A	B	A	B	A	B
5 lbs.	GH	*	200	*	200	*	180	*	*
	ABEC	*	200	*	200	*	200	*	*
10 lbs.	GH	140	180	240	180	140	140	140	*
	ABEC	*	180	*	180	*	200	*	*
15 lbs.	GH	140	120	140	120	120	120	140	*
	ABEC	180	140	180	140	200	180	200	*
25 lbs.	GH	140	120	140	120	120	120	140	*
	ABEC	140	120	140	120	180	140	200	*
35 lbs.	GH	140	120	140	120	120	120	140	*
	ABEC	140	120	140	120	140	120	140	*
50 lbs.	GH	120	120	120	120	120	120	140	*
	ABEC	140	120	140	120	140	120	140	*

*Not recommended.
** New greased-packed bearings.

The conveyor speeds in Table B - 9 are based on the conveyor being fed product at a rate of five (5) cases per minute. This is considered a worst case condition as it allows the Carrier Rollers in the non-powered accumulation to come to rest when the previous product actuates the sensor.

If product is fed at a higher rate, or indexed forward (in singulation mode) then 100% accumulation density is often obtained at the next lower speed (down to a minimum speed of 90 fpm).

Conveyor Speeds

It is recommended that the transportation, accumulation, and release of product be limited to speeds of 240 fpm or less.

If a higher speed is required, the application should be reviewed and the product tested at the desired speed to determine whether it is able to be satisfactorily handled.

To minimize noise and energy usage, select the lowest conveyor speed that will provide the required flow rate and/or accumulation density.

Refer to Section D - Engineering Data for further Conveyor Speed information.

Conveyor Pitch

An Accuglide Conveyor should not be inclined (pitched upwards).

While normally used for horizontal operation, the conveyor may be declined (pitched downwards) to suit an application's requirements.

Because product accumulated on a pitched conveyor tends to gravitate, line-pressure at the conveyor's discharge end will result. The amount of line-pressure will depend on the amount of pitch (a 2" decline in 12'-0" works well; 5" in 12'-0" is the maximum recommended).

The line-pressure causes the accumulated product to discharge en masse making it difficult to control the release.

Accumulation Control - End of Conveyor

Initiating "product-accumulation" in the conveyor's first Discharge-Zone (6'-0") 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.

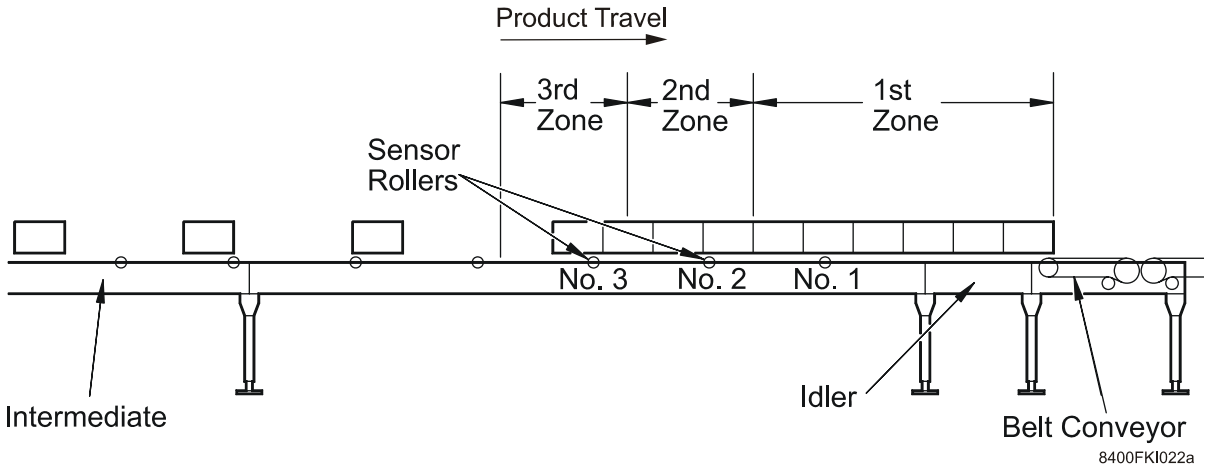


Figure B - 22 Brake/Meter-type Belt Conveyor controls product accumulation and release

Brake-Modules and Case-Stops 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.

A Case-Stop, located in the first Operational-Zone upstream of the Discharge Idler Section, raises to provide a positive barrier that blocks the product from forward movement. It requires a separate air supply (30 psi) and a remote signal to actuate its 4-way solenoid-type control

valve. The Case-Stop is a positive-type holding device. Refer to Section F - Accessories for further information.

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.

Both Case-Stops and Brake-Modules are used for such applications.

Refer to Section F - Accessories for further information

Accumulation Control - Curves

Accumulation-type Intermediate Curve Sections have at least one (1) operational-zone with a photo-eye sensor that stops and accumulates product in the curve when: 1) product downstream of curve accumulates in operational-zone "DZ1" (blocking sensor DS1); and 2) the lead product in the curve blocks sensor “CS1”.

When product stops and accumulates in the Intermediate Curve Section, upstream operational-zone "UZ1" becomes non-powered and accumulates the next product that enters the zone.

Succeeding products advance towards the curve and then accumulate upon reaching a non-powered operational-zone. Forward travel resumes when product is released from downstream zones.

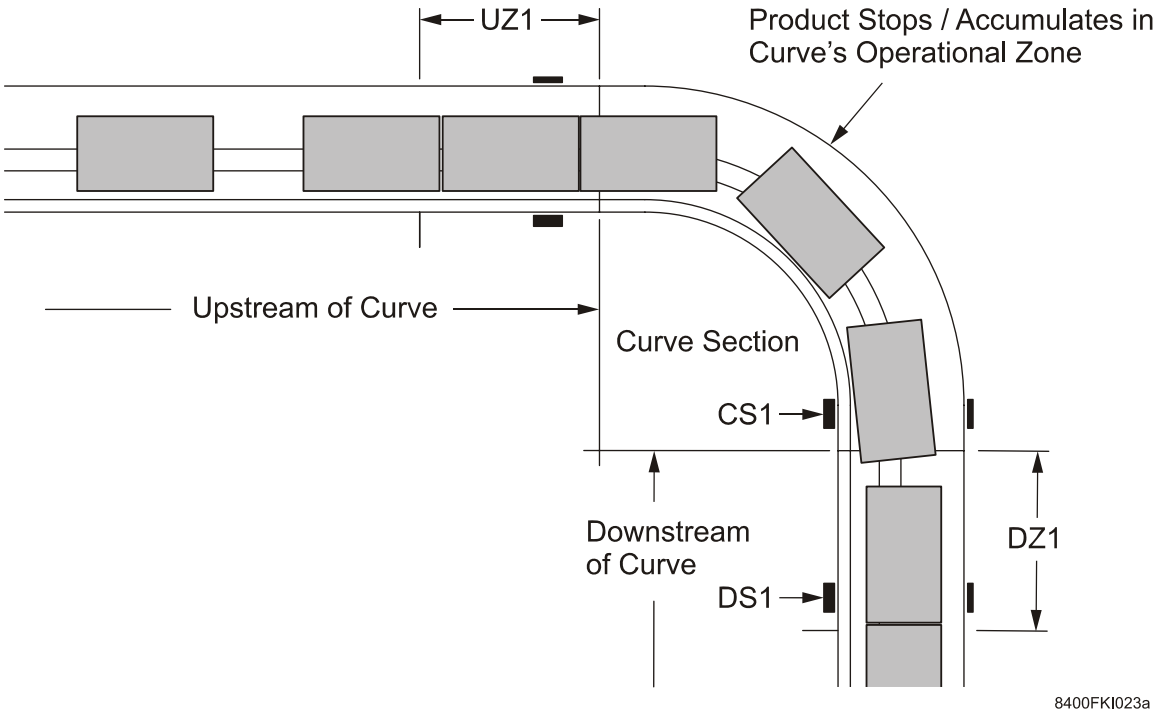


Figure B - 23 90^{o} Intermediate Curve Section - with single 90^{o} Operational Zone)

Transportation-type Intermediate Curve Sections have continuously-powered Carrier Rollers. A Case Stop or Brake Module 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' downstream of curve to allow product to clear the curve and accumulate. (See Accumulation Control - End of Conveyor.)

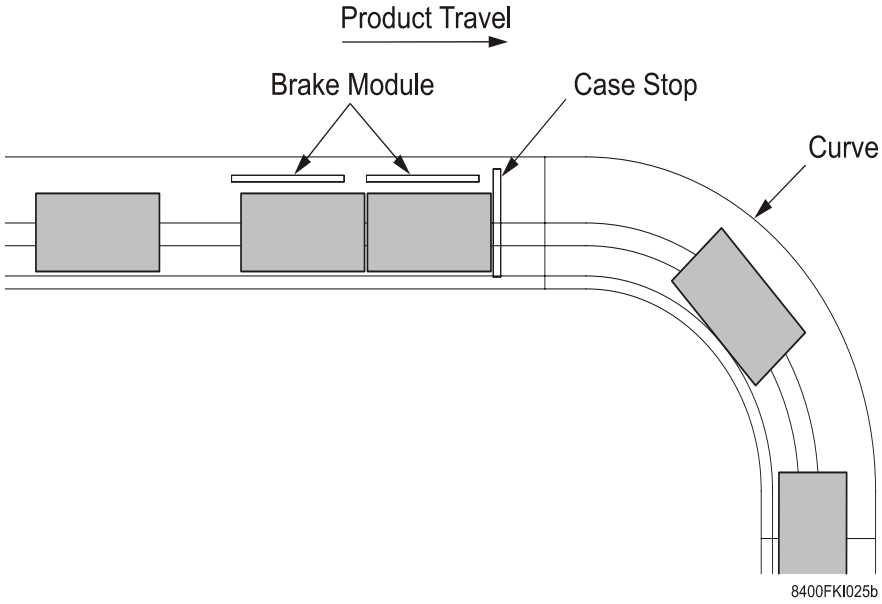


Figure B - 24 Case Stop (or Brake Module) located ahead of curve)

Accumulation Control - Merges

Intermediate Merge Sections are transportation-type with continuously-powered Carrier Rollers. When product is fed from a spur-line conveyor onto a main-line conveyor, the product on the main-line conveyor must be positively stopped by a Case Stop located in operational zone UZ1.

When the Case-Stop is raised, operational-zone UZ1 becomes non-powered and accumulates product without line-pressure build-up.

The spur-line conveyor must have its own capability of controlling the release of product onto the merge.

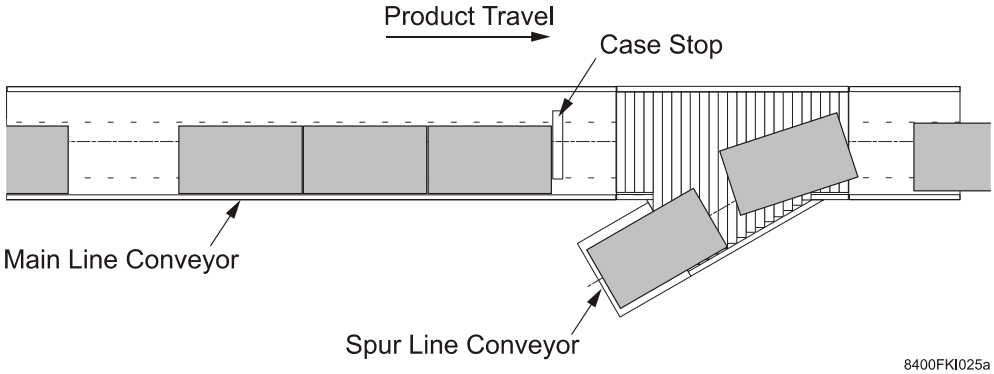


Figure B - 25 Case Stop located ahead of an Intermediate Merge Section

Product Release Control

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.

AGPE 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).

AG Intermediate Sections are factory-piped to function in any one of the three (3) standard operational-modes (Singulation, Auto-Slug, or Slug).

Depending on the conveyor’s type (AGPE or AG), and release mode requirement, refer to Section G for equipment requirements and installation information.

Air Supply / Quality

Clean and dry air must be provided for reliable operation of the conveyor's pneumatic controls. The air system must contain suitable driers to produce a pressure dew point temperature that is approximately 10^{o}F below the lowest ambient temperature to which the air lines will be exposed.

Remove compressor "carry-over" oil by filtration with a 5 micron pre-filter and coalescing filter, see Figure B - 26.

The accumulation controls Intermediate Straight Sections operate at 12 psi. Refer to Section D - Engineering for air-consumption information.

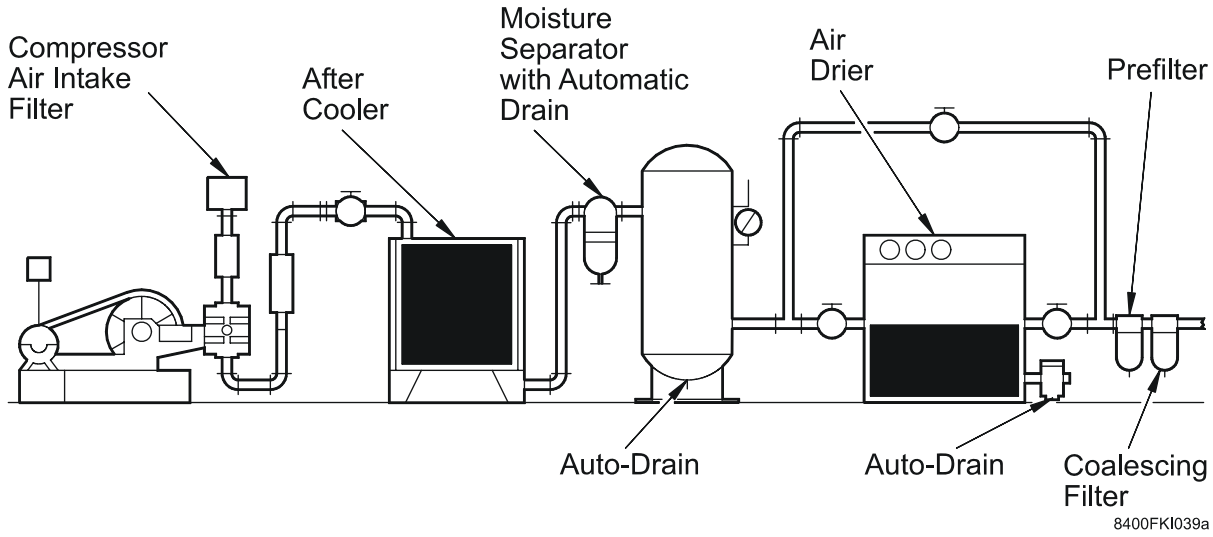


Figure B - 26 Typical Air Treatment for Compressed Systems

Pneumatic / Air Supply Components

Accuglide Conveyor Intermediate Straight Sections are shipped with all components pre-piped and all air-lines included. At installation, they are coupled by making a few simple hose connections.

Depending on a conveyor's speed and length, one or more air drops will be required. (Refer to Section D for engineering information and Section G for installation information.

SECTION C:SPECIFICATIONS

Drive Section

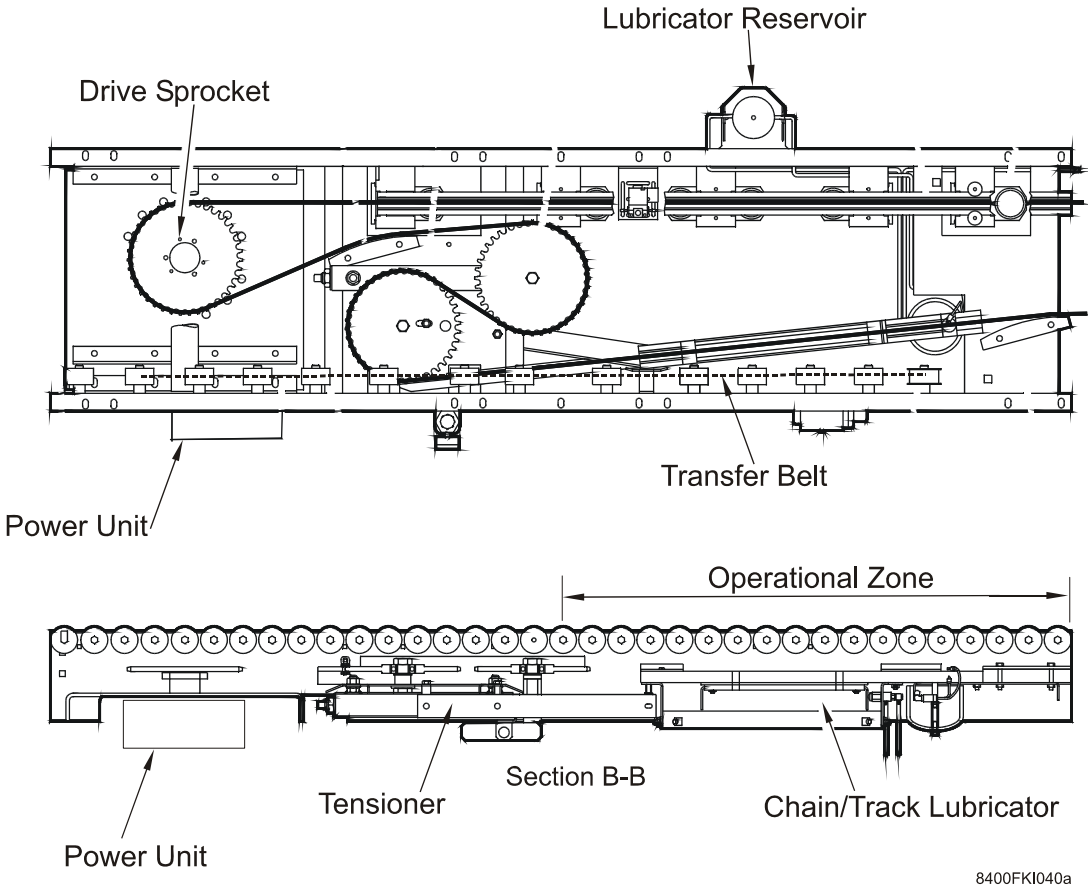


Figure C - 1 Accuglide Drive Section (Left-Hand Assembly Shown)

Drive Frame

6'-0" lg. X 6-3/8" (RSH) / 9" (RSL) deep X 1-1/4" flange X 10 ga. formed rails; axle mounting holes for fixed mounting of 1.9" dia. Carrier Rollers at 2" centers; bolted crossmembers. Right-Hand and Left-Hand assembly. Power Unit Mounting Frame has vertical adjustment of drive sprocket. Extruded UHMW chain track.

Power Unit

Motor (Baldor or Reliance) - 3/4 - 5 HP, C-face, 1725 rpm, Totally-Enclosed, Fan-Cooled, 208-230/460 VAC, 3PH, 60HZ or 575 VAC, 3PH, 60HZ (premium-efficiency motors available).

Reducer (Grove-Gold or Dodge Tigear2); - Right-angle, C-face, ventless, for standard fixed speeds from 60-240 fpm; 1.0 safety factor.

Direct Chain Drive - RC50 sprocket (39 tooth, hardened) mounted via locking-type bushing to the reducer's vertical output shaft.

Chain Tensioner / Take-Up

Spring-loaded, telescoping tensioner maintains chain tension and compensates for wear; manual adjustment; 6" take-up travel; proximity switch (24VDC or 110VAC - specify) detects when tensioner/chain requires attention.

Air-type available - See Section F - Accessories for information.

Capacity

650# Effective Pull max.

Chain Track Oiler

Magnetic-type, sprays an oil mist (10W, non-detergent) to reduce friction between chain's side plate and the supporting UHMW track.

Magnets create a constant contact pressure between the drive chain and the oiler's chain support track section. When the sliding-friction between the two (2) components exceeds a pre-set amount, the spring-loaded, sliding track advances with the moving chain and actuates a 3-way, normally-closed air valve. The released air picks up lubricant from the reservoir and sprays an oil mist onto the bottom surface of the chain. The chain transfers the lubricant onto the track. The unit will lubricate the chain / track until the sliding friction is reduced to an acceptable level.

Solenoid-types available - See Section F - Accessories.

Oiler Reservoir

The standard reservoir holds 1 pint of SAE 10W non-detergent motor oil.

The oil reservoir assembly consists of:

- Unimist S011094A-1-X
- 1/8" MPT Pipe nipple x 2"lg
- Valve Weatherhead #6804
- Barb 1/8" ID tube x 1/8" MPT
- Tube 1/8" OD x .073" ID x 5'lg
- 1/2"-20 UNF 2A knurled filled plug
- Float Switch available - See Section F - Accessories
- One (1) liter bowl with Float Switch available - See Section F - Accessories

Operational Zone

One (1) 6'-0" lg. zone; the zone's powered / non-powered state controlled by zone control components (pneumatic valve and sensor) located in first operational zone of the adjoining downstream section.

Carrier Rollers - Mounting

GH* - Straight (No.G196GH) 1.9" O.D. X 16 ga. (galv.), Commercial bearings.

A1* - Straight (No.G196AB) 1.9" O.D. X 16. ga. (galv.) ABEC bearings.

C1 - Straight (No.G196CB) 1.9" O.D. X 16 ga. (galv.) ABEC Cartridge bearings.

(*) Available for Cold Room applications (zinc-plated axle).

Factory-installed into section at 2" roller centers; Fixed-type mounting ONLY.

Accessory / Options

- Optional Air-Tensioner / Take-up (See Section F - Accessories / Options)
- Optional Solenoid-type Oiler (See Section F - Accessories / Options)
- Drip Pan (See Section F - Accessories / Options)

Idler Section

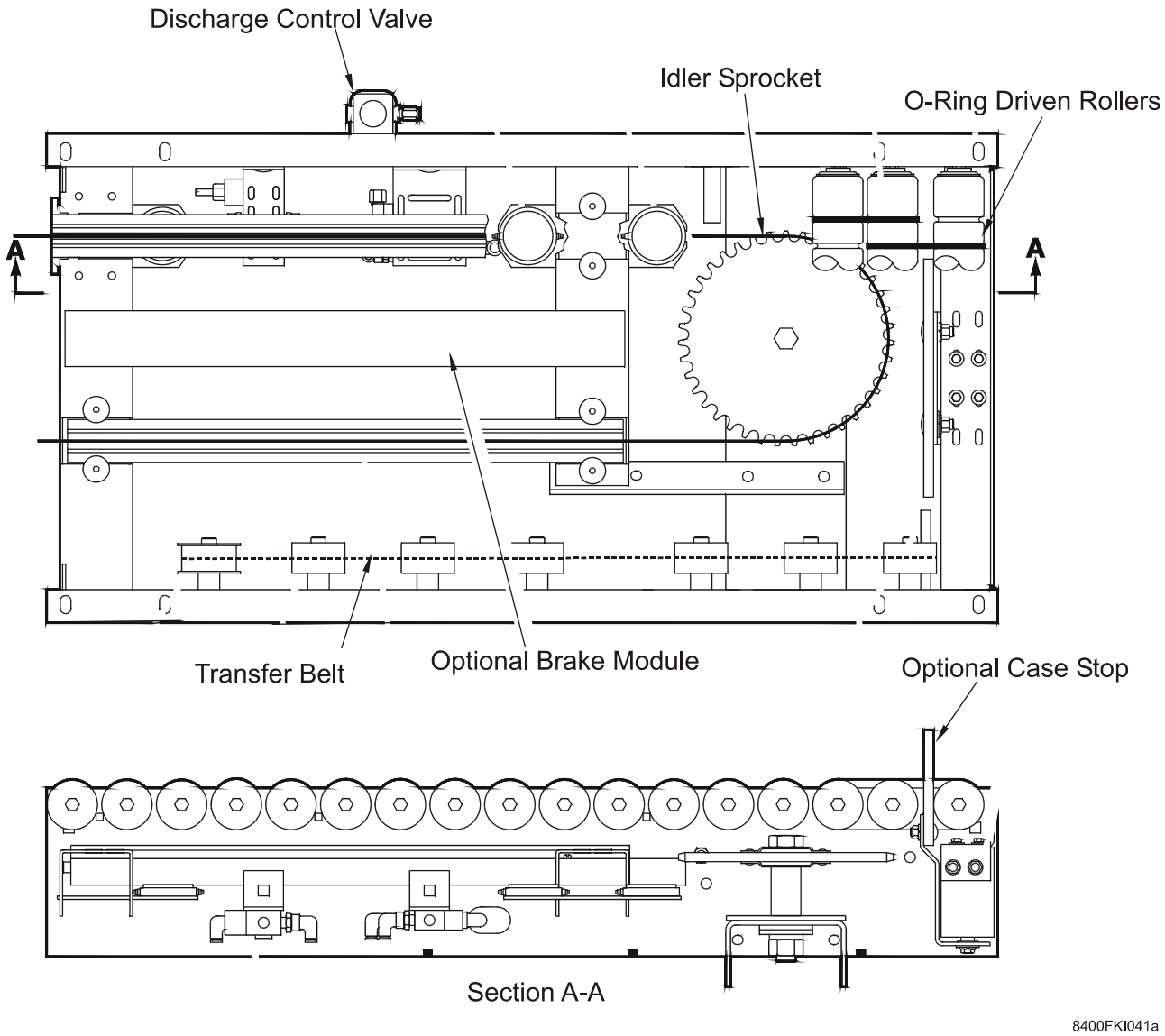


Figure C - 2 Accuglide Idler Section (LH Assembly Shown)

Frame / Carrier Rollers

3'-0" long X 6-3/8" (RSH) / 9" (RSL) deep X 1-1/4" X 10 ga. formed steel rails; mounting holes for 7/16" hex axles punched at 2" centers; bolted cross members. Right-Hand and Left-Hand assembly. Carrier Rollers at 2” centers, bolted crossmembers.

Carrier Rollers - Mounting

GH* - Straight (No.G196GH) 1.9" O.D. X 16 ga. (galv.), Commercial bearings.

A1* - Straight (No.G196AB) 1.9" O.D. X 16. ga. (galv.) ABEC bearings.

C1 - Straight (No.G196CB) 1.9" O.D. X 16 ga. (galv.) ABEC Cartridge bearings.

(*) Available for Cold Room applications (zinc-plated axle).

Factory-installed into section at 2" roller centers; Fixed-type mounting ONLY.

Idler Sprocket

RC50, 39 tooth (hardened) with precision, greased-packed bearing mounted on fixed 1-1/8" dia. shaft.

Operational Zone

One (1) 3'-0" lg. operational zone is connected (pneumatically piped in series) to the first upstream zone in the adjoining Intermediate Section to create a 6'-0" lg. discharge zone. Rollers in first 12" driven by transfer belt and O-rings.

Operational / Release Control

3-way, normally-closed Solenoid Valve (24VDC or 120VAC - specify), controls the powered / non-powered state of the Idler Section's operational zone and the first operational zone in the adjoining intermediate section.

Accessory / Options

- Drop in Brake Module (See Section F Accessories / Options)
- Package Stop (See Section F Accessories / Options)

AG Accuglide - Intermediate (Straight) Section - 3'-0" Operational Zones with Standard Sensor Roller

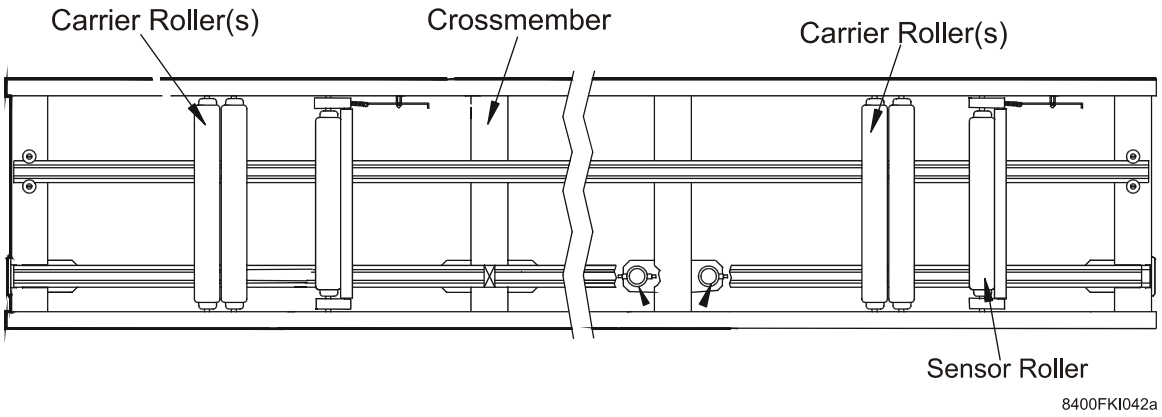


Figure C - 3 AG Accuglide Intermediate Section

Length

12'-0", 9'-0", 6'-0" and 3'-0" (multiples of 3'-0" zone length).

Frame

6-3/8" (RSH) deep X 1-1/4" X 10 ga. formed steel rails; mounting holes for 7/16" hex axles at 1" centers to provide 2", 3", 4" or 6" roller centers; bolted cross members. Capacity - 100 lbs. per foot. Continuous, fixed height chain/pad return support track for full length of section; Right-Hand and Left-Hand assembly.

Operational Zones / Control

3'-0" lg. chain support assemblies (UHMW track) and two (2) pneumatic actuators (mounted in crossmembers) hold the drive chain/pad in raised (powered) or lowered (non-powered) positions. Each zone is controlled by the pivoting Sensor Roller (single or dual type) and air valve components located in the next forward downstream zone.

Operational Modes

Primary Operational Mode(s) - Intermediate Sections are available with specific factory-piped logic for Singulation, Auto-Slug, or Slug operational mode.

Carrier Rollers / Mounting

GH* - Straight (No.G196GH) 1.9" O.D. X 16 ga. (galv.), Commercial bearings.

G1* - Straight (No.G196AB) 1.9" O.D. X 16. ga. (galv.) ABEC bearings.

C1 - Straight (No.G196CB) 1.9" O.D. X 16 ga. (galv.) ABEC Cartridge bearings.

(*) Available for Cold Room applications (zinc-plated axle).

Fixed-type and Pop-Out type mounting (specify).

Ordered and shipped separate for field installation.

AGPE Accuglide - Intermediate (Straight) Section - 3'-0" Operational Zones with Photo-Eye Sensors

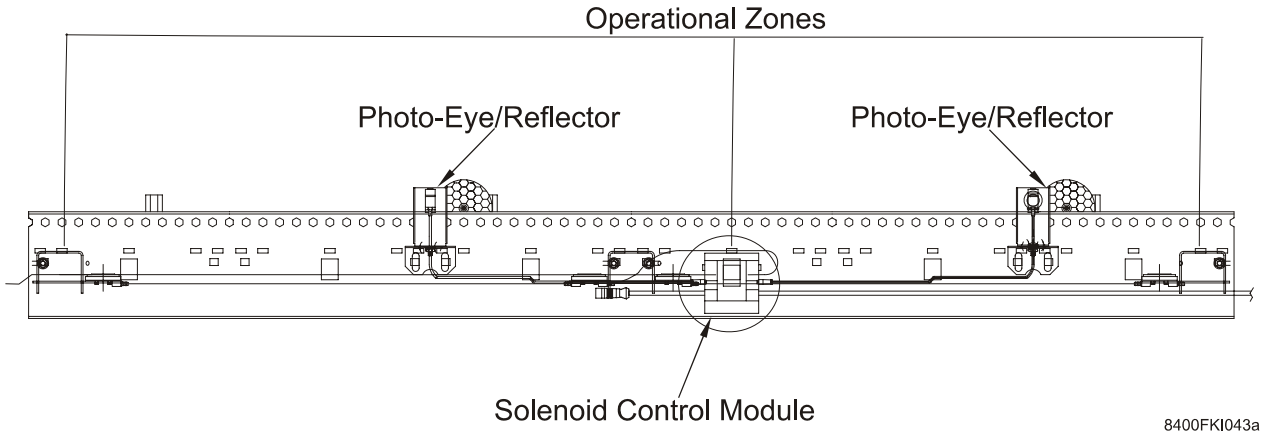


Figure C - 4 AGPE Intermediate Section (6'-0" lg. Operational Zone, RSH, Shown)

Length

12'-0", 9'-0", 6'-0" or 3'-0" (multiples of zone length).

Frame

6-3/8" (RSH) / 9" (RSL) deep X 1-1/4" X 10 ga. formed steel rails; mounting holes for 7/16" hex axles at 1" centers to provide 2", 3", 4" or 6" Carrier Roller centers; bolted cross members. Capacity - 100 lbs. per foot. Continuous, fixed height return chain/pad support track for full length of section; Right-Hand and Left-Hand assembly. Type RSH frames shipped with spacers that provide a 1" gap between the 6-3/8" deep frame rail and the Side Guide.

Operational Zones

Segmented chain support assemblies (UHMW track); and pneumatic actuators (mounted in crossmembers) hold the drive chain/pad in raised (powered) or lowered (non-powered) positions.

Sequential (Trailing) Zone Control

(Standard) Each Operational Zone is controlled by its associated Solenoid Control Module and photo-eye sensor that is located in the next forward downstream zone.

Solenoid Control Module

Two (2) 3-way, normally-closed solenoid-valves (65mAmp @ 24VDC) with selectable logic to control accumulation and release functions. One (1) SCM controls two (2) Operational Zones.

Photo-Eye/Reflector Sensor Assembly

24VDC (less than 25mA) retro-reflective photo-eye (NPN) with 18" lg. cord (nominal) and 4-pin Pico QD connector; factory-mounted in Positions "A" or "B" (as selected) on same side of frame as drive chain/pad. Available with adjustable time-delay (up to 3 seconds).

3" dia. reflector mounted on opposite side of frame with either 2" or 6" "offset" (specify). Available with adjustable time-delay (up to 3 seconds).

Operational Modes

Primary Operational Mode - All zones are factory-set to operate in the "singulation" mode. Each zone can be changed to either Dual-Zone, or Auto-Slug modes if desired.

Secondary Operational Mode - All operational zones will operate in the "slug" mode when an external release signal (24VDC or 110VAC) is supplied through the Power Supply or Slug-Module.

Carrier Rollers

GH* - Straight (No.G196GH) 1.9" O.D. X 16 ga. (galv.), Commercial bearings.

A1* - Straight (No.G196AB) 1.9" O.D. X 16 ga. (galv.) ABEC bearings.

C1 - Straight (No.G196CB) 1.9" O.D. X 16 ga. (galv.) ABEC Cartridge bearings.

(*) Available for Cold Room applications (zinc-plated axle).

Ordered and shipped separate for field installation.

Carrier Roller - Mounting

Fixed-type or Pop-out type (mounting clip inserts are factory-installed into roller axle mounting holes at specified centers).

Accuglide - Intermediate Curve Section
AG / AGPE Transportation-Type and AGPE Accumulation-Type

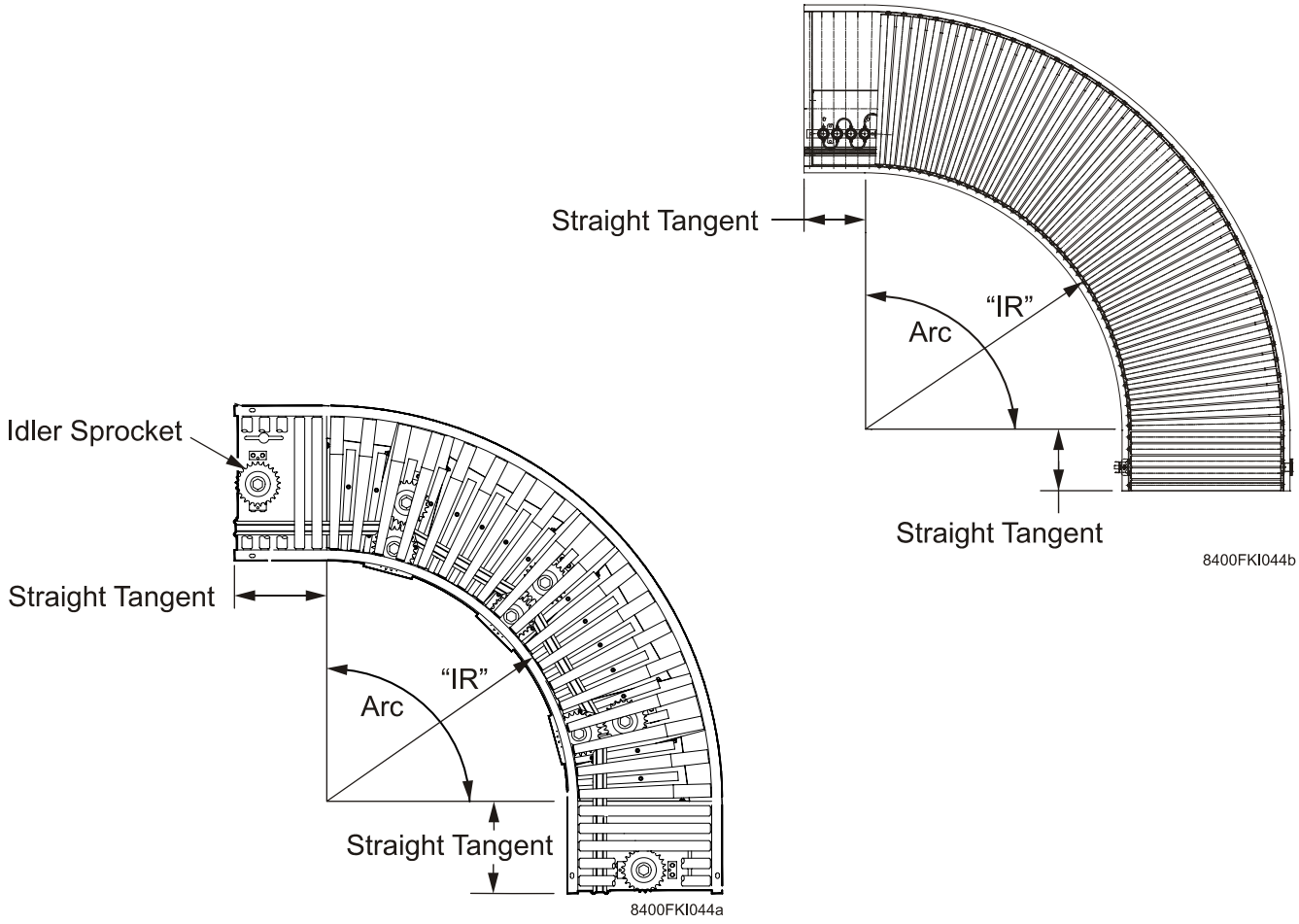


Figure C - 5 Intermeidate Curve Sections (transportation-type - left, accumulation-type - right)

Width "W" (BF)

Transportation-type: 16", 22", 28", 34" and 40".

Accumulation-type: 16", 22", 28" and 34".

Arcs

Transportation-type: 30^{o}, 45^{o}, 60^{o}, 90^{o} and 180^{o}.

Accumulation-type: 90^{o} and 180^{o}.

Frame Type

Type 26IR: Constant 2'-6" radius (IR) to face of curve's inner frame rail - all widths.

Type TTF: Variable radius (IR) to face of curve's inner frame rail.

16"W = 2'-6" IR, 22"W = 3'-4" IR, 28"W = 4'-0" IR, 34" & 40"W = 5'-0" IR

Frame

6-3/8" X 1-1/4" X 10 ga. formed steel rails; bolted cross members. 7/16" hex axle holes punched for rollers set high (RSH); chain support structure (UHMW tracks and RC50 idler sprockets) mounted at fixed height; 11" lg. straight tangent at infeed and discharge ends. 9" deep rails available for rollers set low (RSL).

Transportation-Type: 6-3/8" deep rails only; Type 26IR and TTF frames (all widths). "Close" (2" nom.) or "standard" (2-5/8" nom.) roller centers at the inner curve rail.

Accumulation-Type: 6-3/8" or 9" deep; Type 26IR frame (16", 22", and 28" W); or Type TTF frame (16", 22", 28" and 34"W); "close" (2" nom.) roller centers at inner rail; air-actuators control segmented friction-type brakes.

Operational-Zones - Accumulation-Type

90° Operational Zones are standard for 90^{o} and 180^{o} curves.

Functionally-controlled by: 1) photo-eye sensor; 2) Solenoid Control Module; 3) normally-open, 3-way valve (30 psi); 4) pneumatic actuators; and 5) segmented brake. The photo eye sensor and SCM are mounted on the curve's outer frame rail.

Each operational-zone features "local-zone" control. Its "powered / non-powered" state is controlled by: 1) the photo-eye sensor located within the "local" zone; and 2) the photo-eye sensor located in the next forward downstream operational zone.

The pneumatic actuators (30 psi) lift friction-type brake(s) and Carrier Rollers out of driving contact with the drive chain/pad.

Operational Modes

Primary Operational Mode - "singulation" or "auto-slug" mode (field-set).

Secondary Operational Mode - "slug" mode when an external release signal (24VDC or 110VAC) is supplied through the Power Supply or Slug-Module.

Air Supply - Accumulation-Type

30 psi for air-actuated brake.

Air Control Component Field Kits - Accumulation-Type

Separate Field Kits are shipped with curve that include:

- Filter/Regulator/Gage included (field-mounted)
- Photo-eye Sensor / Reflector Assembly(s) (field-mounted)
- Power/Communication Cord Extensions

Carrier Rollers

L7E - Tapered (No.G251AB) 2.5"/1.63" O.D. rollers w/ABEC bearings (curve).

A1 - Straight (No.G196A1) 1.9" O.D. rollers w/ABEC bearings (tangents).

Available for Cold Room applications (zinc-plated axle).

Factory-installed into the section.

Carrier Roller - Mounting

Fixed-type Mounting ONLY.

Accuglide Intermediate Merge (Sawtooth) Section

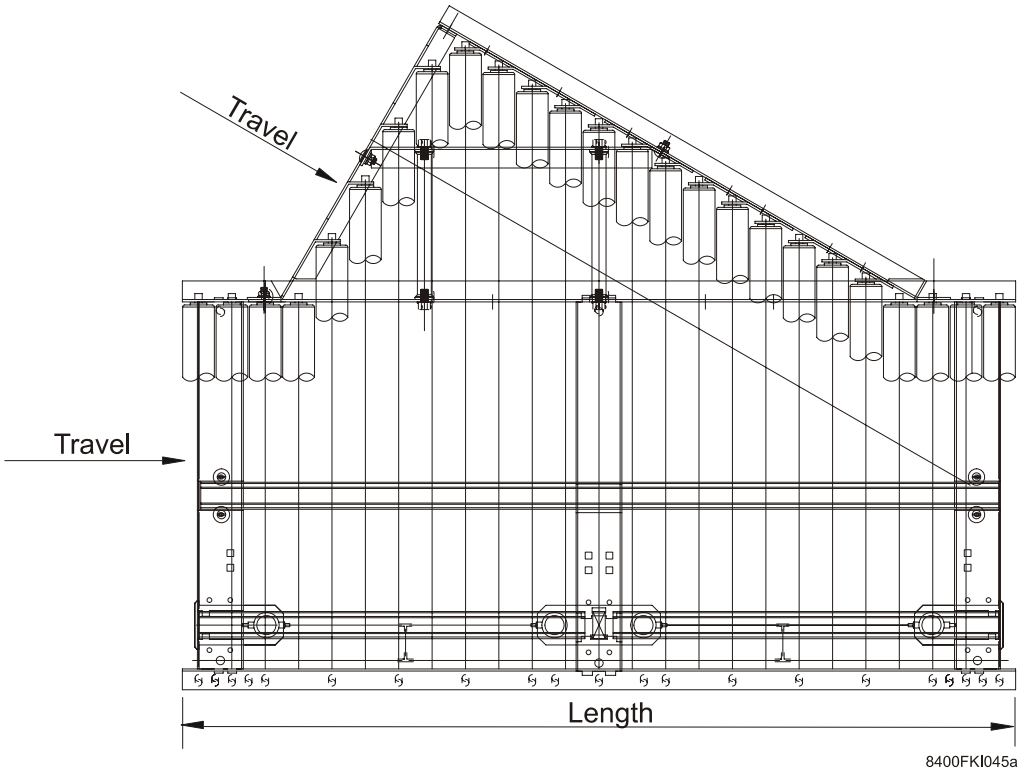


Figure C - 6 Accuglide Intermediate (Sawtooth) Merge (RH assembly / LH Merge) shown

Width "W" (Main Line / Spur Line)

22"/16", 28"/22", 34"/28" & 40"/34"

Length

Varies based on Width (Refer to Section E - Layout Dimensions)

Frame

6-3/8" (RSH) deep X 1-1/4" X 10 ga. Formed steel rails; mounting holes for 7/16" hex axles to provide for fixed-type mounting of Carrier Rollers at 2" centers; bolted cross members. Right-Hand and Left-Hand assembly, Right-Hand and Left-Hand merge.

Side-Guide - Wheel Faced

Standard frame features either a Type "WFB" (2-5/8" deep) or Type "WFD" (10" deep) Wheel-Faced Side Guide rail. The rail is factory-assembled to the common merge/main-line frame rail with 1/2" lg. spacers between the rails.

Air Supply

Dedicated 30psi air-supply (Filter/Regulator)

Carrier Rollers

No.G196A1 (ABEC) ONLY

Carrier Roller - Mounting

Fixed-type Mounting ONLY

AGPE Solenoid Control Module

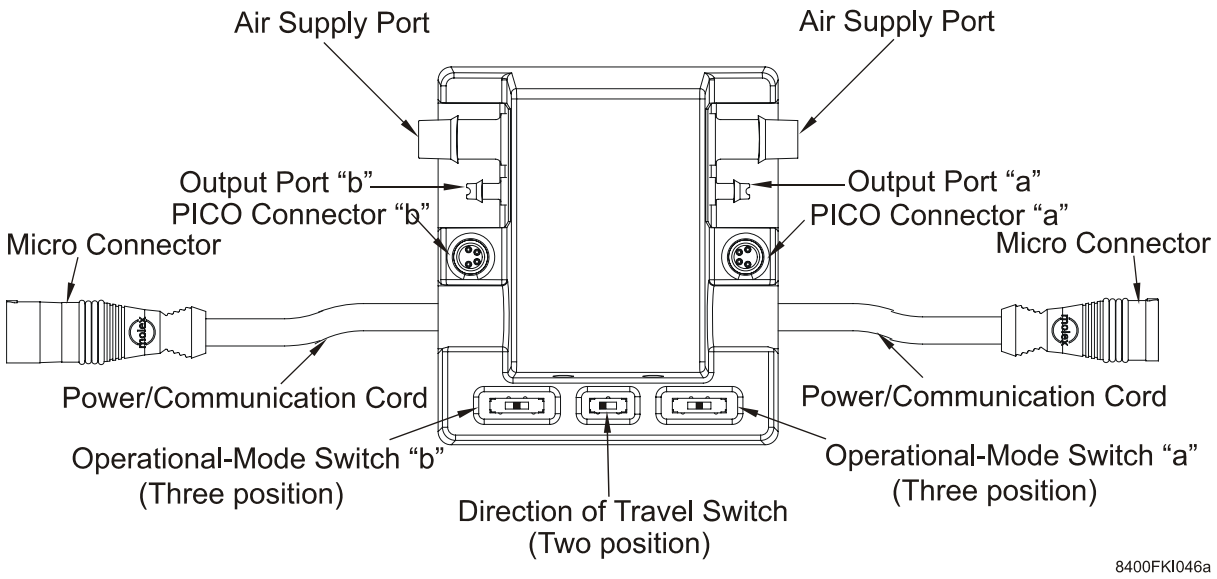


Figure C - 7 AGPE Solenoid Control Module

Solenoid Control Modules (SCM) control the powered and non-powered state of two (2) inline operational zones.

Body

Molded-urethane body encapsulates the valve and electronic components. Snap-mounts into frame side rail; molded "output" barb fittings for 5/32" I.D. tubing; molded air-supply barb fittings for 3/8" I.D. tubing.

Valve(s)

(2) 3-way, normally-closed solenoid-type (poppet); air-flow rate @ 30 psi = 0.55 SCFM.

Power/Communication Cord / Connectors

Four (4) wire with Yellow PVC jacket. 12mm push-to-connect type Micro Connector for connecting to adjoining (upstream/downstream) SCMs.

Voltage

24 VDC

LED Indicators

Two (2) bi-color LED indicators (one per valve) visible from side of conveyor; "yellow" LED indicates that the SCM is receiving power; "green" LED indicates that the solenoid-valve is actuated.

Connector(s)

4-pin, 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.

Temperature Range

32^{O} to +131^{O}F

Direction of Travel

2-position switch allows for common RH/LH assembly.

Operational Mode(s)

3-position switch selects the operational-mode (Singulation, Dual-Zone, or Auto-Slug) of the next "upstream" valve and its associated "upstream" operational-zone.

AGPE Photo-Eye Sensor / Reflector

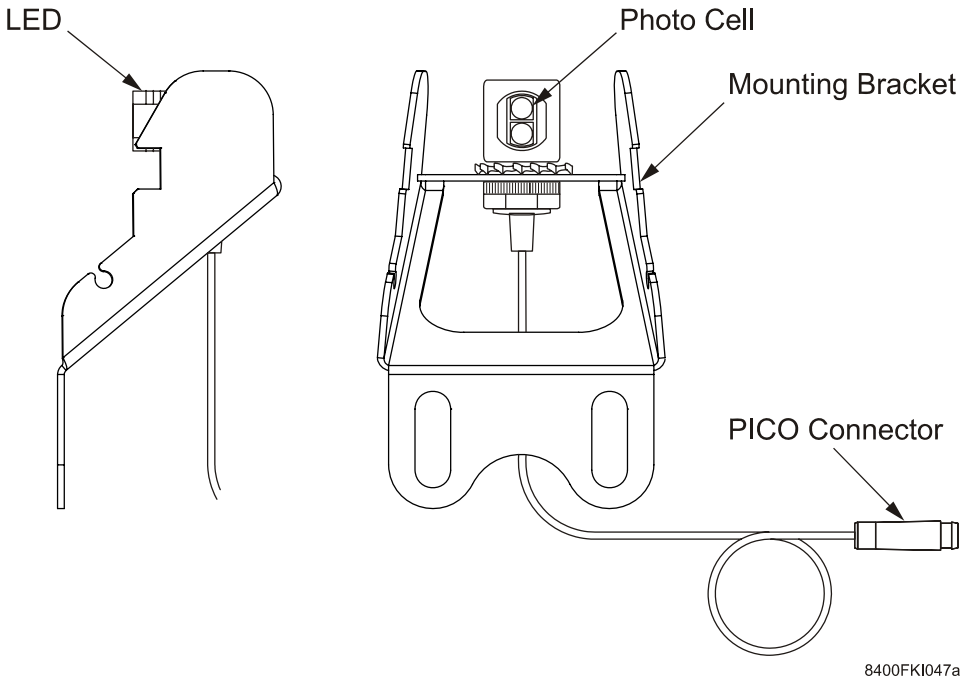


Figure C - 8 AGPE Standard Photo-Eye assembly (LED's visible from above)

Photo-Eye

24VDC, retro-reflective type; NPN output.

Cord / Connector

Four (4) wire with male PICO QD connector ; connects to the Solenoid Control Module's female connector.

Length

25" (nominal)

Voltage Range

10-30 VDC

Sensing Range

12'-0"

Temperature Range

-4^{o} to $+158^{o}$F

LED Indicators

Red LED "ON" indicates photo-eye unblocked.

Green LED "ON" indicates proper eye/reflector alignment.

Mounting / Assembly

Barrel-mounted to adjustable, formed steel bracket.

Standard Assembly: LED's visible from "above".

Optional Assembly: PE inverted- LED's visible from below. The illustration below shows the photo-eye clip.

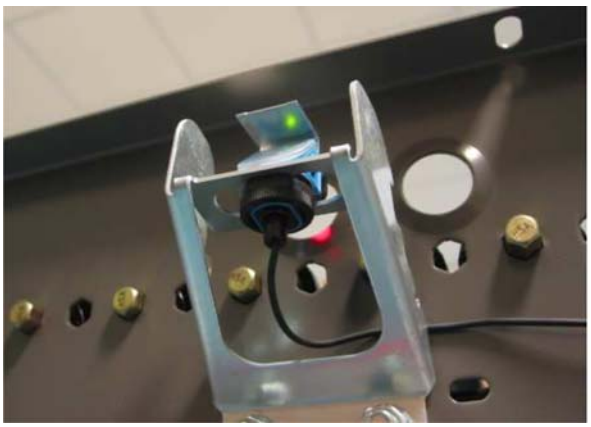


Figure C - 9 Photo-Eye Clip

Time-Delay

Optional, up to 3 seconds delay-off (PET designation).

Reflector

3" dia., bolted to fixed, formed offset* bracket.

(*) Offset "A" = 3/4" for 9" / RSL rail; 1-1/2" for 6-3/8" / RSH rail.

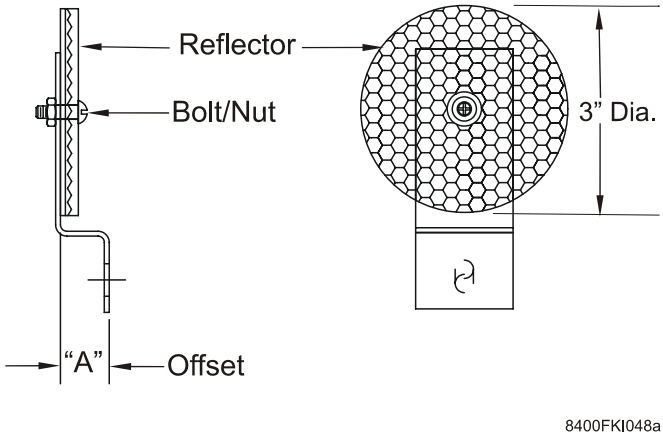


Figure C - 10 AGPE Reflector

AGPE Power Supply / Slug-Module

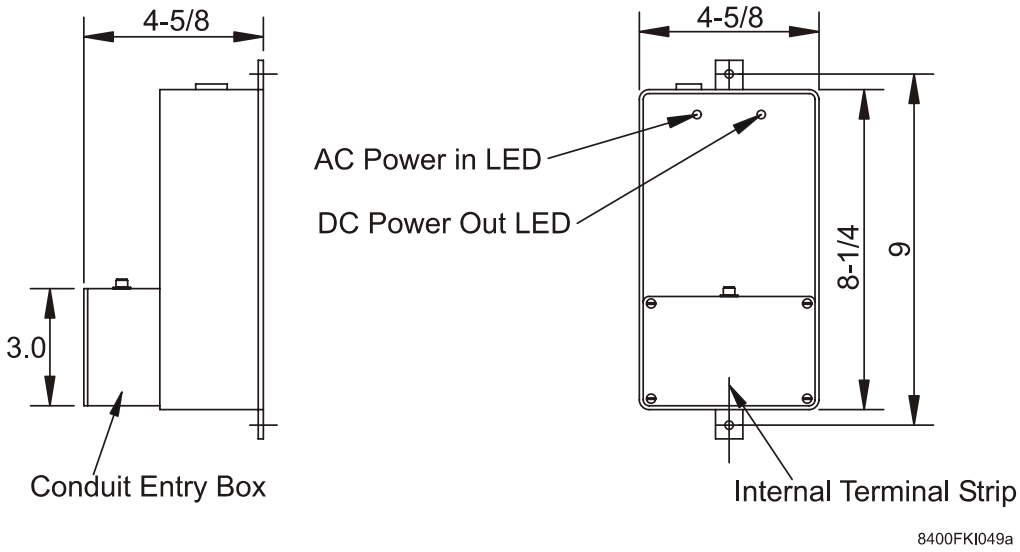


Figure C - 11 AGPE Power Supply / Slug-Module Kit - (T-Cord not shown)

Power Supply - Provides 24VDC zone-control power for seventy (70) operational-zones (max.) and optional slug-release signal. The power supply can also be used as a slug-module.

Slug-Module - Provides slug-release signal (only) when a conveyor cannot be supplied a slug-release signal through the Power Supply. When used as a slug module, the power supply should not be connected to the 110VAC power source.

Enclosure

Die-cast, aluminum (NEMA 1), with On/Off switch, short-circuit, overload protection; reset; LED indicators; and internal terminal block (8 screw) for connecting power input and/or remote slug-release signal. 12mm, threaded Micro-Connector (male) output connection. UL Approved.

Input / Output

For Power-Supply ONLY 105-132 VAC (1.65 amp, full load) / 27VDC (3.7 amp, 100W).

AGPE T-Cord

6'-0" X 10" "T" Cord has 12mm, female, push-to-connect, micro-connector connecting the output connector of either the Power Supply or Slug-Module, and male/female connectors for splicing into the AGPE conveyor's Power/Communication Cord.

Refer to "AGPE T-Cord" (this section)

Slug Release

Both units generate a slug-release signal through their output connection in response to a remote signal (15-132 VDC or VAC).

Mounting

Mounting bracket included, mounting hardware not included.

Temperature Range

32^{o} to $+131^{o}$ F (0^{o} to $+55^{o}$ C).

AGPE T-Cord

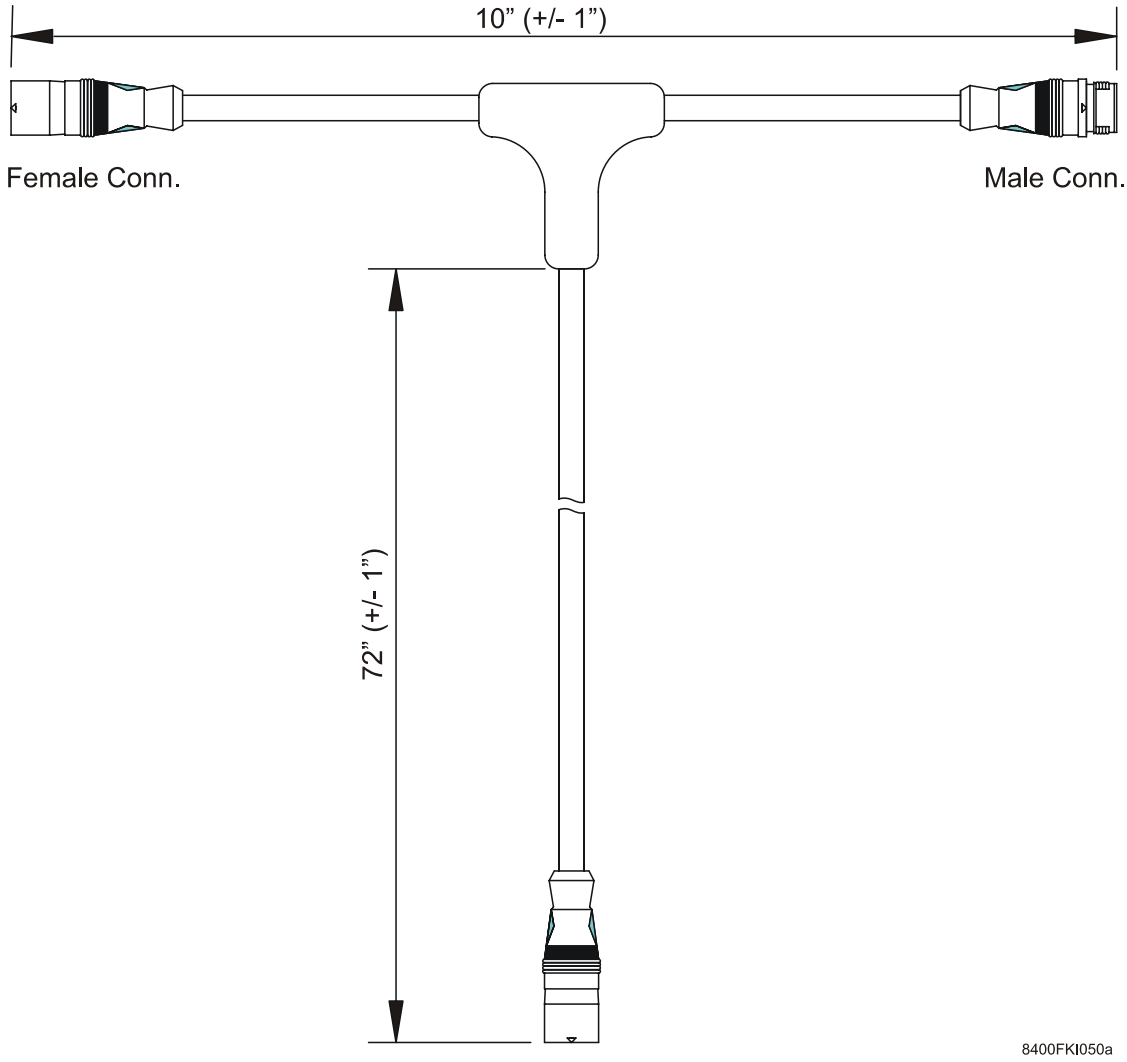


Figure C - 12 AGPE T-Cord

Required for connecting Power-Supply and/or Slug Module to the AGPE Intermediate Straight Section. 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 adjoining Solenoid Control Modules (including slug-release).

Cord

Four (4) wire with Yellow PVC jacket.

Connector(s)

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 connecting to the connectors of two (2) inline Solenoid Control Modules.

Length

72" X 10" (+/- 1")

AGPE Power / Communication Cords

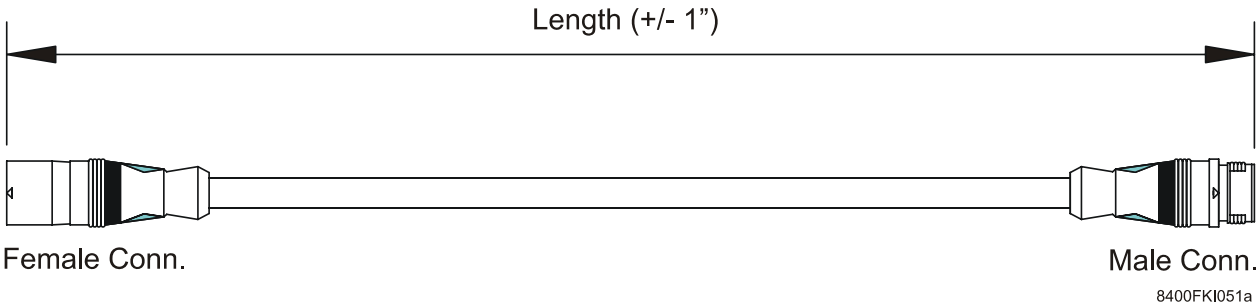


Figure C - 13 AGPE Power/Communication Cord

Required when distance between Solenoid Control Modules exceeds 6'-0". Transmits all power (24VDC), inter-zone communication signals (including slug-release).

Cord

Four (4) wire with Yellow PVC jacket.

Connector(s)

4-pin, 12mm push-to-connect Micro Connector (male and female).

Lengths

1'-0", 2'-0", 3'-0", 4’-0”, 6'-0", 9'-0" and 12'-0".

AGPE Slug Termination Cord and AGPE Power Isolation Cord

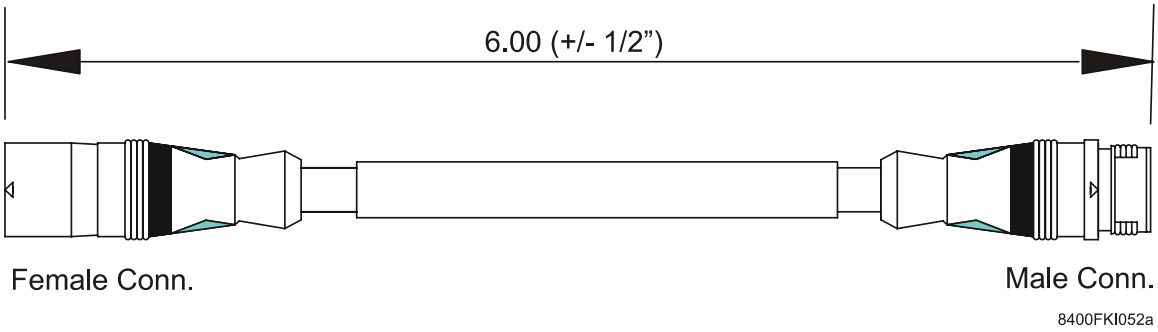


Figure C - 14 AGPE Slug-Termination Cord / Power Isolation Cord

Slug-Termination Cord - Required to terminate a "slug-release" zone. Transmits power (24VDC) and inter-zone communication signals; does NOT transmit slug-release signal.

Power Isolation Cord - Required for isolating portions of a conveyor that receive power from separate Power Supplies. Transmits all inter-zone communication signals including slug-release. Does NOT transmit the 24VDC power between two (2) adjoining Solenoid Control Modules.

Cord

Three (3) wire with Yellow PVC jacket.

Cord I.D. Color

Slug-Termination Cord - "Black Shrink-Wrap".

Power Isolation Cord - "Red Shrink Wrap".

Connector(s)

4-pin, 12mm push-to-connect Micro Connector (male and female).

Length

6"

AG Sensor Roller and Air-Valve(s)

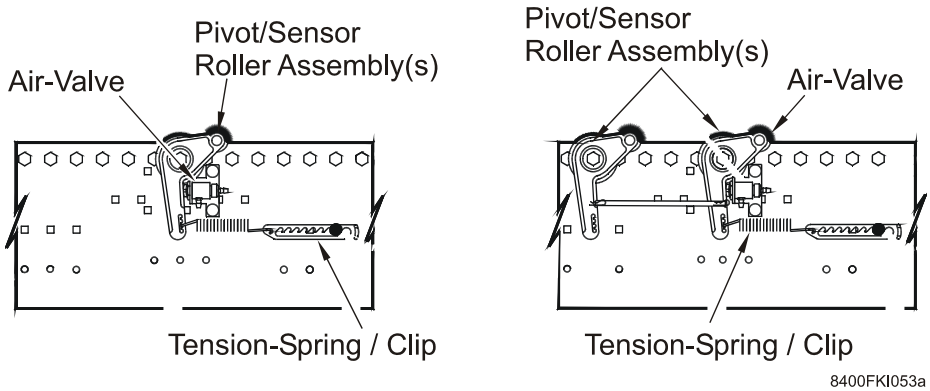


Figure C - 15 AG Accuglide Sensor Roller Assembly - Single-type (left) and Dual-type (right)

Pivot Roller

No.G196GH or G196AB Roller (W - 1-3/4") with extended, spring-loaded axle (7/16" hex) and molded bushings between the bearings and frame side rails.

Sensor Roller / Arms

7/8" dia. Aluminum Roller w/1/4" dia. steel axle that is pressed into molded sensor arms; sensor arms rotate around the Pivot Roller's molded bushings.

Tensioner Spring / Clip

Steel tension-spring connected to one of the Sensor Roller's mounting arms and a molded tensioner clip; adjustable to increase/decrease force required to actuate valve.

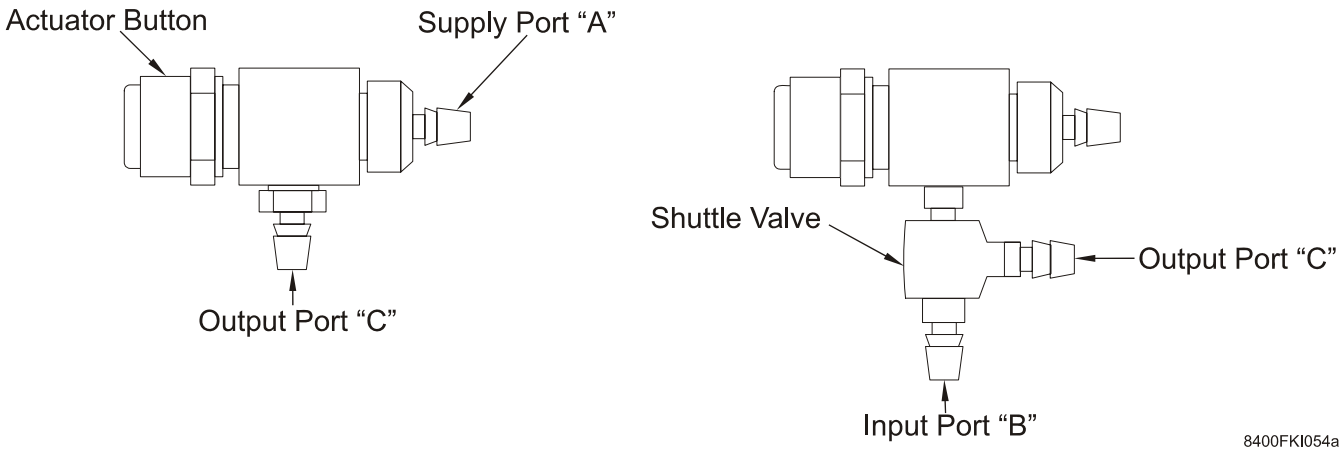


Figure C - 16 AG Accuglide Sensor Air Valves - Singulation-type (left) and Slug-type (right)

Singulation-Type Air Valve

3-way, normally-closed, poppet-type; air exhausts through stem; 5/32" barb fittings in valve's supply port "A" and output port "C"; silver-finish; molded push button actuated by Sensor Roller mounting arm.

Slug-Type Air Valve

Same as Singulation-type Air Valve except its output port is connected to the input port on the Shuttle Valve; 5/32" barb fittings in the valve's second input port "B" and output port "C".

AG / AGPE Air Control Kits

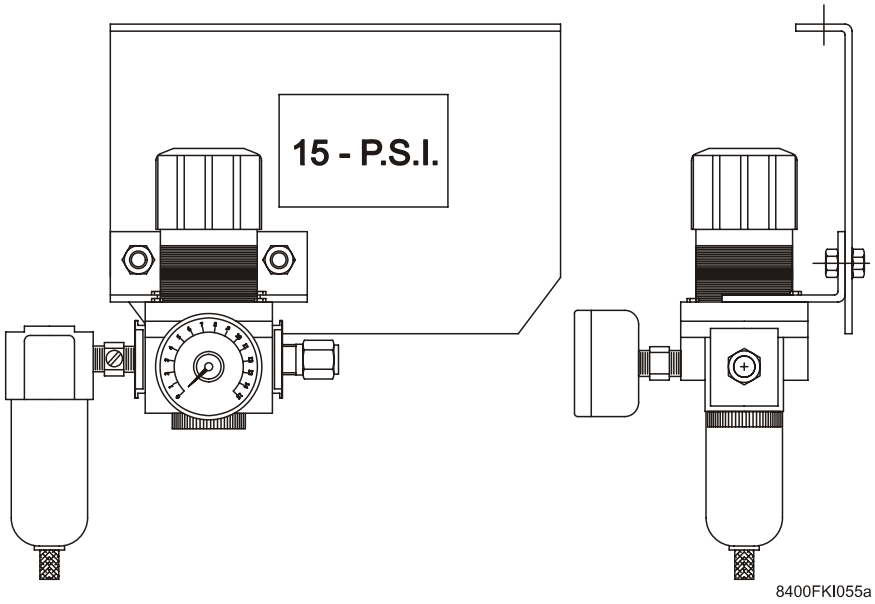


Figure C - 17 AGPE / AG Air Control Assembly Kit

Air Control Kits condition (filter) the air provided by the facility's air source and regulate its pressure to the required pressure for each particular component.

Operating Range(s)

15 psi.

Mounting

The Air Control Assembly is factory-assembled to a formed mounting bracket.

Field Assembly

Air Control Assembly must be mounted to the conveyor at determined point(s).

Air Supply: Normal Factory Air (60 psi. min.).

AGPE Drive/Idler Piping Kit (One per conveyor)

Air connection fittings for connecting the Intermediate Sections' main air-supply line (1/2" O.D. - red) to the Drive Sections' chain track lubricator and the Idler Sections' zone control valve (1/4" O.D. - yellow)

SECTION D:ENGINEERING DATA

To properly apply an Accuglide Conveyor in a case handling system, the following steps must be followed.

Step 1 - Determining Conveyor Width (W)

AGPE Accuglide Conveyors

Select a standard conveyor width (16", 22", 28", 34", or 40") that is at least 2" wider than the widest product being conveyed. This minimizes the chance of product hanging up on the side guides and/or contacting the photo-eye sensors. The width-dimension of the product is the dimension that is perpendicular to the conveyor's direction of travel.

For conveyors that include Intermediate Curve Section(s), the selected width is based on the curve's required width (Refer to Table(s) D-1 or D-2 or the formula shown in Figure D-1).

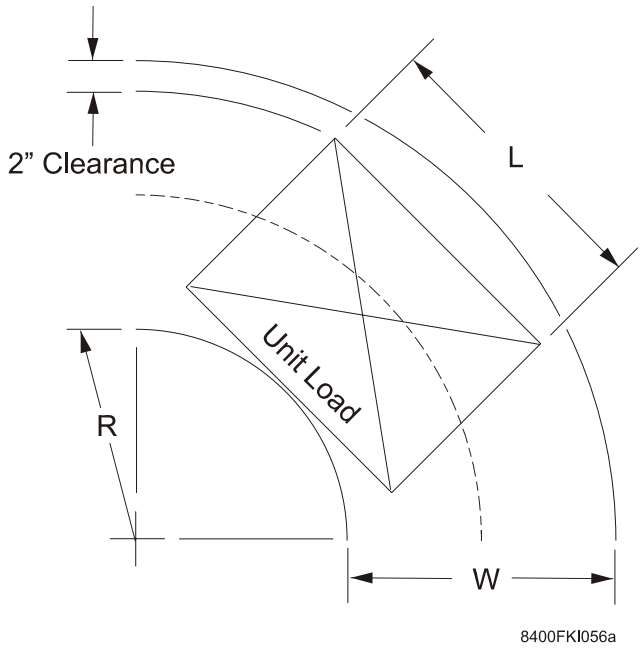
The formula in Figure D-1 takes into account the curve section's Inside Radius (IR), the product's width (W) and length (L). After working the formula, use the next larger standard width curve section (16", 22", 28", 34" or 40").

AG Accuglide Conveyors

The width of AG Accuglide Conveyors should be selected as described for AGPE conveyors (above).

While not a recommended practice, product with sufficient structural strength may overhang the rollers and frame rails. It will be necessary to mount the side-guide rails with offset brackets to accommodate the wider product.

Use the formula in Figure D-1 to determine the width requirement of the side guides in the curve(s).



$$W = \sqrt{(R + P)^2 + (L \div 2)^2} + (-R + 2)$$

R = Inside Radius

P = Product Width

L = Product Length

W = Conveyor Width

Figure D - 1 Determine Curve Width Requirements

Determining Chain Length

Use the following to determine chain length.

1. Multiply the straight lengths (drive, intermediate, and idler sections) by two then add 3’0” for take-up.
2. Add the following for each curve section:

Curve Allowance				
Curve	**Inside Radius**			
	2’-6”	**3’-4”**	**4’-0”**	**5’-0”**
30°	7.5’	8.0’	8.5’	9.5’
45°	9.0’	10.0’	11.0’	12.5’
60°	10.5’	12.0’	13.5’	15.5’
90°	14.0’	16.0’	18.0’	21.5’
180°	23.0’	28.5’	32.5’	38.5’

3. Round up the total to the nearest foot.

Chain is furnished in 100 foot lengths. A section of chain can be shortened to fit the actual length for the application. For each conveyor, one special connecting link should be furnished for each 100 feet of chain, or fraction thereof, plus two extras.

Conveyor Widths for Standard Curves with 30” Inside Radius

Two standard Intermediate Curve Sections are available.

Use either Table D - 1 or Table D - 2 to determine the proper standard curve width based on product length and width.

.

Table D - 1 Type 26IR Curve Widths

Product Width (in.)	Product Length (in.)												
	12	**16**	**20**	**24**	**28**	**32**	**36**	**40**	**44**	**48**	**52**	**56**	**60**
6	16	16	16	16	16	16	16	16	16	16	22	22	22
8	16	16	16	16	16	16	16	16	22	22	22	22	22
10	16	16	16	16	16	16	22	22	22	22	22	22	28
12	16	16	16	22	22	22	22	22	22	22	22	22	28
14	22	22	22	22	22	22	22	22	22	28	28	28	28
16	22	22	22	22	22	22	28	28	28	28	28	28	28
18	22	22	22	28	28	28	28	28	28	28	28	34	34
20	28	28	28	28	28	28	28	28	28	28	34	34	34
22	28	28	28	28	28	28	28	34	34	34	34	34	34
24	28	28	28	34	34	34	34	34	34	34	34	34	40
26	34	34	34	34	34	34	34	34	34	34	40	40	40
28	34	34	34	34	34	34	34	40	40	40	40	40	40
30	34	34	34	40	40	40	40	40	40	40	40	40	--
32	40	40	40	40	40	40	40	40	40	40	--	--	--
34	40	40	40	40	40	40	40	--	--	--	--	--	--
36	40	40	40	--	--	--	--	--	--	--	--	--	--

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Table D - 2 Type TTF Curve Widths

Product Width (in.)	Product Length (in.)												
	12	**16**	**20**	**24**	**28**	**32**	**36**	**40**	**44**	**48**	**52**	**56**	**60**
6	16	16	16	16	16	16	16	16	16	16	22	22	22
8	16	16	16	16	16	16	16	16	22	22	22	22	22
10	16	16	16	16	16	16	22	22	22	22	22	22	22
12	16	16	16	22	22	22	22	22	22	22	22	22	28
14	22	22	22	22	22	22	22	22	22	22	28	28	28
16	22	22	22	22	22	22	22	28	28	28	28	28	28
18	22	22	22	28	28	28	28	28	28	28	28	28	28
20	28	28	28	28	28	28	28	28	28	28	28	34	34
22	28	28	28	28	28	28	28	28	34	34	34	34	34
24	28	28	28	28	34	34	34	34	34	34	34	34	34
26	34	34	34	34	34	34	34	34	34	34	34	34	40
28	34	34	34	34	34	34	34	34	34	40	40	40	40
30	34	34	34	34	40	40	40	40	40	40	40	40	40
32	40	40	40	40	40	40	40	40	40	40	40	40	40
34	40	40	40	40	40	40	40	40	40	--	--	--	--
36	40	40	40	40	40	--	--	--	--	--	--	--	--

Step 2 - Determine the Live Load

Use the following formula to calculate the conveyor's "live load" (LL) requirement.

$$Live\,Load\,(lbs/ft)) = \frac{Total\,Weight\,on\,Conveyor\,(lbs)}{Conveyor\,Length\,(feet)}$$

Note: Assume the conveyor to be fully-loaded with the heaviest product being conveyed.

DO NOT exceed 100 lbs./ft. Live Load (max.)

Step 3 - Determine the Release-Rate / Speed Requirement

An Accuglide Conveyor must be capable of releasing product at a rate (Release Rate) that meets the Flow Rate (FR) requirement of the adjoining downstream conveyor.

$$Flow\,Rate\,(FR) = Case\,Feet\,Per\,Minute\,(CFPM)$$
$$= Number\,of\,cases\,per\,minute\,(max) \times Average\,Case\,Length$$

A conveyor's Release-Rate is determined by its Speed and Operational-Mode.

Calculate the conveyor's Release-Rate/Speed requirement using the following formula.

$$Speed/Release = \frac{Flow\,Rate\,of\,Downstream\,Conveyor/Equipment}{Release\,Rate\,Factor\,(Tables\,D-3\,and\,D-4)}$$

.

Table D - 3 Release Rate Factors*

Speed (FPM)	Operational Modes						
	Singulation		Dual Zone (Note C)	Auto-Slug ZONE Length (Note A)			Slug
	(Note A)	(Note B)		4-Zone	3-Zone	2-Zone	
90	.54	.62	.66	.70	.66	.65	.90
90	.54	.62	.66	.70	.66	.65	.90
125	.51	.62	.66	.74	.70	.64	.90
150	.49	.61	.66	.75	.70	.66	.90
175	.48	.59	.66	.75	.69	.63	.90
200	.46	.56	.66	.73	.67	.61	.90
225	.44	.53	.66	.763	.65	.59	.90
250	l.l42	.48	.66	.71	.64	.57	.90

(*) All Factors shown are derived from information provided for Accuglide AGP Conveyor.
Note A - Factors based on testing using uniform 12" lg. corrugated cartons weight 25 pounds.
Note B - Factors based on testing using uniform 24" lg. corrugated cartons weight 245 pounds.
Note C - Factors estimated based on 2/3 of zones always being powered. (Actual rates may vary.)

A conveyor's Release Rate capability is adversely affected when the weight of the product being conveyed increases. To compensate for these affects, multiply the calculated Release Rate (previous page) by the appropriate factor (below).

Table D - 4 Product Weight Compensation Factors*

Item	Product Weight			
	0 - 25 lbs.	25 - 35 lbs.	35 - 50 lbs.	50 - 100 lbs.
Factor	1.00	0.95	0.90	0.85

(*) All Factors shown are derived from information previously published for Accuglide AGP Conveyor.

Step 4 - Determine the Acceptance-Rate / Speed Requirement

An Accuglide Conveyor must also be capable of accepting product at a rate that meets the Flow Rate (FR) requirement of the adjoining upstream conveyor.

$$Flow\,Rate\,(FR) = Case\,Feet\,Per\,Minute\,(CFPM)$$
$$= Number\,of\,cases\,per\,minute\,(max) \times Average\,Case\,Length$$

A conveyor's Acceptance-Rate is determined by its Speed and Operational-Mode.

If the calculated Release-Rate/Speed (Step 3) was based on a "primary" Operational-Mode (Singulation, Dual-Zone, Auto-Slug), it is recommended that the Acceptance-Rate/Speed be first calculated using the same Operational-Mode factor (Table D-5).

If the conveyor's Acceptance-Rate is greater than the Release-Rate, then consider using partial-length Slug Operational-Mode at the infeed end of the conveyor.

Calculate the conveyor's Acceptance-Rate/Speed requirement using the following formula.

$$SPEED/Acceptance = \frac{Flow\,Rate\,of\,Upstream\,Conveyor/Equipment}{Acceptance\,Rate\,Factor\,(TableD-5)}$$

Table D - 5 Acceptance Rate Factors*

Speed (FPM)	Operational Modes				
	Primary				Secondary
	Singulation		Dual Zone (Note E)	Auto-Slug (Note F)	Slug
	(Note E)	(Note E)			
90	.54	.62	66	1.0	1.0
125	.51	.62	.66	1.0	1.0
150	.49	.61	66	1.0	1.0
175	.48	.59	.66	1.0	1.0
200	.46	.56	66	1.0	1.0
225	.44	.53	.66	1.0	1.0
250	.42	.48	66	1.0	1.0

(*) All Factors shown are derived from information provided for Accuglide AGP Conveyor.
Note E - Release Rate Factors shown; Acceptance Rate factors should be equal to or better.
Note F - Factors based on conveyor functioning as a single, full-length Auto-Slug Zone.

Step 5 - Determine the Conveyor Speed Requirement

Use the "higher" of the two (2) speed requirements to determine the power unit horsepower requirement. (Step 7).

Step 6 - Determine the Effective Pull (EP)

Use the following formula(s) to determine the Effective Chain Pull for AG and AGPE Accuglide Conveyors. The pull must be determined prior to determining the conveyor's horsepower requirement.

For Straight Conveyor (without Skewed Rollers)

Total Effective Pull (EP) = $1.05(L \times F_1)$

DO NOT exceed 650 lbs. Effective Chain Pull (max.).

Nomenclature Key:

EP = Effective (Chain) Pull (lbs.)

L = Straight Conveyor Length (ft.)

F_1 = Chain Pull Factor (see Tables D-6, D-7, or D-8)

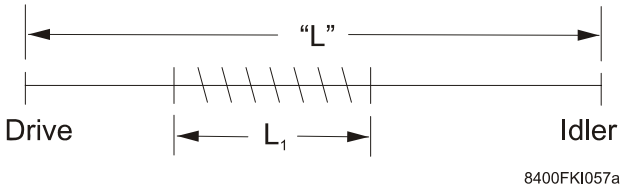


Figure D - 2 Calculating EP - Straight Conveyors

For Straight Conveyor with Skewed Rollers

Total Effective Pull (EP) = $[EP_{Straight.Conveyor}]$ + [Additional $EP_{Skewed\ Rollers}$]

= 1.05 (L X F_1) + SF (L_1)

DO NOT exceed 650 lbs. Effective Chain Pull (max.).

Nomenclature Key:

EP = Effective (Chain) Pull (lbs.)
L = Straight Conveyor Length (ft.)
L_1 = Skewed Roller Length (ft.)
(see Table D-7 for length requirement)
F_1 = Chain Pull Factor (see Tables D-6, D-7, or D-8)
SF = Show Factor
SF = 8.4 (for 2” carrier roller centers)
SF = 5.6 (for 3” carrier roller centers)
SF = 4.2 (for 4” carrier roller centers)
SF = 2.8 (for 6” carrier roller centers)

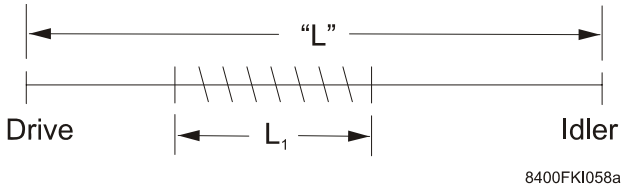


Figure D - 3 Straight Conveyor with Skewed Rollers

DO NOT exceed 650 lbs. Effective Chain Pull (max.).

For Straight Conveyor with One (1) Curve

Total Effective Pull (EP) = 1.05 (L X F_1 X F_2) + CPF

Nomenclature Key:

EP = Effective (Chain) Pull (lbs.)
L = Straight Conveyor Length (ft.) (A + B)
F_1 = Chain Pull Factor (see Tables D-6, D-7, or D-8)
F_2 = Curve Factor (see below)
CPF = Curve Pull Factor
CPF = 30 for 2'-6" inside radius curves
CPF = 50 for "True Taper" radius curves with 2" centers
CPF = 40 for "True Taper" radius curves with 3", 4" and 6" centers

Calculating F_2 Curve Factor.

$$F_2 = \frac{[A + (1.06B)]}{A + B}$$

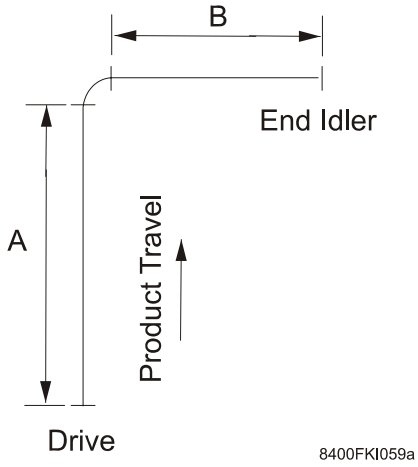


Figure D - 4 Straight Conveyor with One (1) Curve

For Straight Conveyor with One (1) Curve and Skewed Rollers

Total Effective Pull (EP) = ($EP_{Std.Conveyor}$)+ (Additional $EP_{Skewed\ Rollers}$)

$= 1.05\ (L \times F_1 \times F_2) + (CPF + [SF \times L_1])$

DO NOT exceed 650 lbs. Effective Chain Pull (max.).

Nomenclature Key:

EP = Effective (Chain) Pull (lbs.)

L = Straight Conveyor Length (ft.) (A + B)

L_1 = (Total) Skewed Roller Length (ft.)
(see Table D-7 for length requirement)

F_1 = Chain Pull Factor (see Tables D-6, D-7, or D-8)

F_2 = Curve Factor (see below)

CPF = Curve Pull Factor
CPF = 30 for 2'-6" inside radius curves
CPF = 50 for "True Taper" radius curves with 2" centers
CPF = 40 for "True Taper" radius curves with 3", 4" and 6" centers

SF = Show Factor
SF = 8.4 (for 2" carrier roller centers)
SF = 5.6 (for 3" carrier roller centers)
SF = 4.2 (for 4" carrier roller centers)
SF = 2.8 (for 6" carrier roller centers)

Calculating F_2 Curve Factor.

$$F_2 = \frac{[A + (1.06(B + SFL_2)]}{A + B}$$

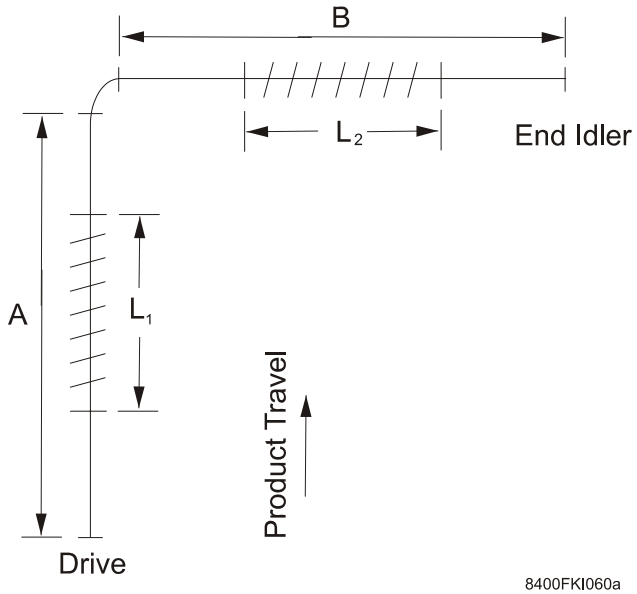


Figure D - 5 Straight Conveyor with One (1) Curve and Skewed Rollers

For Straight Conveyor with Two (2) Curves

Total Effective Pull (EP) = 1.05 (L X F_1 X F_2) + CPF

DO NOT exceed 650 lbs. Effective Chain Pull (max.).

Nomenclature Key:

EP = Effective (Chain) Pull (lbs.)
L = Straight Conveyor Length (ft.) (A + B + C)
F_1 = Chain Pull Factor (see Tables D-6, D-7, or D-8)
F_2 = Curve Factor (see below)
CPF = Curve Pull Factor

CPF = 60 for 2'-6" inside radius curves
CPF = 80 for "True Taper" radius curves with 2" carrier roller centers
CPF = 70 for "True Taper" curves with 3", 4" and 6" carrier roller centers

Calculating F_2 Curve Factor

$$F_2 = \frac{[A + (1.06B) + (1.12C)]}{A + B + C}$$

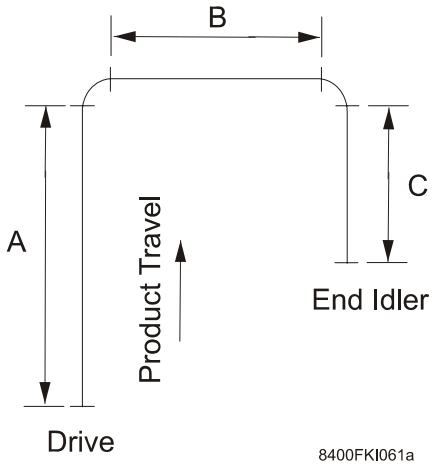


Figure D - 6 Straight Conveyor with Two (2) Curves

For Straight Conveyor with Two (2) Curves and Skewed Rollers

Total Effective Pull (EP) = ($EP_{Std.Conveyor}$)+ (Additional $EP_{Skewed\ Rollers}$)

= 1.05 (L X F_1 X F_2) + (CPF + [SF X L_1])

DO NOT exceed 650 lbs. Effective Chain Pull (max.).

Nomenclature Key:

EP = Effective (Chain) Pull (lbs.)

L = Straight Conveyor Length (ft.)

L_1 = (Total) Skewed Rollers Length (ft.) (see Table D-7 for length requirement)

F_1 = Chain Pull Factor (see Tables D-6a, D-6b, or D-6c)

F_2 = Curve Factor (see below)

CPF = Curve Pull Factor

CPF = 60 for 2'-6" inside radius curves

CPF = 80 for "True Taper" radius curves with 2" centers

CPF = 70 for "True Taper" curves with 3", 4" and 6" carrier roller centers

SF = Show Factor

SF = 8.4 (for 2" carrier roller centers)

SF = 5.6 (for 3" carrier roller centers)

SF = 4.2 (for 4" carrier roller centers)

SF = 2.8 (for 6" carrier roller centers)

Calculating F_2 Curve Factors.

$$F_2 = \frac{[A + (1.06(B + SFL_2)) + (1.12(C + SFL_3))]}{A + B + C}$$

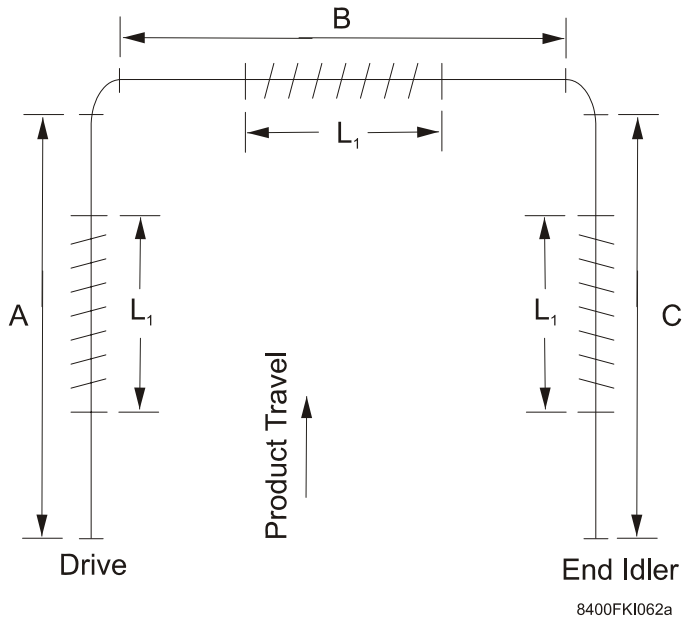


Figure D - 7 Straight Conveyor with Two (2) Curves and Skewed Rollers

Refer to Tables D-6, D-7, or D-8 for the pull factor for one foot of conveyor length.

1. Go down the Operational Mode column to the required mode.
2. Go across the appropriate row for the required Roller Center and Live Load requirement to the required Conveyor Width column to find the Pull Factor.

Table D - 6 (F_1) Pull Factor* (lbs./ft.) - SINGULATION Operational Mode

Live Load#	16”		22”		28”		34”		40”	
	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.
2” ROLLER CENTERS										
10	2.66	2.27	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
20	2.66	2.27	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
30	2.66	2.27	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
40	2.66	2.34	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
50	2.66	2.51	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
60	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
70	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
80	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
90	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17
100	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33
3” ROLLER CENTERS										
10	2.66	1.85	2.66	2.00	2.66	2.32	2.66	2.65	2.66	2.65
20	2.66	2.01	2.66	2.01	2.66	2.32	2.66	2.65	2.66	2.65
30	2.66	2.18	2.66	2.18	2.66	2.32	2.66	2.65	2.66	2.65
40	2.66	2.34	2.66	2.34	2.66	2.34	2.66	2.65	2.66	2.65
50	2.66	2.51	2.66	2.51	2.66	2.51	2.66	2.65	2.66	2.65
60	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
70	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
80	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
90	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17
100	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33
4” ROLLER CENTERS										
10	2.66	1.80	2.66	1.85	2.66	1.87	2.66	2.11	2.66	2.11
20	2.66	2.01	2.66	2.01	2.66	2.01	2.66	2.01	2.66	2.01
30	2.66	2.18	2.66	2.18	2.66	2.18	2.66	2.18	2.66	2.18
40	2.66	2.34	2.66	2.34	2.66	2.34	2.66	2.34	2.66	2.34
50	2.66	2.51	2.66	2.51	2.66	2.51	2.66	2.51	2.51	2.51
60	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
70	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
80	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
90	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17
100	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33

(*) Based on ABEC Rollers

Table D - 7 (F_1) Pull Factor* (lbs./ft.) - AUTO-SLUG (Up to 8 Zones) Operational Mode

Live Load#	16"		22"		28"		34"		40"	
	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.
2" ROLLER CENTERS										
10	2.66	2.32	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
20	2.66	2.54	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
30	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
40	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
50	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
60	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42
70	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64
80	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
90	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
100	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
3" ROLLER CENTERS										
10	2.66	2.32	2.66	2.32	2.66	2.32	2.66	2.65	2.66	2.65
20	2.66	2.54	2.66	2.54	2.66	2.54	2.66	2.54	2.66	2.54
30	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
40	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
50	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
60	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42
70	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64
80	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
90	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
100	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
4" ROLLER CENTERS										
10	2.66	2.25	2.66	2.32	2.66	2.32	2.66	2.32	2.66	2.32
20	2.66	2.54	2.66	2.54	2.66	2.54	2.66	2.54	2.66	2.54
30	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
40	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
50	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
60	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42
70	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64
80	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
90	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
100	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30

(*) Based on ABEC Rollers

Table D - 8 (F_1) Pull Factor* (lbs./ft.) - AUTO-SLUG (over 8 Zones) and SLUG Operational Mode

Live Load#	16”		22”		28”		34”		40”	
	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.	Fixed	P.O.
2” ROLLER CENTERS										
10	2.66	2.27	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
20	2.66	2.28	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
30	2.66	2.58	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66
40	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88
50	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18
60	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48
70	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78
80	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
90	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38
100	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68
3” ROLLER CENTERS										
10	2.66	1.98	2.66	2.00	2.66	2.32	2.66	2.65	2.66	2.65
20	2.66	2.28	2.66	2.28	2.66	2.32	2.66	2.65	2.66	2.65
30	2.66	2.58	2.66	2.58	2.66	2.58	2.66	2.65	2.66	2.65
40	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88
50	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18
60	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48
70	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78
80	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
90	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38
100	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68
4” ROLLER CENTERS										
10	2.66	1.94	2.66	1.98	2.66	1.98	2.66	2.11	2.66	2.11
20	2.66	2.28	2.66	2.28	2.66	2.28	2.66	2.28	2.66	2.28
30	2.66	2.58	2.66	2.58	2.66	2.58	2.66	2.58	2.66	2.58
40	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88
50	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18
60	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48
70	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78
80	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
90	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38
100	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68

(*) Based on ABEC Rollers

Refer to Table D-9 to find the length of skewed rollers required to move the narrowest package from one side of the conveyor to the other.

Go to the required Conveyor Width row(s) (i.e. 16” W, 22” W etc.)

Go across to the required Package Width column to find the Conveyor Length for the particular Skew Offset and Package Width combination.

Table D - 9 Length (in.) of skewed Rollers Required for Conveyor / Package Widths

Roller Advance (Skew Offset)	Package Width (Minimum)								
	6”	9”	12”	15”	18”	21”	24”	27”	30”
16”W									
1”	160”	112”	64”	16”	n.a.	n.a.	n.a.	n.a.	n.a.
22”W									
1”	352”	286”	200”	154”	88”	22”	n.a.	n.a.	n.a.
28”W									
1”	616”	532”	448”	364”	280”	196”	112”	28”	n.a.
2”	308”	266”	224”	182”	140”	98”	56”	14”	n.a.
34”W									
1”	952”	850”	748”	646”	544”	442”	340”	238”	136”
2”	476”	425”	374”	323”	272”	221”	170”	119”	68”
40”W									
1”	1,360”	1,240”	1,120”	1,000”	880”	760”	640”	520”	400”
2”	680”	620”	560”	500”	440”	380”	320”	260”	200”
3”	453”	413”	373”	333”	293”	253”	213”	173”	133”

Step 7 - Determine the Power Unit Horsepower

Use either the following formula or Table D-10 (below) to identify the power unit's horsepower requirement based on the conveyor's Speed and Effective Chain Pull requirements.

$$HP = \frac{EP\,X\,V}{29,700}$$

Nomenclature Key:

HP = Horsepower

EP = Effective Chain Pull (pounds)

V = Velocity (conveyor speed - fpm)

For Table D-10

1. Go down the Conveyor Speed column to the required speed.
2. Select a reducer brand and go across to the first Horsepower column with an effective pull capacity rating that exceeds the conveyor's requirement.

Table D - 10 Power Unit Capacity* (Effective Pull - lbs.)

Conveyor Speed	Reducer Brand	Horsepower					
		.75	1.0	1.5	2.0	3.0	5.0
60 FPM	Dodge TiGear2	276	368	550	650*	n.a.	n.a.
	Grove Gold	294	398	598	650*		
70 FPM	Dodge TiGear2	243	324	498	650*	n.a.	n.a.
	Grove Gold	255	341	520	650*		
90 FPM	Dodge TiGear2	203	279	419	572	650	n.a.
	Grove Gold	213	285	434	579	650*	
120 FPM	Dodge TiGear2	161	219	329	439	650*	n.a.
	Grove Gold	164	229	343	454	650*	
140 FPM	Dodge TiGear2	137	182	286	382	578	650*
	Grove Gold	143	191	293	395	592	650*
180 FPM	Dodge TiGear2	114	152	238	317	475	650*
	Grove Gold	117	156	240	320	485	650*
200 FPM	Dodge TiGear2	n.a.	140	216	288	422	650*
	Grove Gold		139	216	288	n.a.	n.a.
240 FPM	Dodge TiGear2	n.a.	120	180	242	366	610
	Grove Gold		121	182	249	373	622

(*) Power Unit Capacity ratings limited by the rated capacity of the RC50 Drive Chain.

Step 8 - Determine the Sensor Position

Use Table D-11 to select the appropriate sensor position based the maximum product length, weight and speed.

Position “B” is located 24” forward (downsteam) of the zone it controls, and is used for conveying smaller, lighter cartons at slower speeds.

Position “B” is located 12” forward (downstream) of the zone it controls, and is used for conveying larger, heavier cartons at higher speeds.

For additional information, refer to Section B - Application Guidelines.

Table D - 11 Sensor Position Selection

Product		**Weight [a]**	
Length [a]	**Speed**	**Up to 50 Lbs.**	**Over 50 lbs.**
Up to 21” [b or c]	Up to 150	Position B	Position A
	150-240	Position A	Position A
27” [b]	Up to 150	Position B	Position A
	150-240	Position A	Position A
Over 27” [c or d]	Up to 150	Position A	Position A
	150-240	Position A	Position A

(a) If the conveyor handles assorted lengths and weights, select the Position upon the worst case.

(b) Weight Evenly Distributed

(c) Weight Unevenly Distributed

(d) See Maximum Product Length (see Table D-12)

Table D - 12 Maximum Product Length

Operational Mode	**Operational Zone Length**		
	3’-0”		**6’-0”**
	Sensor Position		
	“A”	**“B”**	**“A”**
Singulation (SZC) [a,c,d,f]	48”	24”	n.a.
Singulation (LZC) [b,c,e,f]	n.a.	n.a.	48”
Auto-Slug [a,c,d,f]	48”	24”	n.a.
Dual-Zone [a,b,g,h]	60”	48”	n.a.

(a) Sequential-Zone Control

(b) Local-Zone Control

(c) Bottom surface of product is firm and flat

(d) Content evenly distributed

(e) Content NOT evenly distributed

(f) Powered Carrier Rollers beneath 50% of the product's length

(g) Powered Carrier Rollers beneath 100% of the product's length

(h) Product weighing 100 lbs./ft (max.)

Step 9 - Determine the Air Consumption

Air consumption occurs while product is in transit or being released. Air is not consumed while cases are at rest (accumulated on the conveyor).

Air Consumption When Product Is Being Transported

$$C + 0.00084(LT)$$

Air Consumption When Product Is Being Released

$$C = \frac{0.00084(DLA)}{5}$$

Nomenclature Key:

C = Air Consumption - scfm (standard cubic feet per minute)

P = Production Rate - Cases / minute (rate products are fed onto conveyor)

LT = Length of conveyor over which product is being transported (feet)

LA = Length of conveyor over which product is accumulated (feet)

Chain Pull, Horsepower, and Roller Skew Examples Intermediate Section with Skewed Rollers

$$CP = [1.05\ L\ F_1\ F_2 + CPF\ N] + [SF\ L_1]$$

$$HP = \frac{CP\ V}{29700}$$

Example Given:

Length	=	L = 200’
Live Load	=	10 lb/ft.
Width	=	22”
Velocity	=	V = 100 fpm.
Roller Centers	=	4” centers
Discharge Mode	=	Singulation Release
No Curves	=	N = 0 and F_2 = 1
F_1	=	1.85
F_2	=	1
N	=	0
CPF	=	0

SF = Show Factor

SF = 8.4 (for 2” carrier roller centers)
SF = 5.6 (for 3” carrier roller centers)
SF = 4.2 (for 4” carrier roller centers)
SF = 2.8 (for 6” carrier roller centers)

$$CP = 1.05 \times 200 \times 1.85 + (30 \times 0) + 5.6 \times 9 = 438.9$$

$$HP = \frac{438.9 \times 100}{29700} = 1.478$$

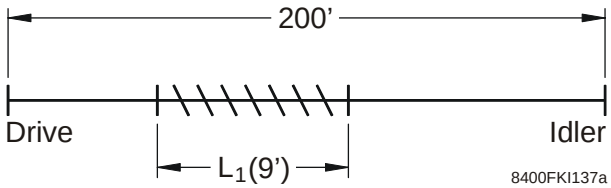


Figure D - 8 Intermediate Section with Skewed Roller Example

Intermediate Section with Curve Sections

$$CP = 1.05\ L\ F_1\ F_2 + CPF\ N$$

$$HP = \frac{CP\ V}{29700}$$

Example Given:

Length	=	L = 230’
Live Load	=	30 lb/ft.
Width	=	16”
Velocity	=	V = 120 fpm
Roller Centers	=	3” centers
Discharge Mode	=	Singulation Release
Drive end Straight	=	A = 150 ft.
BTW Curves Straight	=	B = 30 ft.
End Idler Straight	=	C = 50 ft.
F_1	=	2.18

CPF = Curve Pull Factor

CPF = 60 for 2’-6” inside radius curves
CPF = 80 for “True Taper” radius curves with 2” carrier roller centers
CPF = 70 for “True Taper” curves with 3”, 4” and 6” carrier roller centers

$$F_2 = \frac{[150 + [1.06 \times 30] + [1.12 \times 50]]}{150 + 30 + 50} = 1.034$$

N = 2

$$CP = 1.05 \times 230 \times 2.18 \times 1.034 + (30 \times 2) = 604$$

$$HP = \frac{604 \times 120}{29700} = 2.44$$

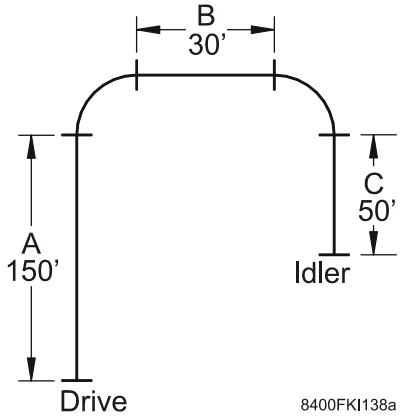


Figure D - 9 Intermediate Section with Curve Sections Example

SECTION E: LAYOUT DIMENSIONS

Frame Types

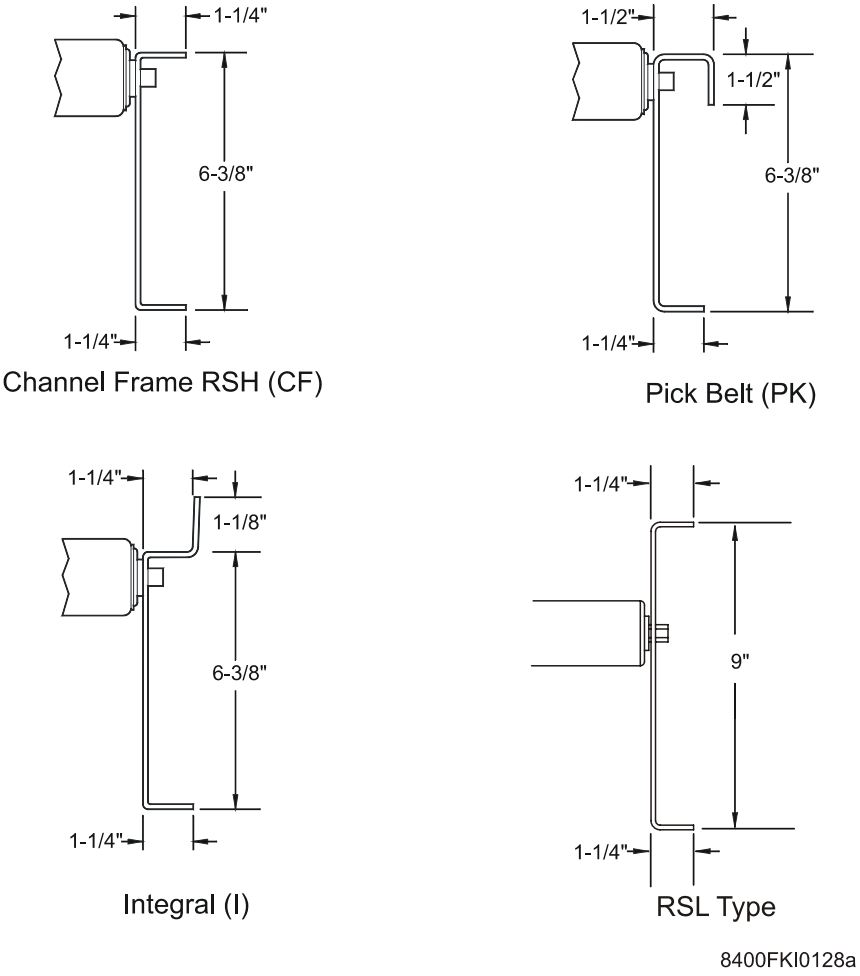
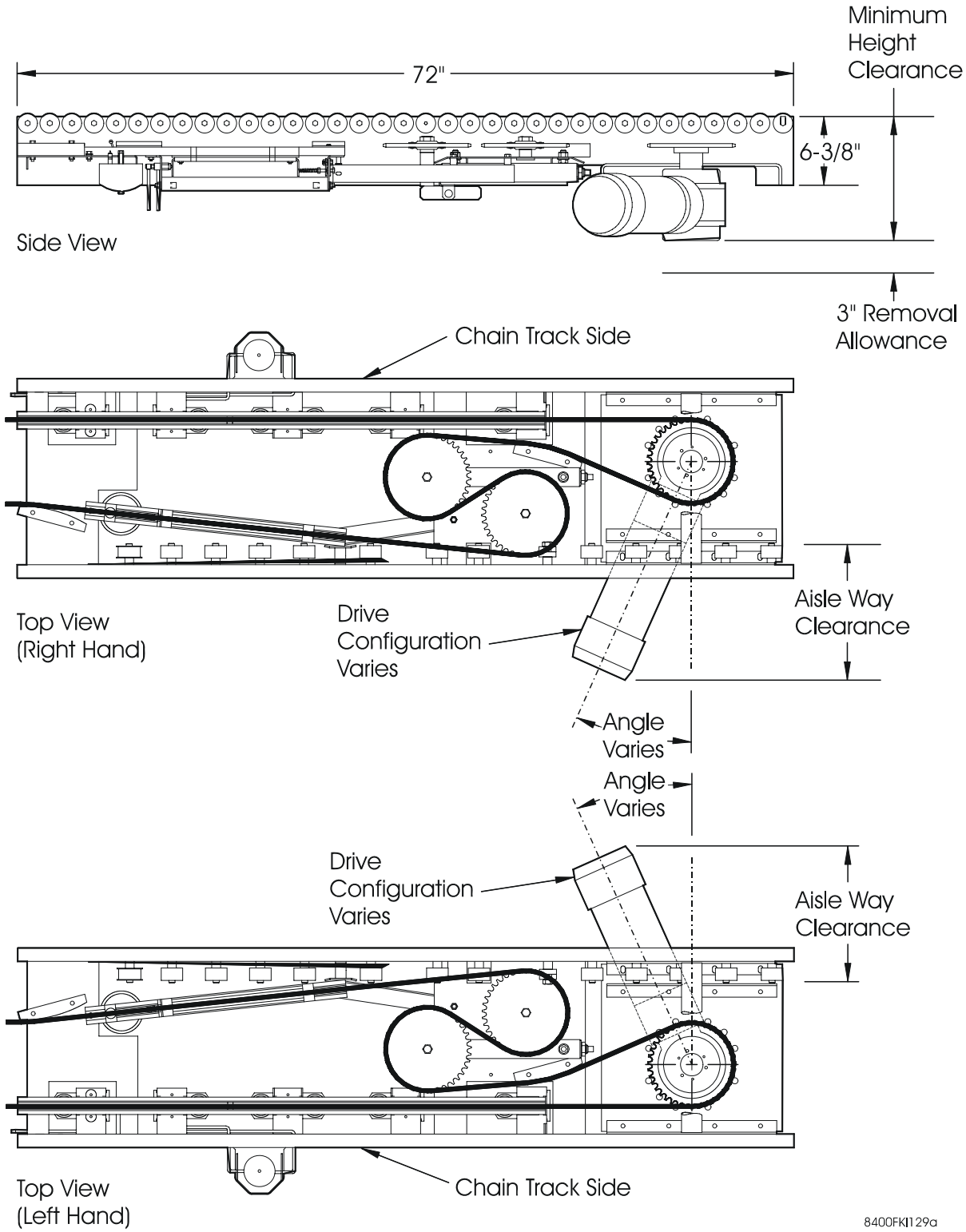


Figure E - 1 Frame Types

Drive Section



See Table E 1 for Minimum Height Clearances, and Tables E 5 through E 12 for Aisle Way Clearances.

Figure E - 2 Drive Section Layouts

Table E 1: Minimum Height Clearances

HP	Reducer Manufacturer and Model									
	Grove				Reliance					
	220	226	232	242	202Q	26S	30S	35S	40S	C262
3/4	13”	13”	--	--	13”	13”	--	--	--	--
1	13”	13”	14”	--	13”	13”	--	--	--	--
1.5	13”	13”	14”	--	13”	13”	14”	--	--	--
2		13”	14”	15”	--	13”	14”	14”	--	--
3		14”	15”	16”	--	--	15”	15”	--	15”
5	--	--	15”	16”	--	--	--	15”	16”	15”
	Winsmith				Boston					
	920	926	935	943	721	726	732	738		
3/4	12”	12”	--	--	12.5”	12”	--	--		
1	12”	12”	14.5”	--	12.5”	12”	14”	--		
1.5	--	12”	14.5”	15”	--	12”	14”	15”		
2		12”	14.5”	15”	--	12”	14”	15”		
3	--	--	14.5”	15”	--	--	14”	15”		
5	--	--	--	15”	--	--	--	15”		

Table E 2: Aisleway Clearance - 16” Wide Conveyors with Grove Gear Reducers

W = 16”	Grove Reducer Model							
HP	220		226		232		242	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	8”	8”	9”	9”	--	--	--	--
1	8”	8”	9”	9”	10”	10”	--	--
1 1/2	9”	9”	10”	10”	10”	10”	--	--
2	--	--	11”	11”	11”	11”	14”	14”
3	--	--	13”	13”	14”	14”	17”	17”
5	--	--	--	--	14”	14”	17”	17”

Table E 3: Aisleway Clearance - 16” Wide Conveyors with Reliance Gear Reducers

W = 16”	Reliance Reducer Model											
HP	202Q		26S		30S		35S		40S		C262	
	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH
3/4	6”	6”	9”	9”	--	--	--	--	--	--	--	--
1	6”	6”	9”	9”	--	--	--	--	--	--	--	--
1 1/2	7”	7”	10”	10”	11”	11”	--	--	--	--	--	--
2	--	--	11”	11”	12”	12”	13”	13”	--	--	--	--
3	--	--	--	--	14”	14”	15”	15”	--	--	18”	18”
5	--	--	--	--	--	--	16”	16”	17”	17”	18”	18”

Table E 4: Aisleway Clearance - 16” Wide Conveyors with Winsmith Gear Reducers

W = 16”	Winsmith Reducer Model							
HP	920		926		935		943	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	6”	6”	8”	8”	-	-	-	-
1	6”	6”	8”	8”	12”	12”	-	-
1 1/2	-	-	8”	8”	12”	12”	12”	12”
2	-	-	8”	8”	12”	12”	12”	12”
3	-	-	-	-	13”	13”	15 1/2”	15 1/2”
5	-	-	-	-	-	-	15 1/2”	15 1/2”

Table E 5: Aisleway Clearance - 16” Wide Conveyors with Boston Gear Reducers

W = 16”	Boston Reducer Model							
HP	721		726		732		738	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	6 1/2”	6 1/2”	8”	8”	-	-	-	-
1	6 1/2”	6 1/2”	8”	8”	11”	11”	-	-
1 1/2	-	-	8”	8”	11”	11”	12”	12”
2	-	-	8”	8”	11”	11”	12”	12”
3	-	-	-	-	12”	12”	15 1/2”	15 1/2”
5	-	-	-	-	-	-	15 1/2”	15 1/2”

Table E 6: Aisleway Clearance - 22” Wide Conveyors with Grove Gear Reducers

W = 22”	Winsmith Reducer Model							
HP	220		226		232		242	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	2”	2”	3”	3”	--	--	--	--
1	2”	2”	3”	3”	4”	4”	--	--
1 1/2	3”	3”	4”	4”	4”	4”	--	--
2	--	--	5”	5”	5”	5”	8”	8”
3	--	--	7”	7”	8”	8”	11”	11”
5	--	--	--	--	8”	8”	11”	11”

Table E 7: Aisleway Clearance - 22” Wide Conveyors with Reliance Gear Reducers

W = 22”	Reliance Reducer Model											
HP	202Q		26S		30S		35S		40S		C262	
	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH
3/4	0”	0”	3”	3”	--	--	--	--	--	--	--	--
1	0”	0”	3”	3”	--	--	--	--	--	--	--	--
1 1/2	1”	1”	4”	4”	5”	5”	--	--	--	--	--	--
2	--	--	5”	5”	6”	6”	7”	7”	--	--	--	--
3	--	--	--	--	8”	8”	9”	9”	--	--	12”	12”
5	--	--	--	--	--	--	10”	10”	11”	11”	12”	12”

Table E 8: Aisleway Clearance - 22” Wide Conveyors with Winsmith Gear Reducers

W = 22”	Winsmith Reducer Model							
HP	202		262		A350		C262	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	1/2”	1/2”	2”	2”	-	-	-	-
1	1/2”	1/2”	2”	2”	5”	5”	-	-
1 1/2	-	-	2”	2”	5”	5”	6”	6”
2	-	-	2”	2”	5”	5”	6”	6”
3	-	-	-	-	6”	6”	9 1/2”	9 1/2”
5	-	-	-	-	-	-	9 1/2”	9 1/2”

Table E 9: Aisleway Clearance - 22” Wide Conveyors with Boston Gear Reducers

W = 22”	Boston Reducer Model							
HP	721		726		732		738	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	1/2”	1/2”	2”	2”	-	-	-	-
1	1/2”	1/2”	2”	2”	5”	5”	-	-
1 1/2	-	-	2”	2”	5”	5”	6”	6”
2	-	-	2”	2”	5”	5”	6”	6”
3	-	-	-	-	6”	6”	9 1/2”	9 1/2”
5	-	-	-	-	-	-	9 1/2”	9 1/2”

Table E 10: Aisleway Clearance - 28” Wide Conveyors with Grove Gear Reducers

W = 28”	Grove Reducer Model							
HP	220		226		232		242	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	0”	0”	0”	0”	--	--	--	--
1	0”	0”	0”	0”	0”	0”	--	--
1 1/2	0”	0”	0”	0”	0”	0”	--	--
2	--	--	0”	0”	0”	0”	2”	2”
3	--	--	1”	1”	2”	2”	7”	7”
5	--	--	--	--	2”	2”	7”	7”

Table E 11: Aisleway Clearance - 28” Wide Conveyors with Reliance Gear Reducers

W = 28”	Reliance Reducer Model											
HP	202Q		26S		30S		35S		40S		C262	
	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH
3/4	0”	0”	0”	0”	--	--	--	--	--	--	--	--
1	0”	0”	0”	0”	--	--	--	--	--	--	--	--
1 1/2	0”	0”	0”	0”	0”	0”	--	--	--	--	--	--
2	--	--	0”	0”	0”	0”	1”	1”	--	--	--	--
3	--	--	--	--	2”	2”	3”	3”	--	--	6”	6”
5	--	--	--	--	--	--	4”	4”	5”	5”	6”	6”

Table E 12: Aisleway Clearance - 28” Wide Conveyors with Winsmith Gear Reducers

W = 28”	Winsmith Reducer Model							
HP	202		262		A350		C262	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	-	-	-	-	-	-	-	-
1	-	-	-	-	0”	0”	-	-
1 1/2	-	-	-	-	0”	0”	0”	0”
2	-	-	-	-	0”	0”	0”	0”
3	-	-	-	-	1”	1”	3 1/2”	3 1/2”
5	-	-	-	-	-	-	3 1/2”	3 1/2”

Table E 13: Aisleway Clearance - 28” Wide Conveyors with Boston Gear Reducers

W = 28”	Boston Reducer Model							
HP	721		726		732		738	
	LH	RH	LH	RH	LH	RH	LH	RH
3/4	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
1 1/2	-	-	-	-	-	-	0”	0”
2	-	-	-	-	-	-	0”	0”
3	-	-	-	-	0”	0”	3 1/2”	3 1/2”
5	-	-	-	-	-	-	3 1/2”	3 1/2”

AGPE Intermediate Sections

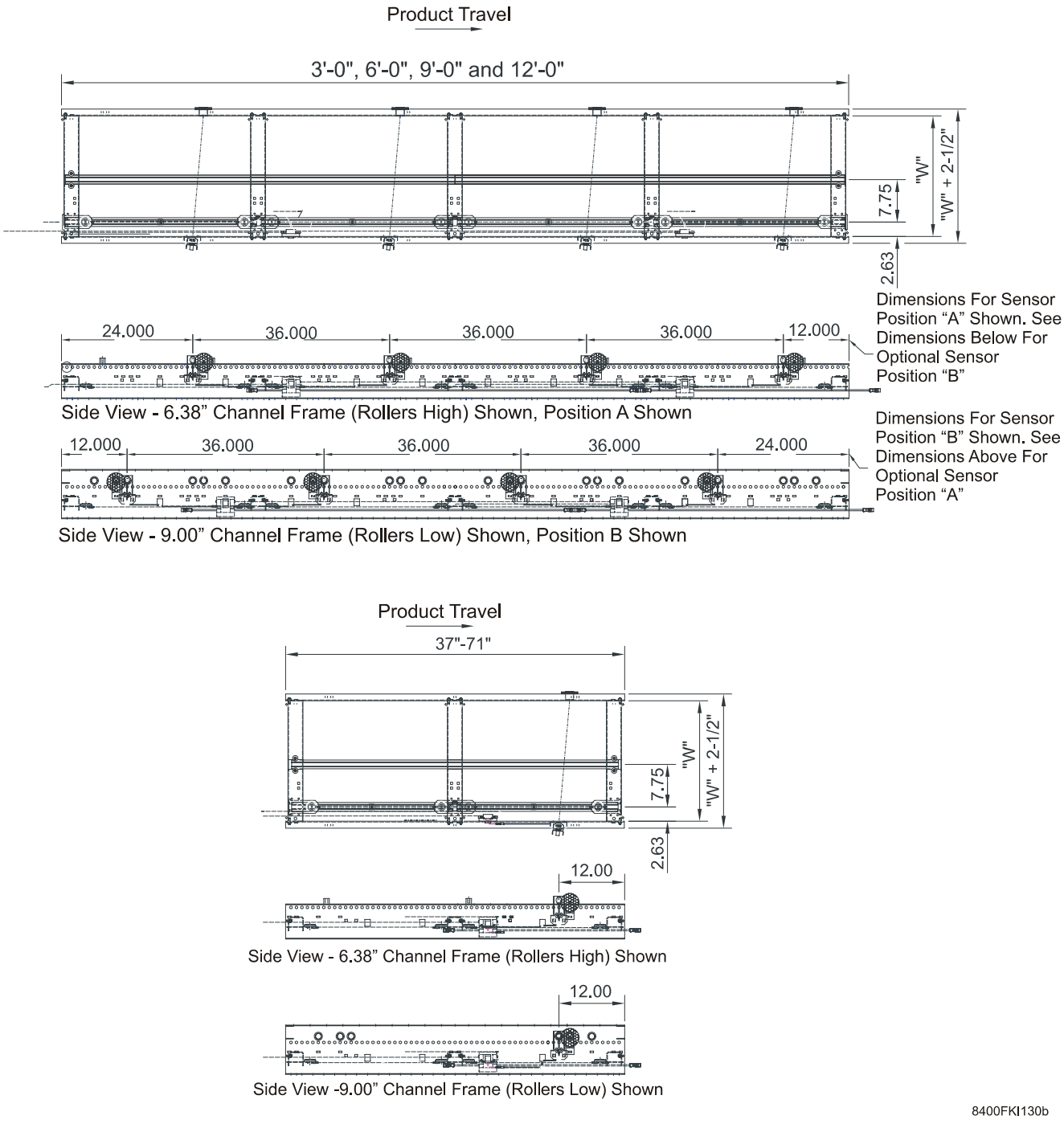


Figure E - 3 AGPE Intermediate Section Layouts

AG Intermediate Sections

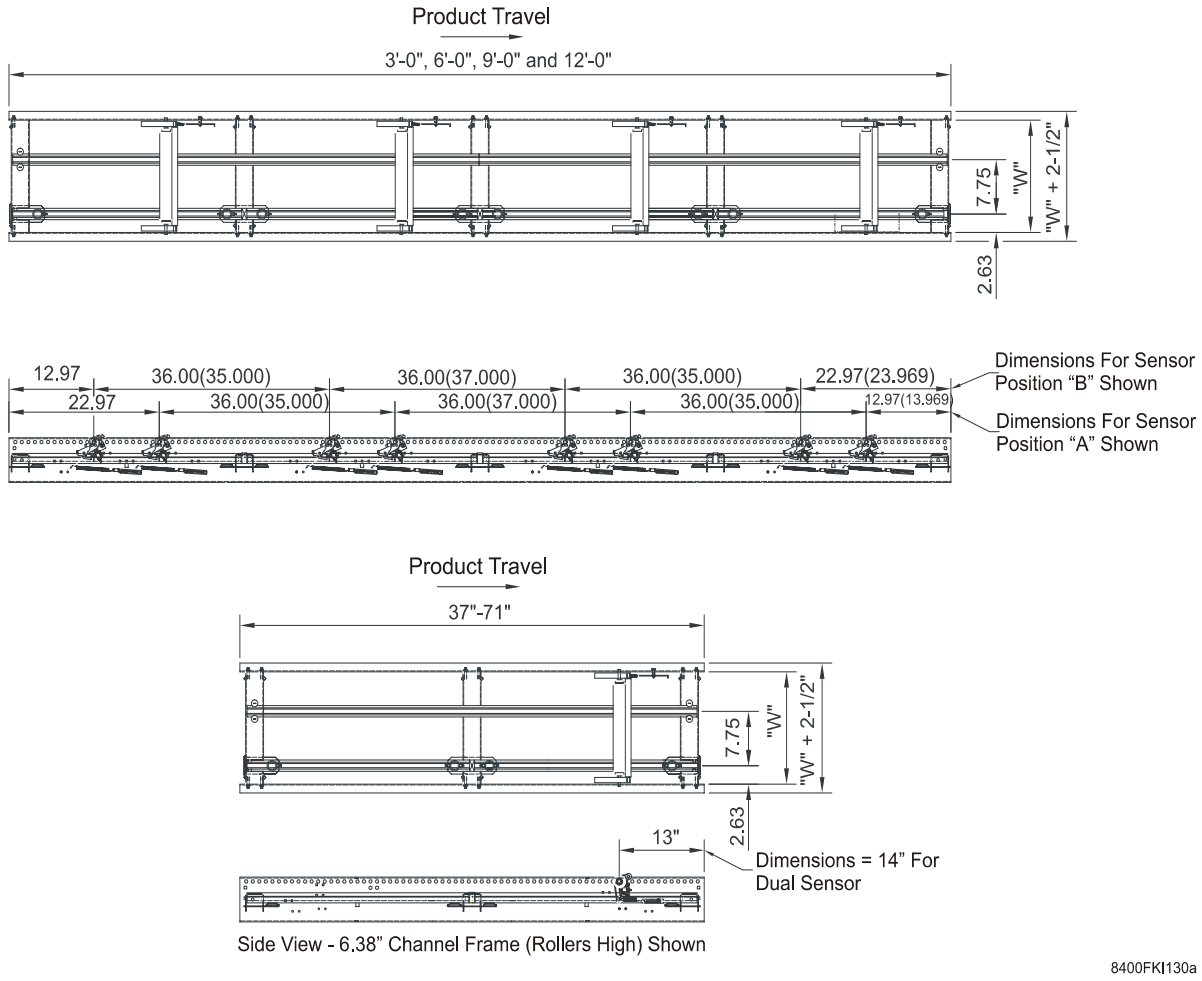


Figure E - 4 AG Intermediate Section Layouts

Curve Sections

90° Curve

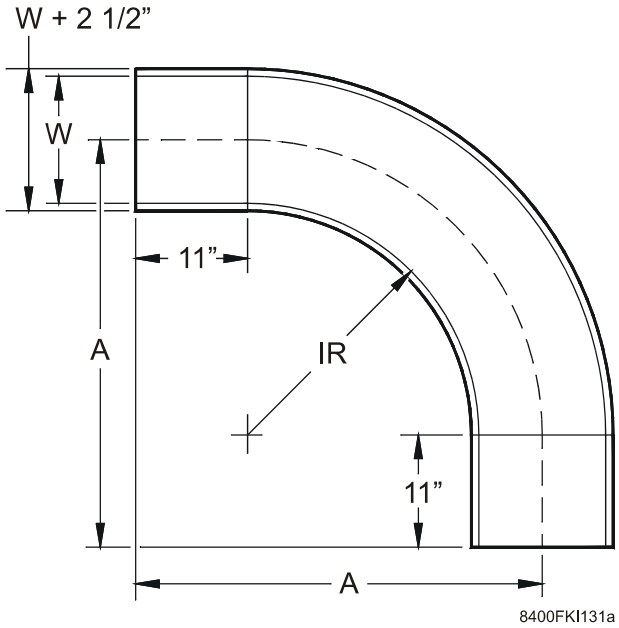


Figure E - 5 90° - Curve Section

Table E 14: 90° Curve

“W”	Standard		True Taper	
	IR	A	IR	A
16”	30”	49”	30”	49”
22”	30”	52”	40”	62”
28”	30”	55”	48”	73”
34”	30”	58”	60”	88”
40”	30”	61”	60”	91”

60° Curve

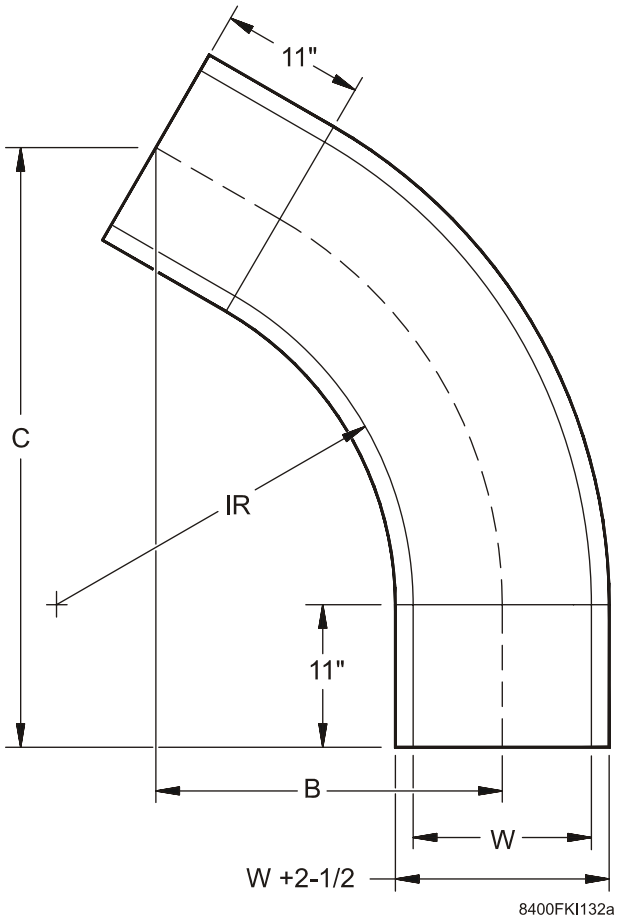


Figure E - 6 60° - Curve Section

Table E 15: 60° Curve

"W"	Standard			True Taper		
	IR	B	C	IR	B	C
16"	30"	28-1/2"	49-7/16"	30"	28-1/2"	49-7/8"
22"	30"	30"	52"	40"	36-1/2"	63-3/16"
28"	30"	31-1/2"	54-5/8"	48"	39-1/2"	68-3/8"
34"	30"	33"	57-3/16"	60"	48-1/2"	85"
40"	30"	34-1/2"	59-3/4"	60"	51-1/2"	89-3/16"

45° Curve

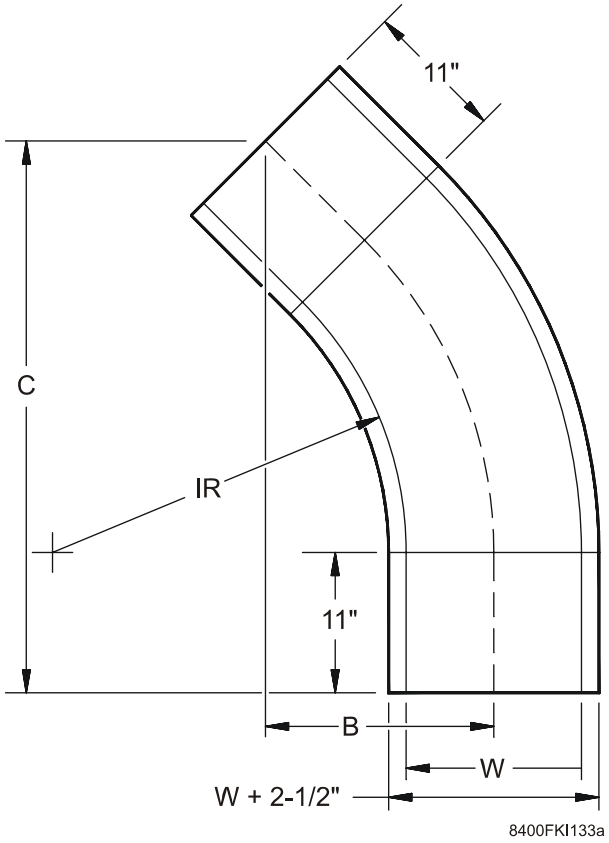


Figure E - 7 45° - Curve Section

Table E 16: 45° Curve

"W"	Standard			True Taper		
	IR	B	C	IR	B	C
16"	30"	18-15/16"	45-5/8"	30"	18-15/16"	45-5/8"
22"	30"	19-13/16"	47-3/4"	40"	23-9/16"	56-7/8"
28"	30"	20-11/16"	49-7/8"	48"	25-3/8"	61-1/8"
34"	30"	21-9/16"	52"	60"	30-5/8"	73-15/16"
40"	30"	22-7/16"	54-1/8"	60"	32-3/8"	78-1/8"

30° Curve

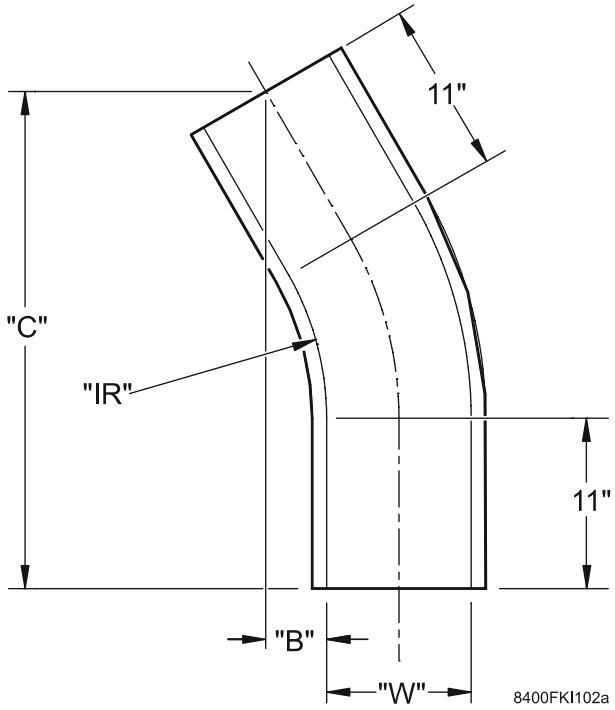


Figure E - 8 30° - Curve Section

Table E 17: 30° Curve

"W"	Standard			True Taper		
	IR	B	C	IR	B	C
16”	30”	10-9/16”	39-1/2”	30”	10-9/6”	39-12”
22”	30”	11”	41”	40”	12-3/4”	47-1/2”
28”	30”	11-3/8”	42-1/2”	48”	13-1/2”	50-1/2”
34”	30”	11-13/16”	44”	60”	15-15/16”	59-1/2”
40”	30”	12-3/16”	45-1/2”	60”	16-3/4”	62-1/2”

180° Curves

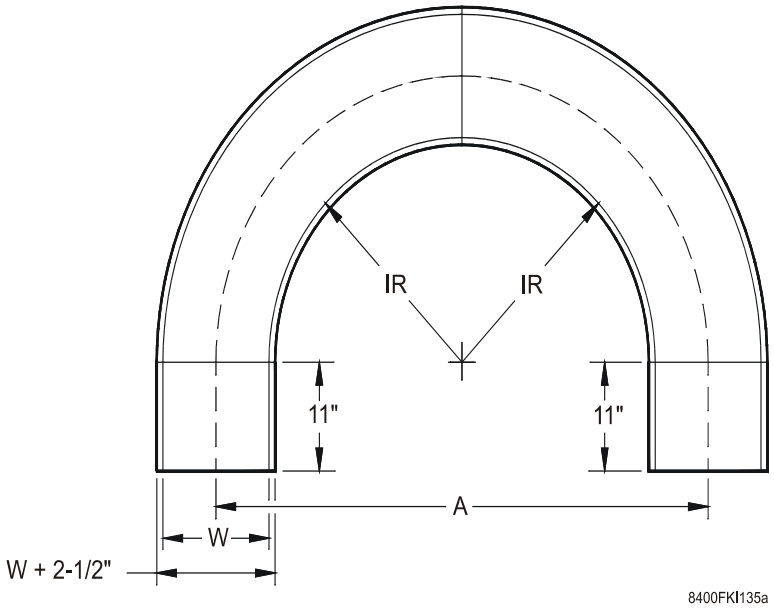


Figure E - 9 180° - Curve Sections

Table E 18: 180° Curve

"W"	Standard	True Taper
	A	A
16"	76"	76"
22"	82"	102"
28"	88"	124"
34"	94"	154"
40"	100"	160"

Intermediate Merge Section

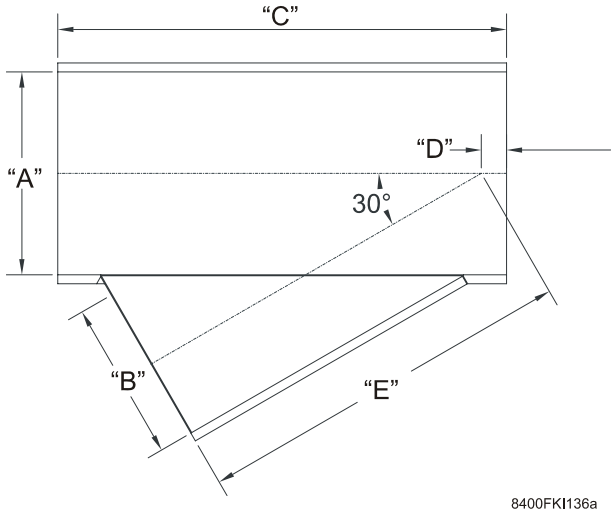


Figure E - 10 30° - Intermediate Merge Section

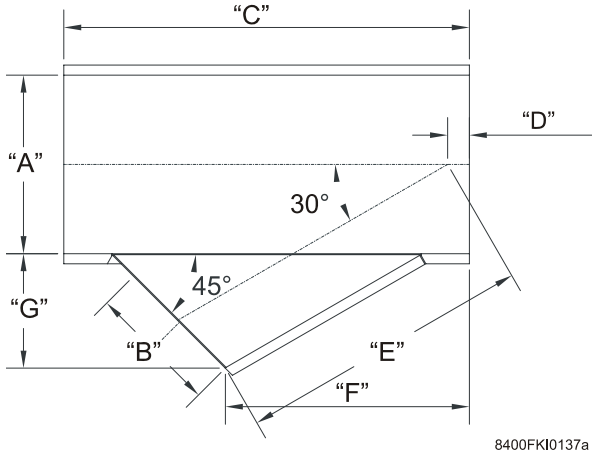


Figure E - 11 45° - Intermediate Merge Section

Table E 19: Intermediate Merge Section Dimensions

Dim.	30 Degree Merge (Figure E-9)				45 Degree Merge (Figure E-10)			
“A”	22”	28”	34”	40”	22”	28”	34”	40”
“B”	16”	22”	28”	34”	16”	22”	28”	34”
“C”	50”	62”	74”	86”	50”	62”	74”	86”
“D”	2.677”	3.481”	4.285”	5.089”	2.677”	3.481”	4.285”	5.089”
“E”	41.484”	52.680”	63.876”	75.072”	36.288”	45.522”	55.141”	64.729”
“F”	N.A.	N.A.	N.A.	N.A.	30.082”	37.690”	45.297”	52.905”
“G”	N.A.	N.A.	N.A.	N.A.	14.109”	18.501”	22.893”	27.286”

End Idler Section

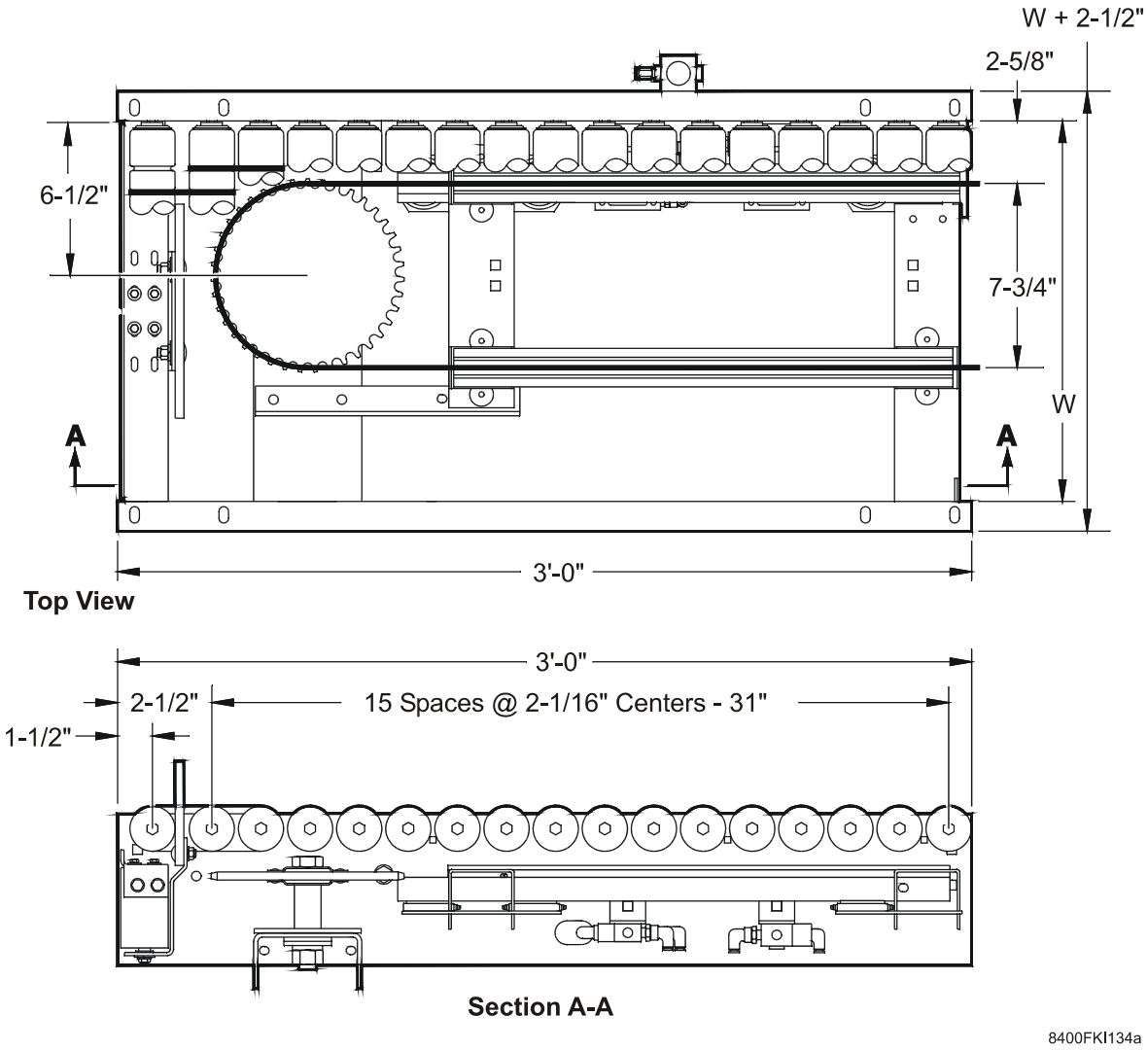


Figure E - 12 End Idler Section

SECTION F: ACCESSORIES AND OPTIONS

Introduction

This section contains standard accessory and optional components that are available for the Accuglide Conveyor product line.

Accessory / Optional Components

The following components are common for all Accuglide Conveyors.

- Chain-Track Lubricator
- Oil Reservoir Assembly
- Chain Tensioner
- Blade Stop
- Case Stop
- Brake Module
- Fixed Side Guides

Retrofit Kits for upgrading AG Conveyors to AGPE components

- AGPE Retrofit Kit

Common - AGPE / AG

Chain Track Lubricator - Solenoid-Controlled (Drive Section)

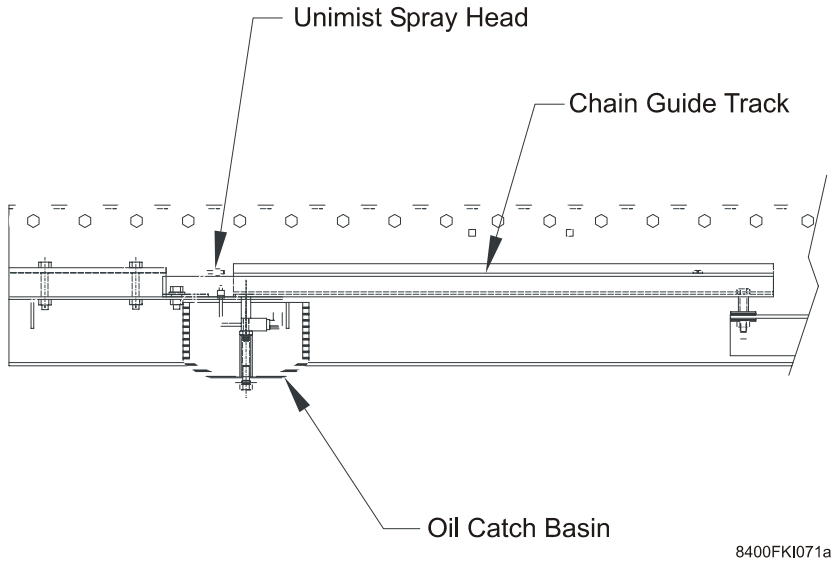


Figure F - 1 Chain Track Lubricator - Solenoid-Controlled

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 nozzles.

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 nozzles are factory-assembled into the Infeed Drive Section. The oil reservoir is piped to the solenoid-valve and the spray nozzles. The oil reservoir with its mounting bracket is strapped to the underside of the drive section.

Field Assembly 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.

Oil Reservoir One (1) Pint - Float Switch

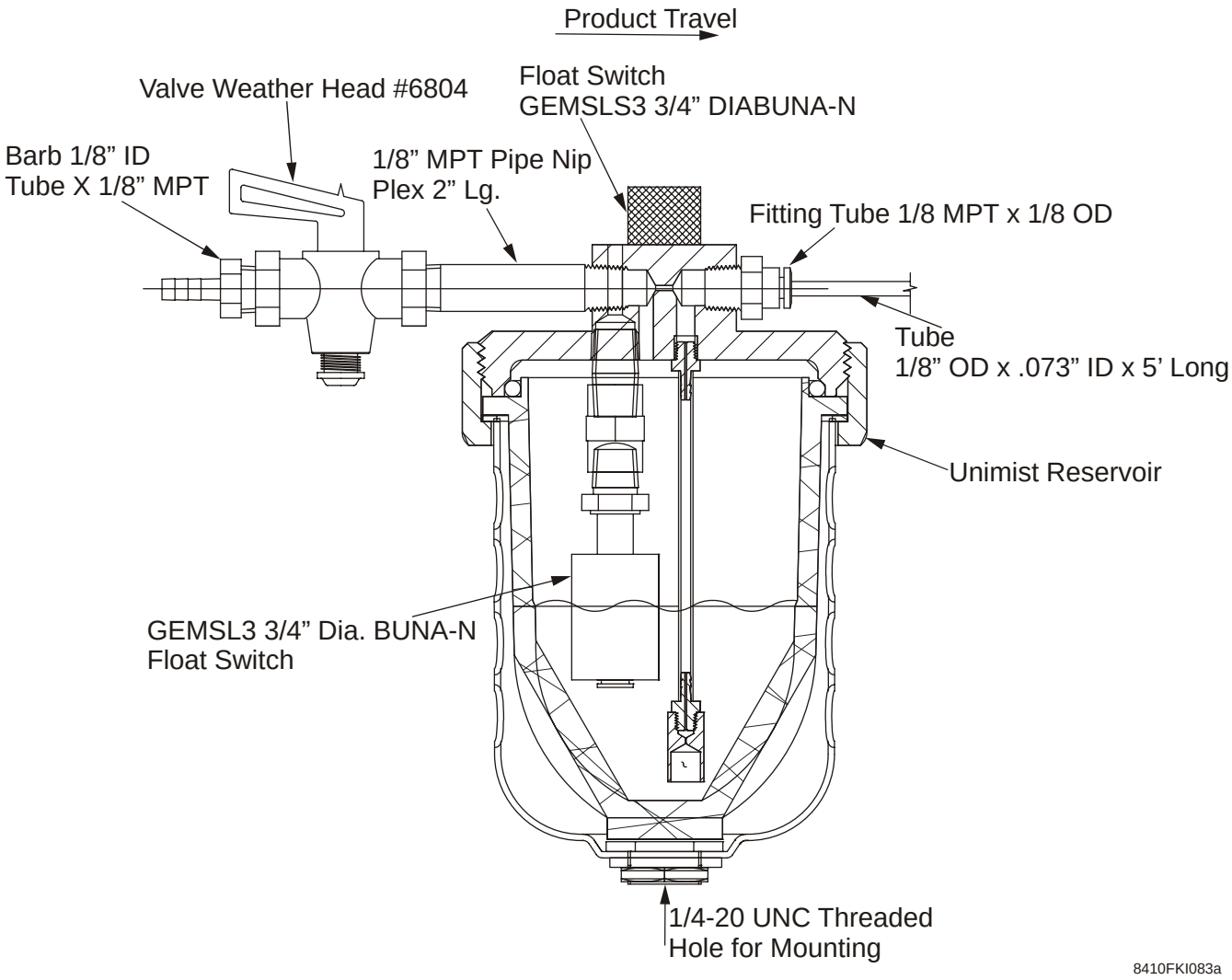


Figure F - 2 Oil Reservoir - One (1) Pint - Float Switch

Overview The Oil Reservoir with float switch is an alternate for the standard, without switch type. It uses a GEMs LS3 3/4" Dia. BUNA-N Float Switch.

Operation An external signal is sent when the oil is below 2 fluid ounces.

Oil Reservoir One (1) Liter - Float Switch

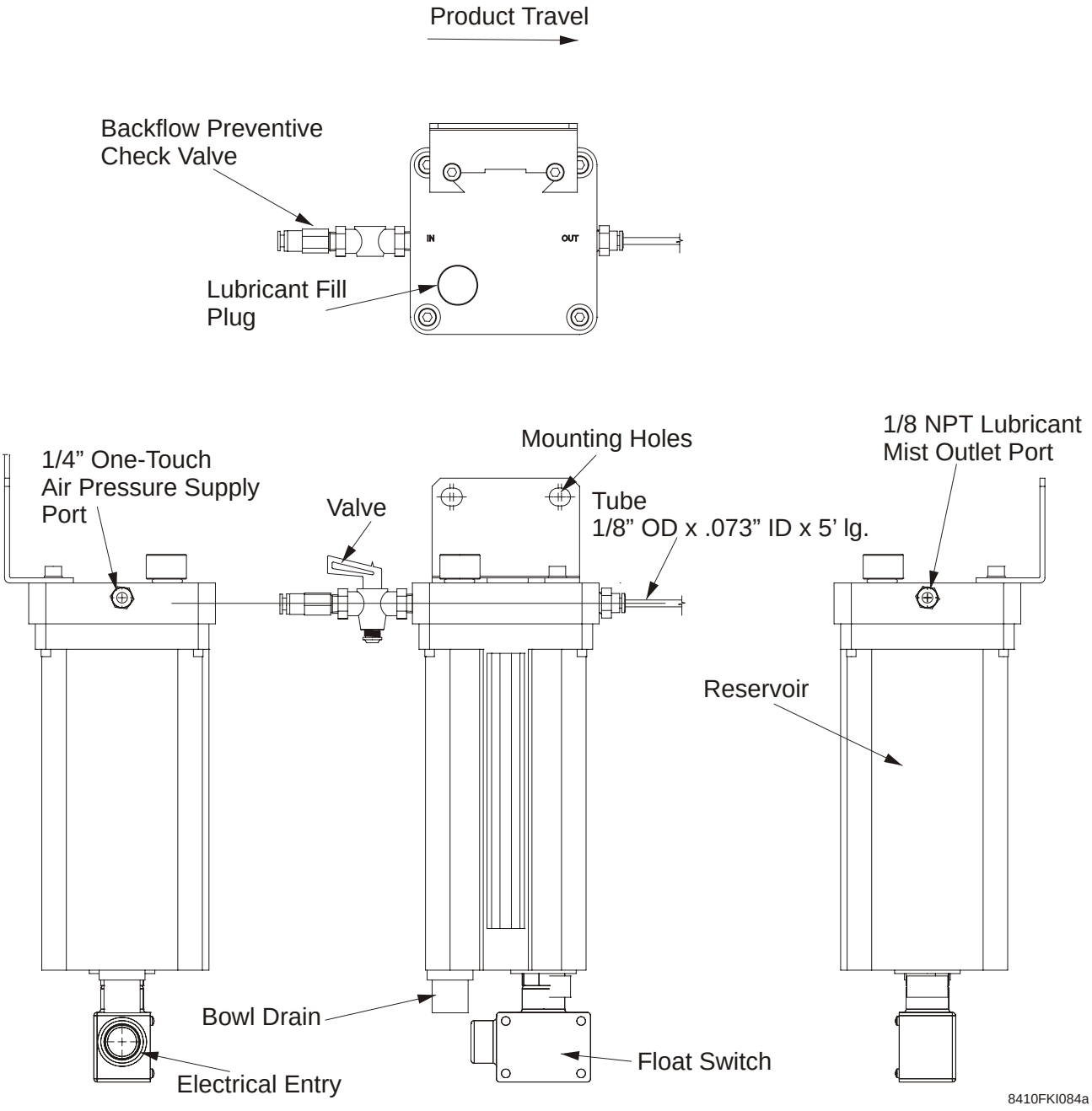


Figure F - 3 Oil Reservoir - One (1) Liter - Float Switch

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.

Air-Actuated, Chain-Tensioner (Drive Section)

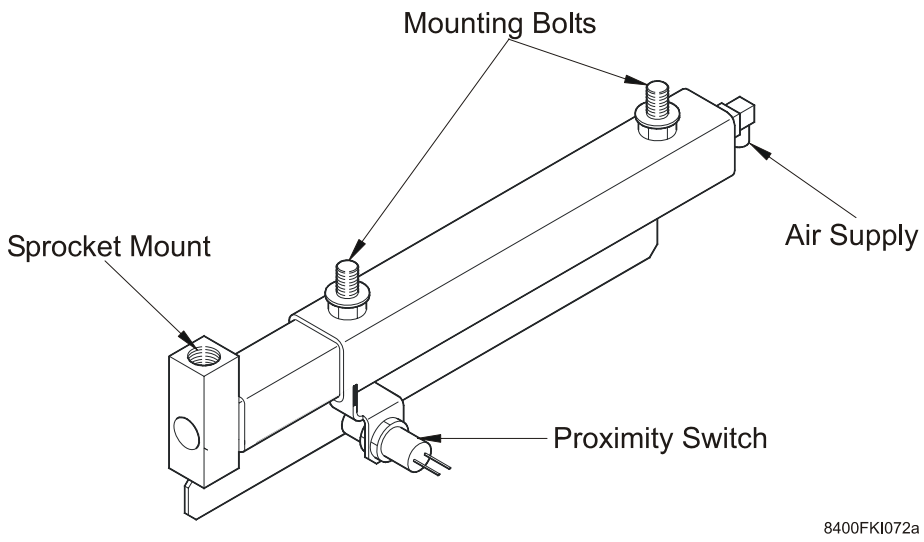


Figure F - 4 Air-Actuated, Chain-Tensioner

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” 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 (60 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.
Field Piping	The chain-tensioner’s air-supply port must be connected to the filter/regulator.

Blade-Stop (Idler Section)

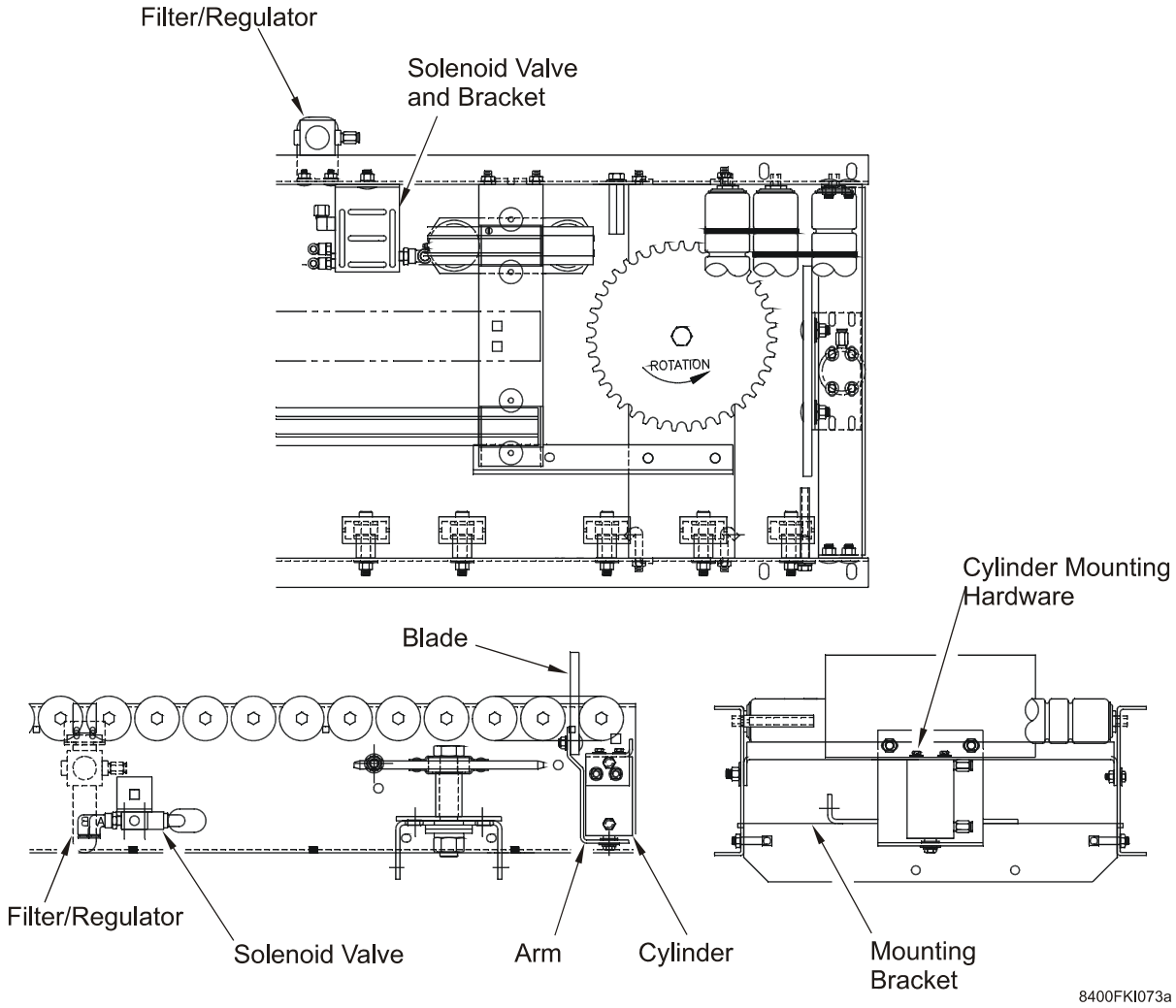


Figure F - 5 Blade-Stop (Discharge Idler Section)

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 (100VAC / 24VDC) actuates the solenoid-actuated, 4-way valve that controls the double acting air-cylinder.

Power Requirement 24VDC / 110VAC.

Air Requirement Filter, 60 PSI.

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.

Brake-Module (Idler Section)

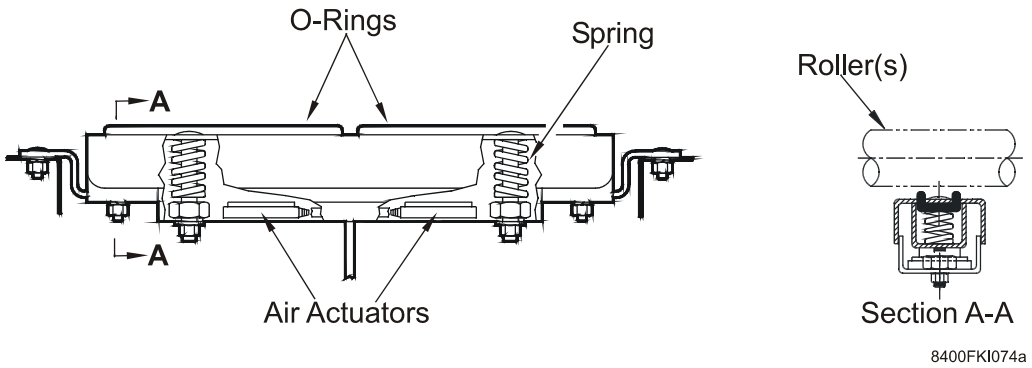


Figure F - 6 Brake-Module - Idler Section

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’-0” lg.) 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’-0” lg. “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.

Brake-Module (Intermediate-Straight / Curve Sections)

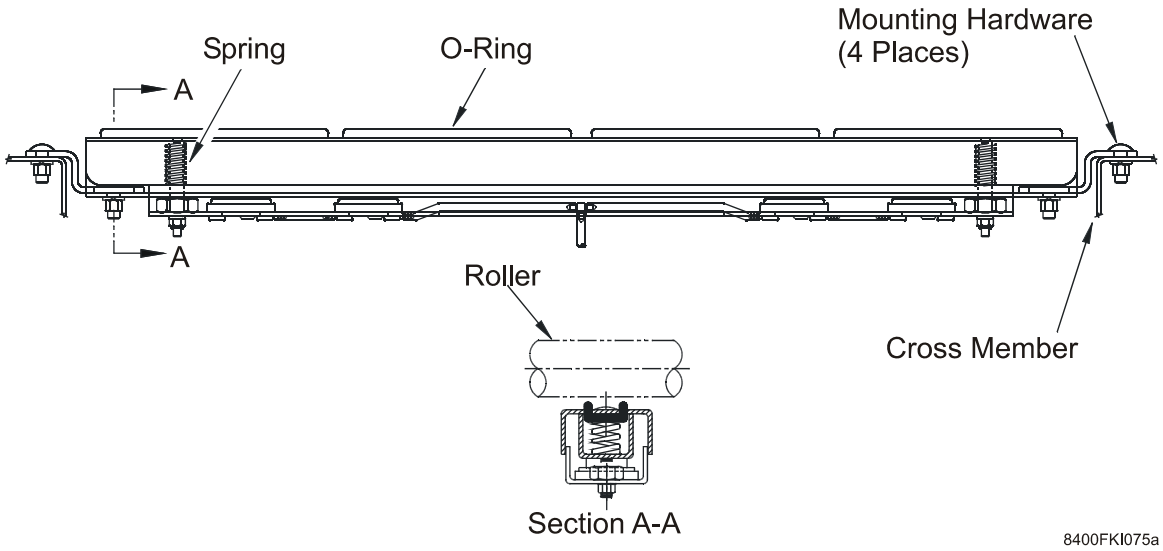


Figure F - 7 Brake-Module

Overview

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.
Kits include two (2) 3'-0" lb., spring-set Brake-Modules and the necessary control components for each specific application.
A Brake-Module is not a "positive" stopping device. For "positive" control, use a Case Stop.

Operation

I**ntermediate Straight Section Kits**
A Brake-Zone (6'-0" lb.) 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.

Assembly/Piping

Brake-Modules are shipped as hardware and field-installed into the appropriate zones of an Intermediate Straight Section.
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.

Power Requirement

Solenoid-controlled Brake-Modules require a maintained signal (24VDC / 110VAC) to disengage the brake and allow the zones to be powered.

Case-Stop (Straight Intermediate Section)

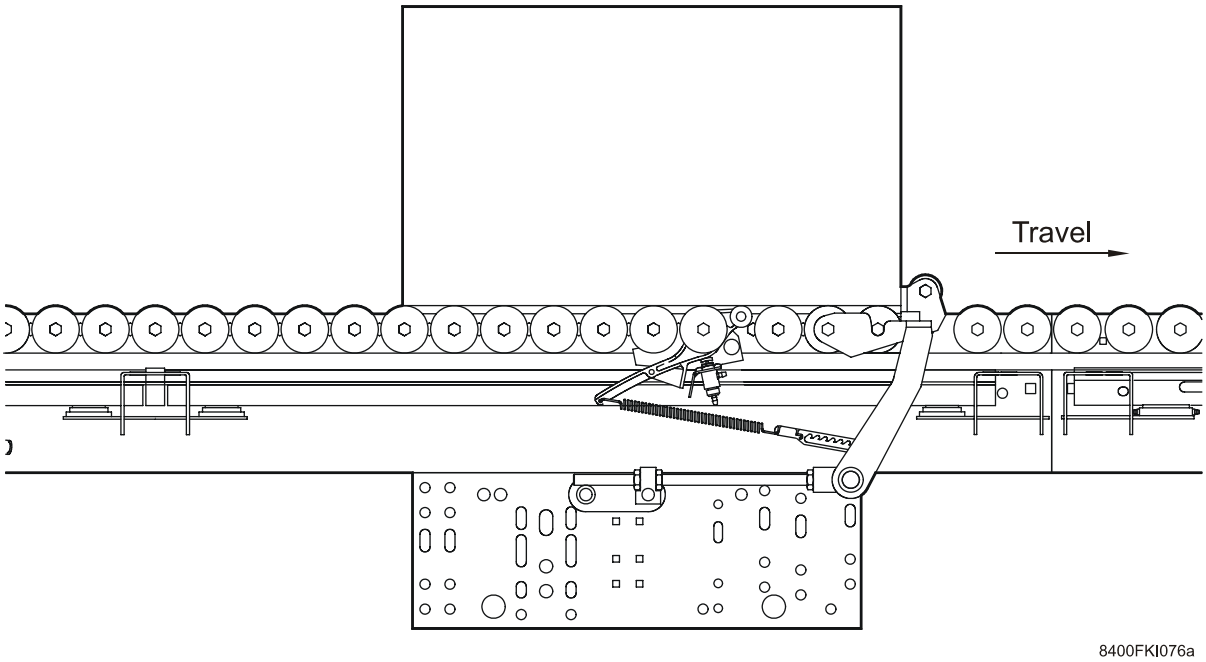


Figure F - 8 Case-Stop (2” Roller Centers, Hand Operated Shown)

Overview	Case-Stops provide positive control of product accumulation and release: 1) at workstations; 2) in batch assembly areas; 3) upstream of an Intermediate Merge Section; and 4) upstream of an Intermediate Curve Section.
Operation	Manually-controlled (hand or foot actuated) or automatically-controlled (air-actuated) pivoting roller stops either “raise” to stop advancing in an accumulation zone or “lower” to release accumulated product and allow transporting product to pass.
Roller Centers	Case-Stops are available for Accuglide Intermediate Straight Sections with 2”, 3”, 4” or 6” roller centers.
Mounting	The Case-Stop’s mounting frame bolts to the bottom flanges of an Intermediate Straight Section. The pivoting-stop assembly is installed into the section at installation and connected to the actuation components.
Field Assembly	The fully-assembled Case-Stop is shipped as a complete assembly and must be assembled to the section and piped at installation.
Power / Air Requirement	Air-operated Case-Stop (only) - 24 VDC or 110VAC release signal / 60-80 psi air supply.
Power Requirement	The automatic air-operated - The solenoid-valve requires a maintained signal (24VDC / 110VAC) to “lower” the stop and allow product to pass.
Accessories	Stop-Position Sensors - Proximity sensors (24VDC / 110VAC).
Reference	Refer to *Product Manual 5340* for additional information.

AGPE Retrofit Kit

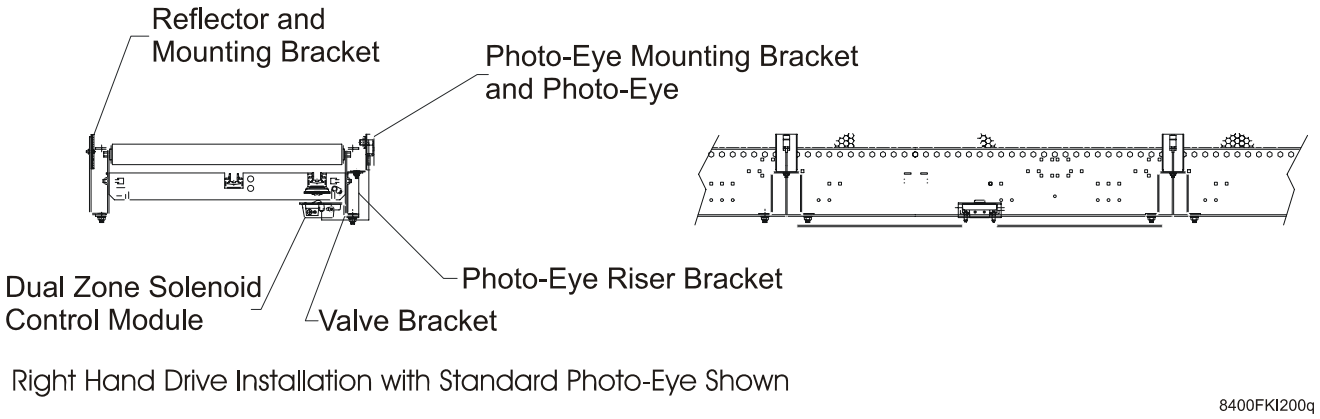


Figure F - 9 AGPE Retrofit Kit

Overview AGPE Accuglide Retrofit Kits upgrade in-service AG conveyors (with pivoting roller sensors) to AGP1 zone control components; single-zone and dual-zone kits are available.

References For additional information, refer to Section B Application Guidelines, Section C Specifications, Section G Installation, and Section H Maintenance.

Field Assembly An AGPE Solenoid Control Module (SCM) must be field-assembled (snap-fit connection) to its mounting bracket and bolted to the frame rail. Photo-cells with pre-assembled mounting brackets must be bolted to formed riser brackets.

Field Piping Connection of: 1) main air supply line (1/2” tubing) between SCMs; 2) filter/regulator to main air-supply line; and 3) air line(s) (1/4” tubing) between each SCM and its air-actuators.

Field Electrical Connecting Power Communication - The photo-eye sensors must be connected to their associated SCM.

Other Components In addition to the retrofit kits, a specific conveyor application may require some or all of the following components: Power-Supply, Filter/Regulator Assembly; Power/Communication Cords; Power Isolation Cord; and Slug Termination Cord(s).

Optional Equipment

Filter/Regulators

A minimum of one is required for each 200’ of conveyor; 0 - 15 psi filter/regulator with mounting brackets and hardware; recommended initial setting of operation pressure for intermediates is 12 psi.

Dual Sensors

Dual type for sensor position “A” only; 5” and 6” centers.

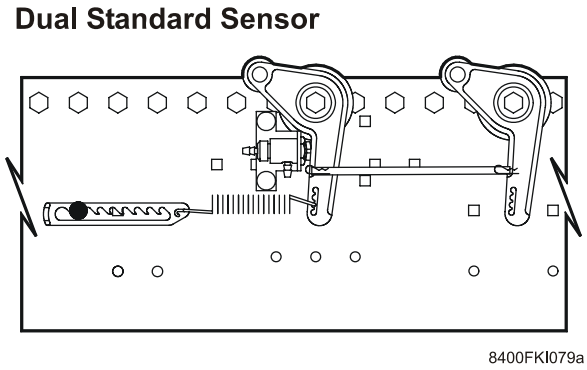


Figure F - 10 Dual Sensors

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.

Step 1. Mount the unit's separate filter/regulator near the Discharge Idler Section and pipe to the solenoid valve.

Step 2. Wire the solenoid to the control panel.

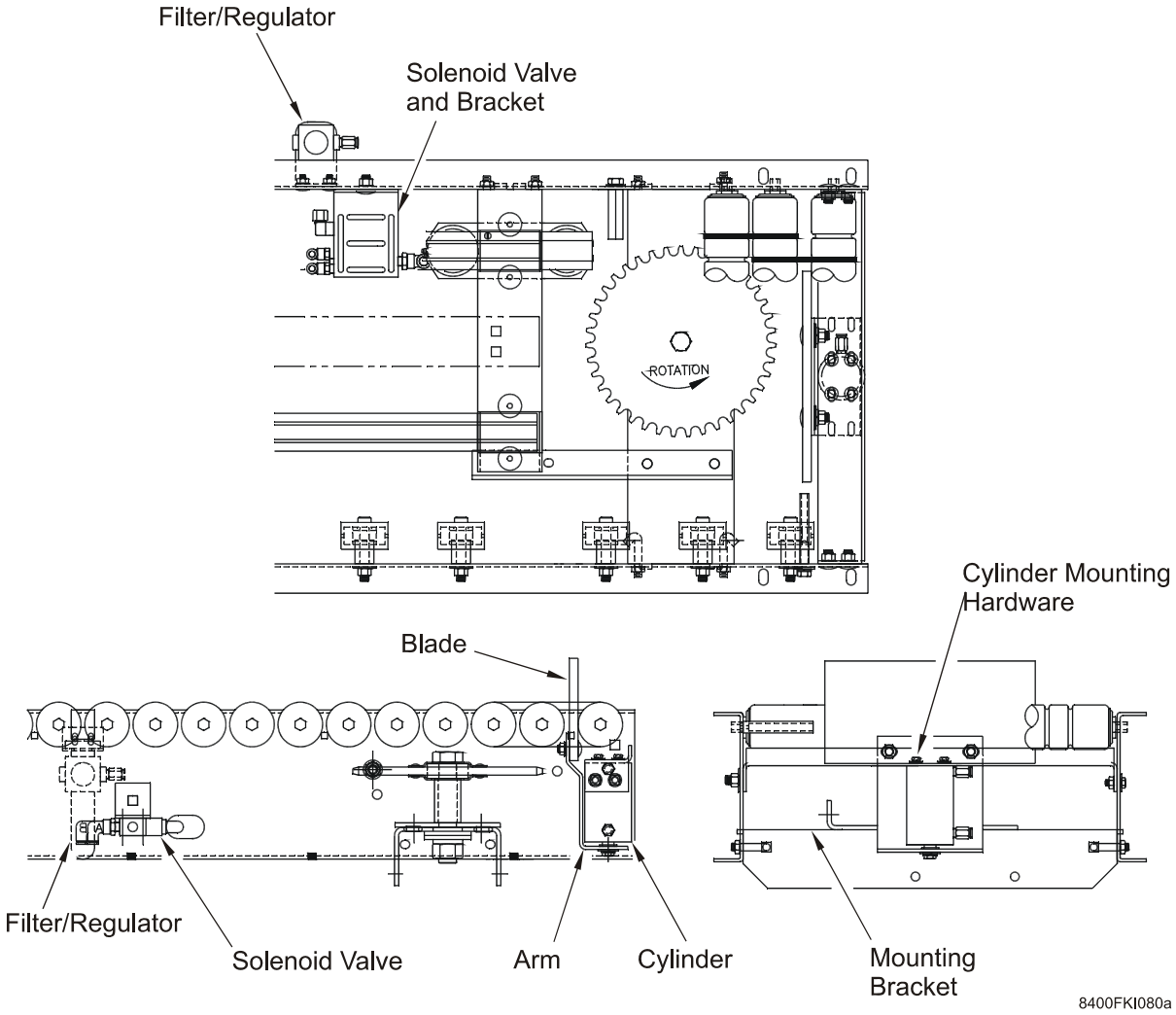


Figure F - 11 Blade Stop Installation

Brake Module Kits

Install a brake module kit prior to a curve to prevent product from accumulating through the curve where rollers are continuously driven. 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.

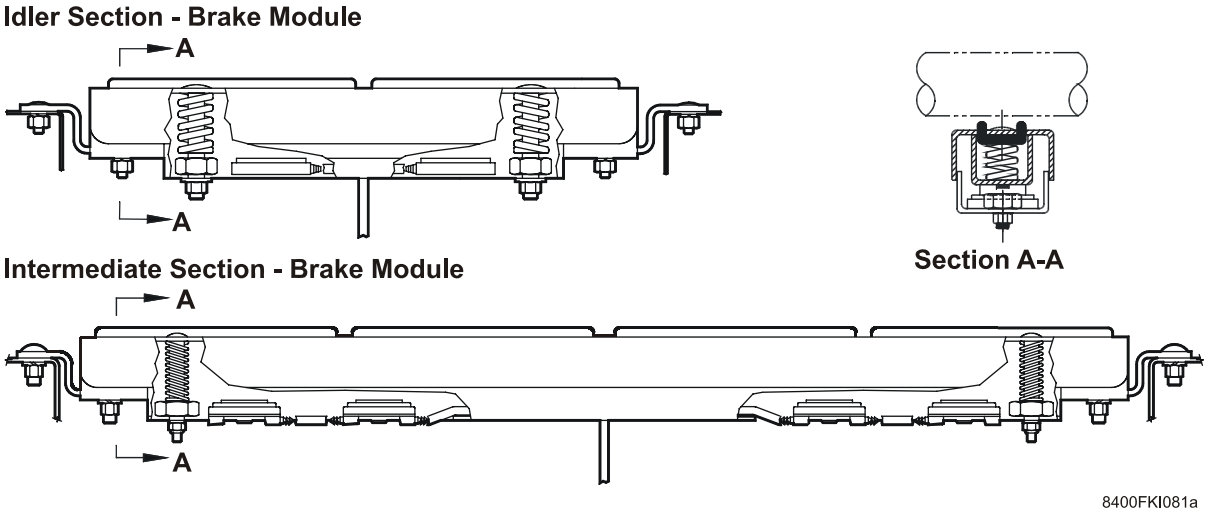


Figure F - 12 Brake Module

Intermediate Curve Section Preparation

Carrier Roller Removal

Step 1. Remove all Carrier Rollers from the section(s) to facilitate the installation of the drive chain and pad.

AGP1 - Power Communication Cord Connections

Step 1. 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.

AGP1 - Air Line Connections

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

AGP1 / AG - Curve with Brake-Module Installation

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

Step 1. Bolt two (2) Brake-Modules to the crossmembers of each zone using the hardware supplied.

Step 2. Install the appropriate Field Kit to make the pneumatic connections.

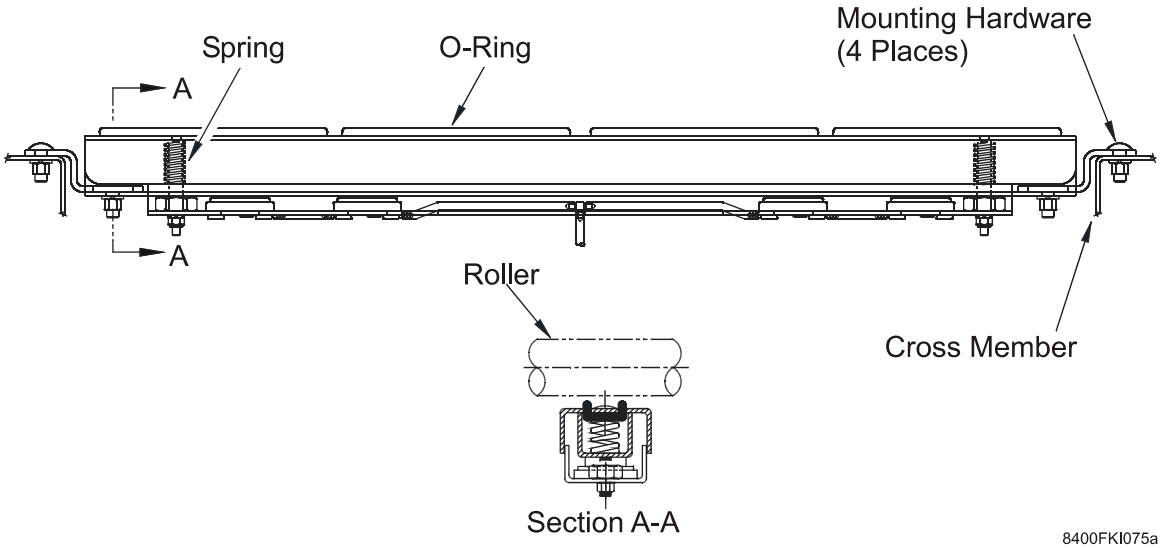


Figure F - 13 Drop-In Brake Module

Case Stop

An air operated Case Stop is available for Intermediate Sections, see Figure F - 14. The unit is bolted to the bottom of the intermediate section frame and consists of a pivot roller assembly that replaces three standard rollers on 3” centers. The pivot roller assembly is actuated by an air cylinder controlled by a singulation zone control valve connected in series to the zone control valve of the immediate upstream zone.

Refer to the *Case Stop Product Manual 5340*, for additional information.

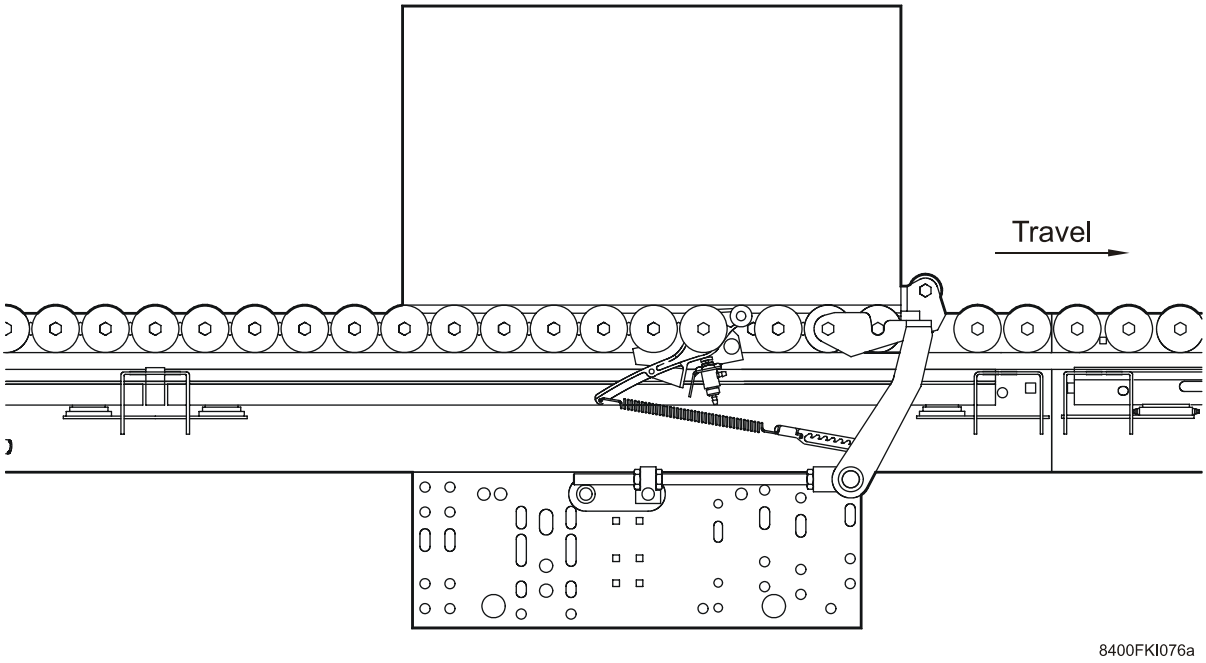


Figure F - 14 Accuglide Plus - Case Stop

Fixed Side Guides

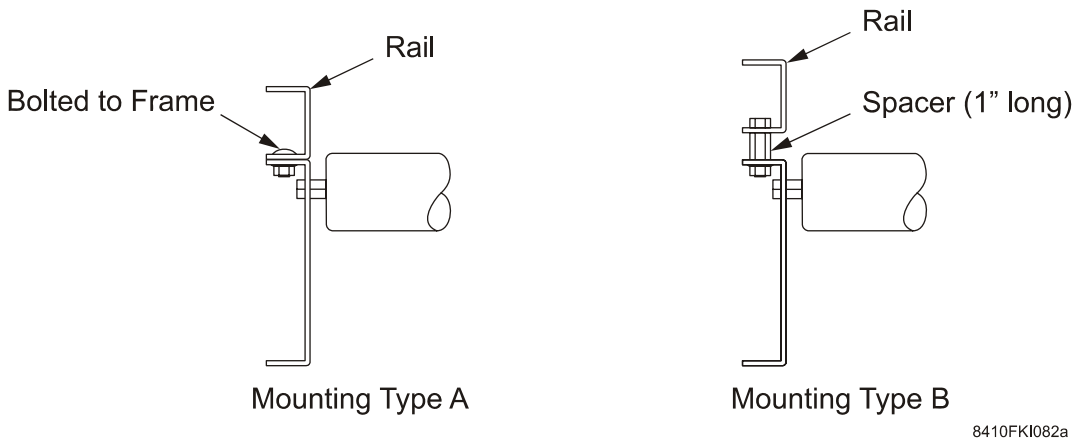


Figure F - 15 Fixed Side Guide Rails and Mounting Types

Overview

Fixed-type Side-Guides are required for containing product on the conveyor. Faces of rails overlap and eliminate snag points.

Rail Type

Type SGA - 1-3/4" deep x 1-1/4" wide x 14 ga.

Type SGB - 2-5/8" deep x 1-1/4" wide x 14 ga.

Type SGB-1 - 1-5/8" deep x 1-1/4" wide x 14 ga.

Type SGC - 7" deep x 1-1/4" x 14 ga.

Type SGD - 10" deep x 1-1/4" wide x 14 ga.

Type SGD-1 - 9" deep x 1-1/4" wide x 14 ga.

Mounting Type

Type A - Side Guide bolts directly to frame rail’s top flange.
Type B - Side Guide spaced 1” above frame’s rail’s top flange.

Rail / Mounting Type

Type SGB-1 / B (1-5/8" side-guide rail with 1" spacer) used for:

- Intermediate Curve Section - accumulation-type; to align with RSL Intermediate Straight Section frame with 9" frame rail.
- End Drive / Idler Section(s) - with PE sensors; to align with RSL Intermediate Straight Section frame with 9" frame rail.

Type SGD-1 / B (9" side-guide rail with 1" spacer) used for:

- Intermediate Curve Section - accumulation-type; to align with RSH Intermediate Straight Section frame with Type D side guides.
- End Drive / Idler Section(s) - with PE sensors; to align with RSH Intermediate Straight Section frame with Type D side guides.

Field Assembly

Side Guides are field-assembled to the conveyor's components (Drive Section, Idler Section, and Intermediate Sections).

SECTION G: INSTALLATION PROCEDURES

Accepting Shipment

Immediately upon delivery, check that all equipment received agrees with the bill of lading or carrier's freight bill. Any shipping discrepancy or equipment damage should be clearly noted on the freight bill before signing.

Shortages or Errors

Report any shortages or errors to the Manufacturer's Customer Service in writing within ten days after receipt of shipment.

Note: The drive pad may be shipped separate from the conveyor. If this occurs, the drive pad carton will be marked with the following label.

CONTENTS: CONVEYOR DRIVER PAD
ATTN: CONVEYOR INSTALLER

Figure G - 1 Carton Contents Label

Lost or Damaged Shipment

Report lost shipments to the Manufacturer's Shipping Department.

If shipping damage is evident upon receipt of the equipment, note the extent of the damage on the freight bill and immediately contact the transportation carrier to request an inspection. Do not destroy the equipment crating and packing materials until the carrier's agent has examined them. Unless otherwise agreed by the manufacturer, the Purchaser (User) shall be responsible for filing claims with the transportation carrier. A copy of the inspection report along with a copy of the freight bill should be sent to the Manufacturer's traffic department.

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.

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” should some object accidentally become 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’-0” elevation):

   All carrier rollers must be free to “pop out” (an exception to this is the carrier rollers installed at 2” centers). Do not use roller hold-downs or side guide types “A” or “C” since these trap the rollers in the frame if they pop out.

2. For conveyors installed overhead (8’-0” or higher) with no access (no catwalk, walkway, platform, etc.):

   Prevent carrier rollers from falling on personnel below. Accomplish this by securing the carrier rollers in the frame by installing roller hold-down straps or by using intermediates with fixed rollers. Install hold-down straps on both sides of the conveyor under the top flange of the conveyor frame. If the side guides are mounted directly to the frame (such as arrangements “A” and “C”), then the side guide serves to trap the rollers in place and no additional hold-down strap is required. Also see item #5 below on spill guards.

3. For conveyors mounted overhead (8’-0” or higher), but accessible to operators by a platform:

   Carrier rollers must be free to “pop-out” as described in item #1 above (assuming conveyors are less than 8’-0” above platform). However, if the platform does not provide a surface which would suffice as a spill guard, then provide a spill guard. The spill guard must protect personnel below from carrier rollers that may “pop-out” of the frame. Refer to item #5 below for more information on spill guards.

4. For conveyors installed overhead (8’-0” or higher), but accessible by catwalk or walkways:

   Prevent carrier rollers from falling on personnel below. Accomplish this by securing the carrier rollers in the frame with roller hold-down straps or side guides mounted on frames, or with fixed rollers as described in the item #2 above. If this is done, do not consider the walkways or catwalks to be operator platforms and post signs limiting access to maintenance personnel. The signs must also warn against the danger of pinch points caused by trapped rollers. In addition, provide an emergency stop pull cord for stopping the conveyor while clearing jams or performing maintenance. Also see item #5 below on spill guards.

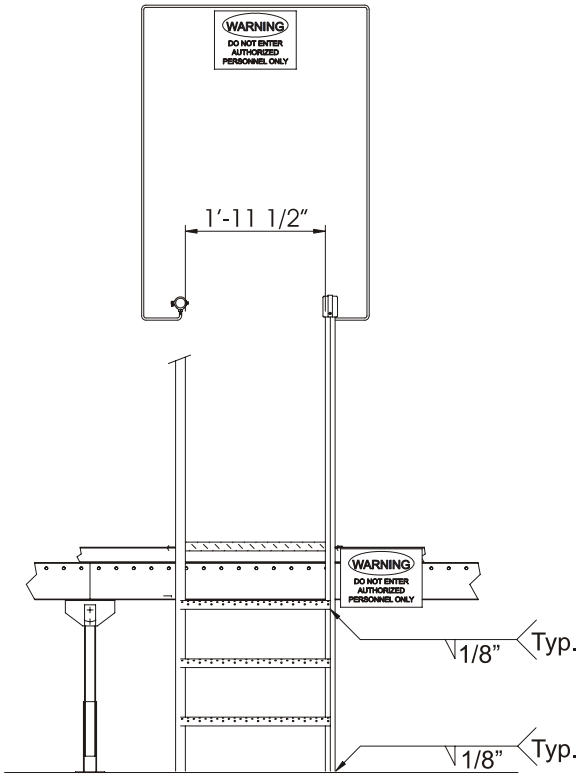
5. For all conveyors installed overhead:

   Provide spill guards if product may fall off the conveyor for any reason and if personnel would be endangered. In any overhead installation, if the conveyed material is likely to fall (i.e., loose bottles in trays, poorly packaged products, etc.), install spill guards where the conveyor is above aisles or work spaces.

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.

WARNING: For conveyors installed at floor level in an **"Authorized Personnel Access Area Only"**, fixed rollers (3" 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.
The illustration below shows the location for installation of the sign.



TO ORDER LADDER SUPPORTS PER CROSSOVER:		
QNTY:	PART DESCRIPTION:	PART DESCRIPTION:
1	957173	X-OVER SIGN FRAME
2	957174	3/8" DIA NYLON LOOP CLAMP (TO ATTACH SIGN TO FRAME)
4	957175	1 1/4" DIA PIPE RING W/BOLT (TO ATTACH SIGN TO LADDERS)
4	957305	SIGN,WARN BY-WS10 SETON M2540

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, a list of selected spare parts for standard products is included in this manual (see Section I).

Factory Assistance

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

Installation Site Preparation

Site Layout for Floor Support Installations

Using a chalkline, 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

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

- 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.
- Refer to the “Floor Support and Ceiling Hangers”, Manual No. CS5310, for additional information.

Section Arrangement

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

Air Kits for Sensors

These optional air kits contain extra hardware for use when installing sensor rollers. These kits are ordered separately under the following items:

- AKS - Additional Air Kit for Standard Sensor Rollers, or
- AKP - Additional Air Kit for Photo-eye Sensors

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:

- 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)

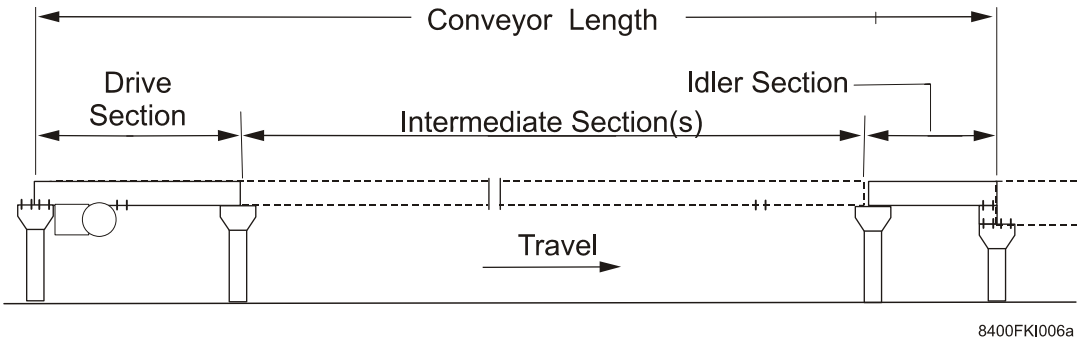


Figure G - 2 Components of AGPE Accuglide Conveyor

Component Assembly

Use the following steps to assemble the various components.

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

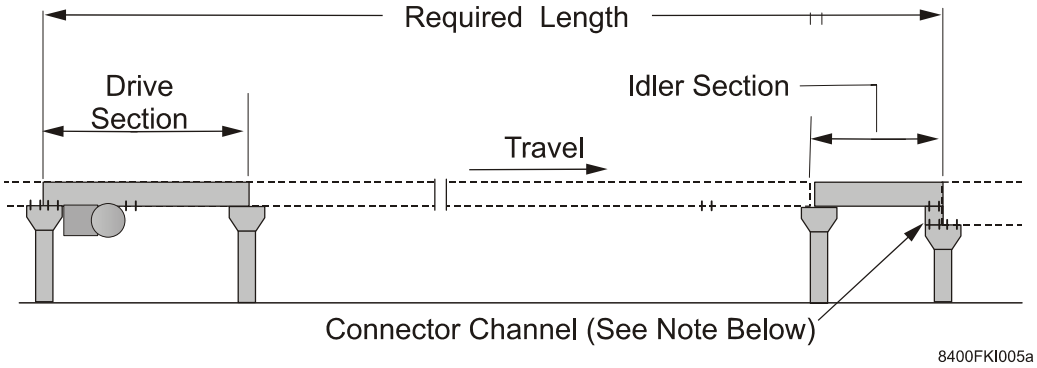


Figure G - 3 Installation of Drive Section / Idler Section

Note: In Figure G - 3, 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.

Step 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.

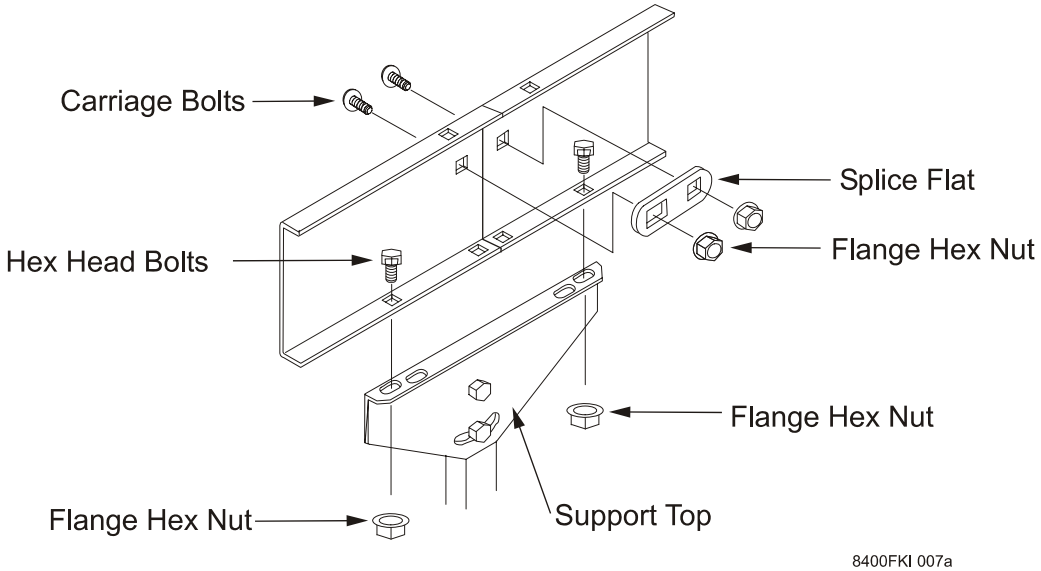


Figure G - 4 Splice two (2) adjoining sections with Floor Support and Splice Flat.

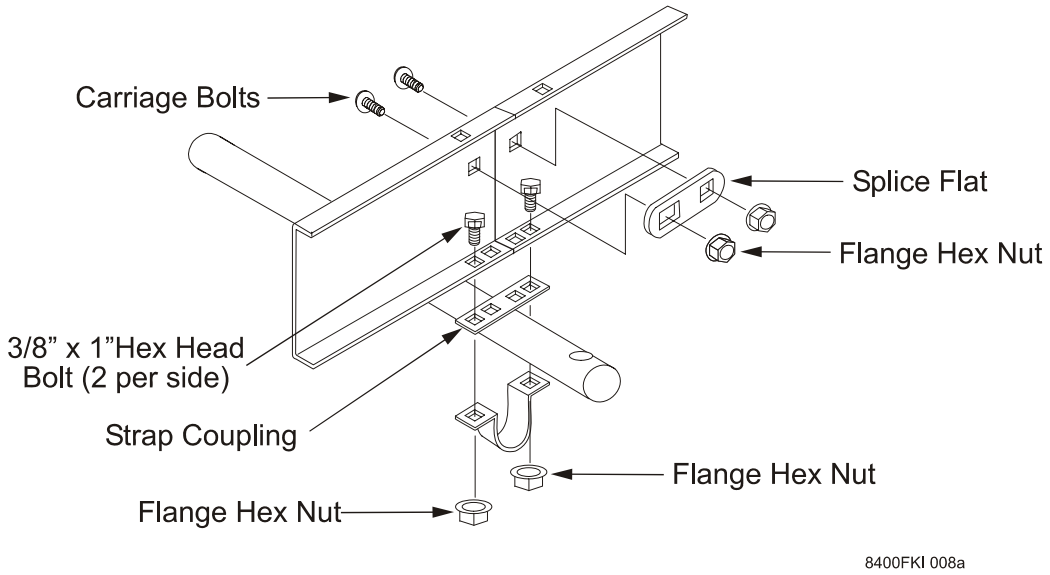


Figure G - 5 Splice two (2) adjoining sections with Ceiling Hanger and Splice Flat.

Step 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, Figure G - 4).

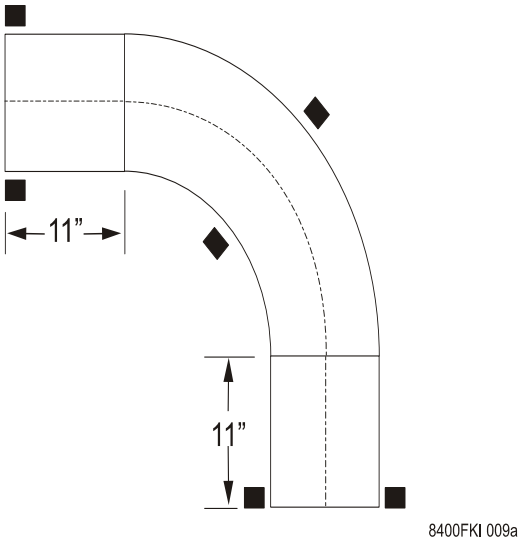


Figure G - 6 Intermediate Curve Section - Installed with Supports/Hangers

Step 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.

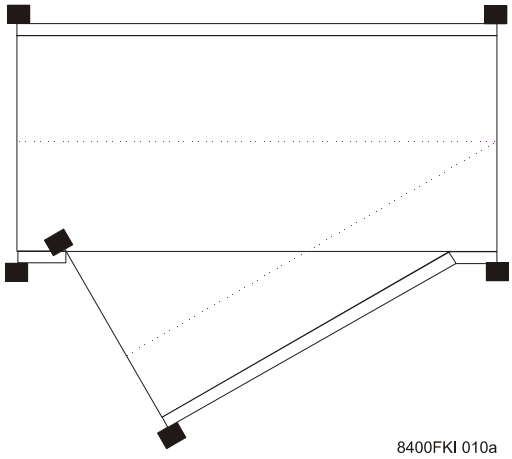


Figure G - 7 Connect Sawtooth Merge Section to Other Intermediate Sections

Drive Section Preparation

Carrier Roller Removal

Step 1. Remove all but one (1) Carrier Roller (located directly above the drive sprocket's centerline) 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

Step 1. Using the AG DE Sprkt. Alignment Gauge (P/N #740003), place the "Final" portion of the gauge between the sprocket and the Carrier Roller, see Figure G - 8. If the gauge is not available, the face of the sprocket should be 2-11/16" below the top of the carrier roller.

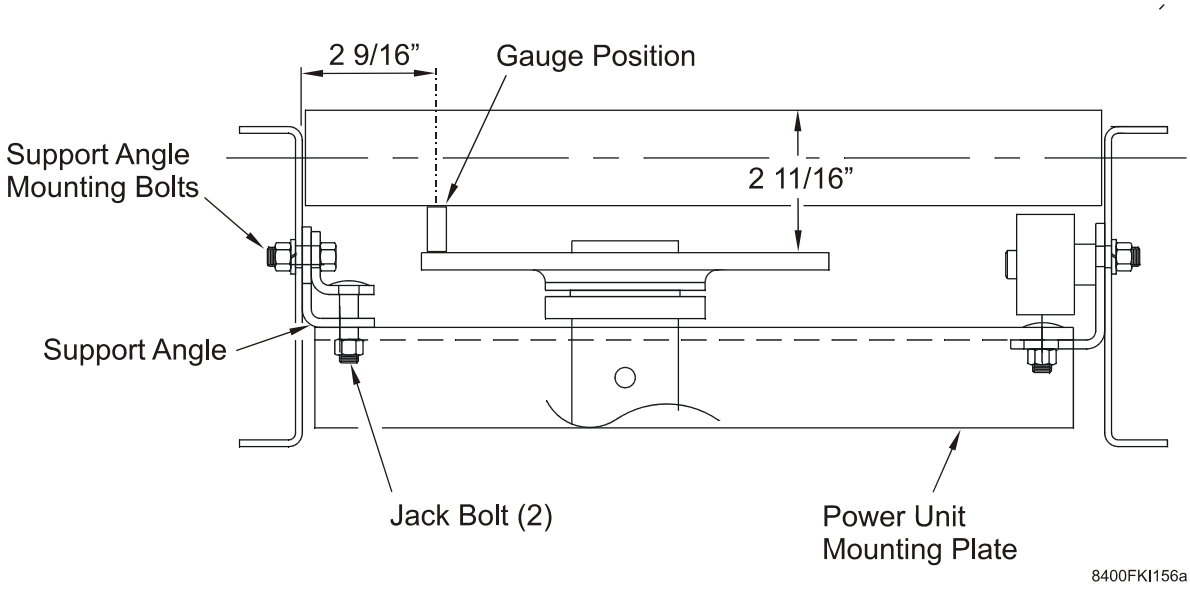


Figure G - 8 Check Drive Sprocket Height Setting

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

Motor - Power Unit

Step 1. 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 (Grove and 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.

Step 1. Check that the reducer's lubricant is up to the "oil level" plug. Add oil to the unit if necessary. Refer to Section H - "Maintenance Procedures" for reducer oil requirements.

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 Switch

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

When the conveyor's power unit is turned-on at conveyor start-up, the tensioner compensates for the momentarily chain stretch that normally occurs under initial start-up loading. After start-up, 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 switch 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 switch, the conveyor will be shut down.

Step 1. Wire the proximity switch to the system's control panel.

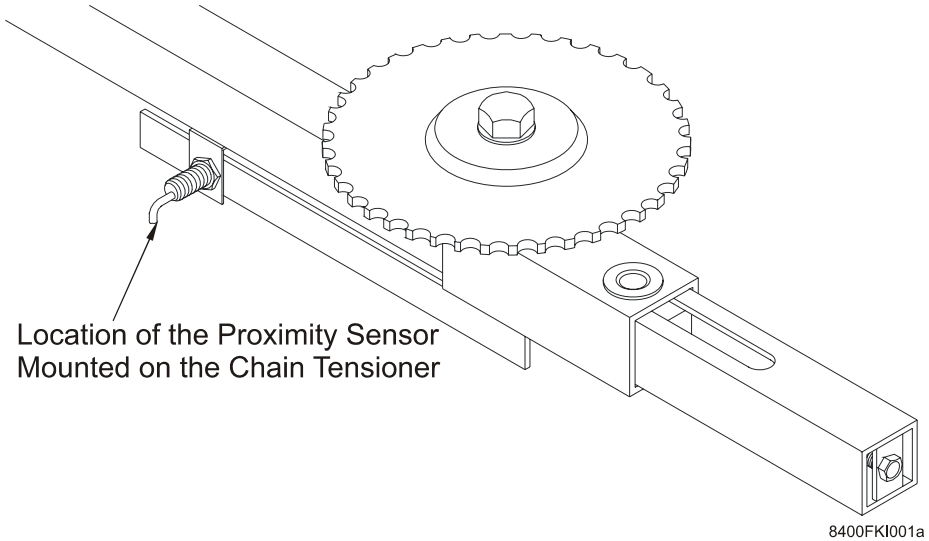


Figure G - 9 Chain-Tensioner Proximity Switch (Air-Type shown)

Chain Tensioner - Air-Type (Optional)

The optional air-type chain tensioner requires a separate filter/regulator (0-100 psi) and pressure switch to provide the required air supply (approx. 60 psi).

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

Step 1. Mount the filter/regulator unit (0-100 psi) on or near the drive section and wire the air-pressure switch to the system's control panel.

Step 2. Connect the filter/regulator to:

a. the main plant air supply

b. the input port of the tensioner. Ensure the tensioner is fully collapsed.

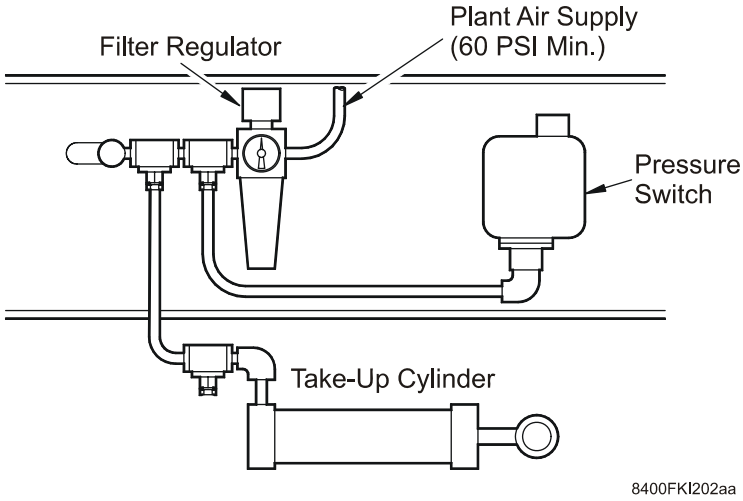


Figure G - 10 Single Air-Type Chain Tensioner

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

Check the system's engineering/layout drawing(s) to identify location for mounting of the unit.

Step 3. Mount the filter/regulator unit(s) at a convenient point and connect to the plant air supply. Wire the pressure switch to the system's control panel.

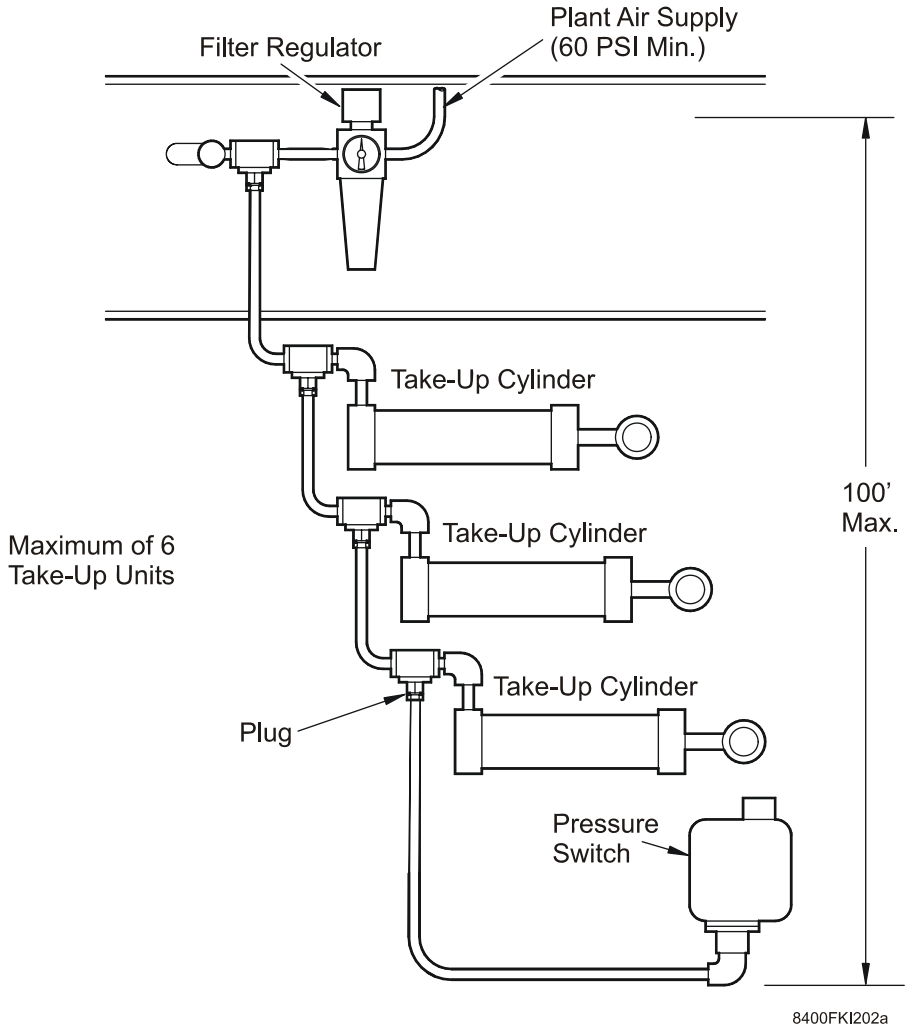


Figure G - 11 Multiple Air-Type Chain Tensioners

Note: When sharing a pressure switch among several air operated take-ups, install the pressure switch near the take-up furthest away from the filter/regulator.

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.

Step 1. Attach the Oil Reservoir and its mounting bracket to the bottom flange of the Infeed Drive Section's frame rail, see Figure G - 12.

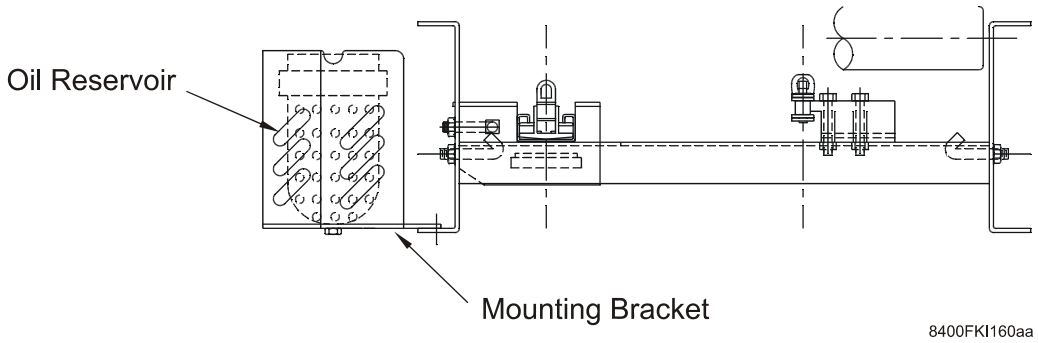


Figure G - 12 Mounting of Oil-Reservoir

Step 2. Using the clear 1/8" ID hose, connect the "output" port fitting of the 2-way valve to the Oil Reservoir's barbed input fitting. The valve controls the flow of lubricant to the chain track.

Step 3. Use the milky colored 1/16" ID tubing to connect the Oil Reservoir's barbed fitting and the mist head block.

Step 4. After the Oil Reservoir is installed and piped, fill with SAE 10 weight Non-detergent Motor Oil.

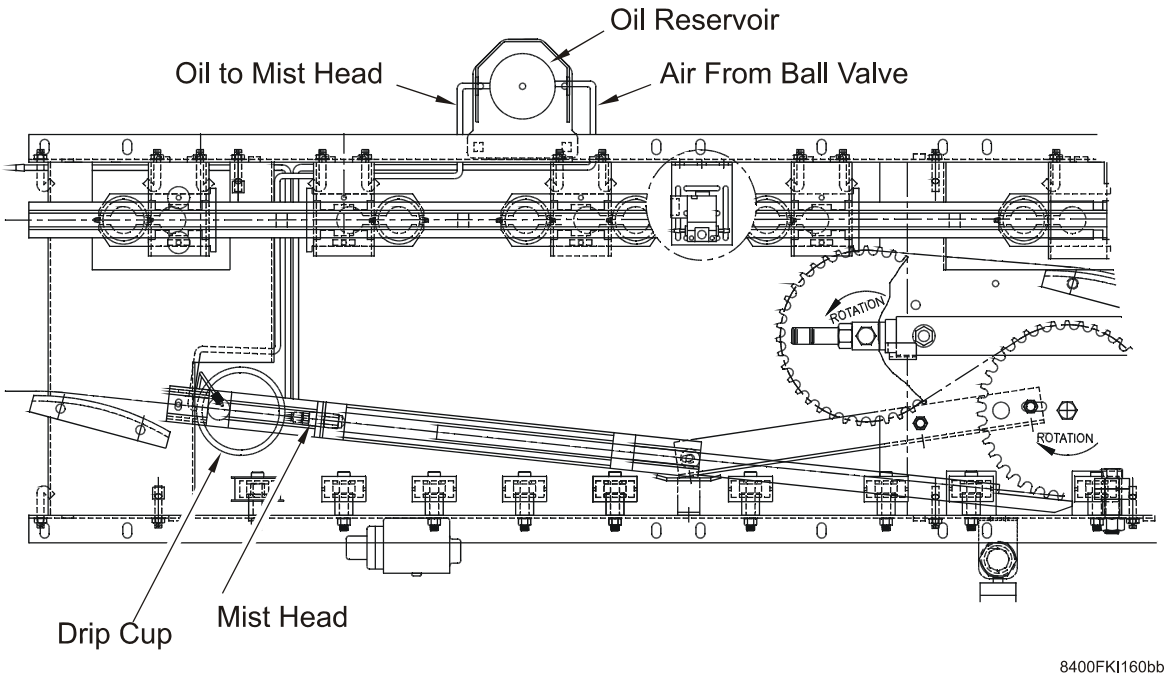


Figure G - 13 Piping of the Oil-Reservoir

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

Note: An AGPE Intermediate Section (with photo-eye sensors) requires a brass 1/2" to 1/4" push-to-connect reducer and a 1/2" push-to-connect type fitting; an AG Intermediate Section (with roller sensors) requires a 1/4" to 3/8" push-to-connect type fitting.

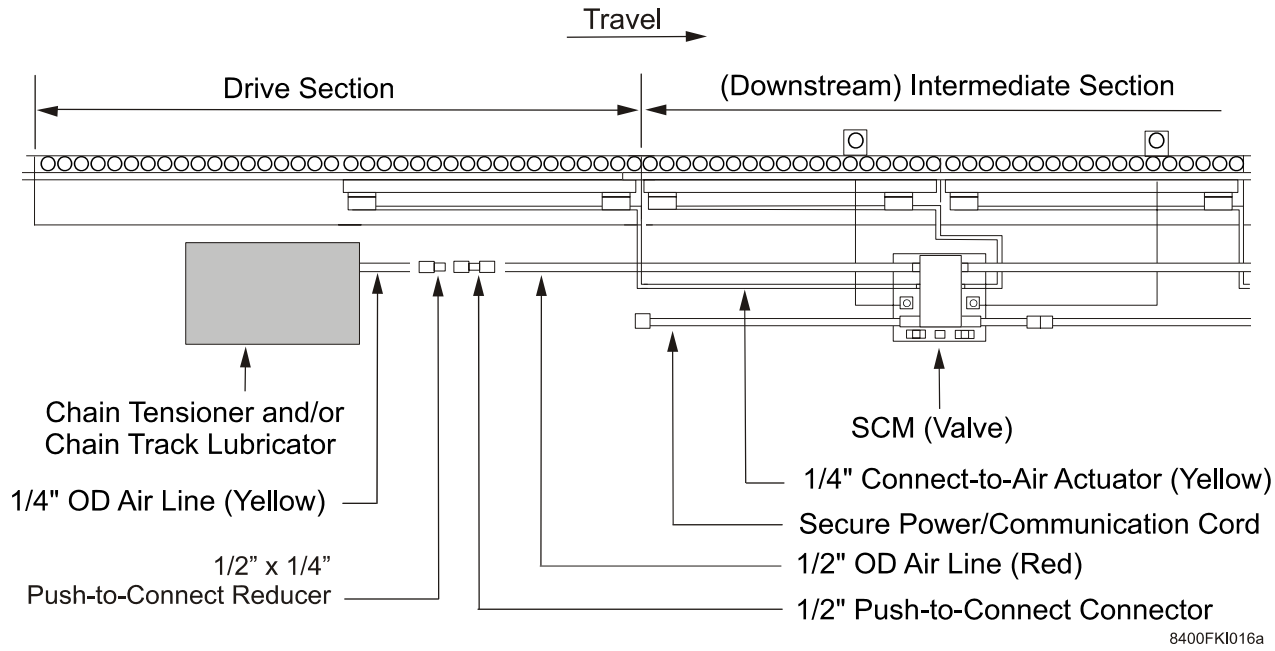


Figure G - 14 Connection of Main Air-Supply Lines (AGPE Intermediate Section shown)

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.

Step 1. Wire the solenoid-valve to the system's control panel. See G.70 for control information.

Idler Section Preparation

Carrier Roller Removal

Step 1. Remove all but one (1) 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

Step 1. 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 G - 15. If the gauge is not available, the face of the sprocket should be 2-11/16" below the top of the carrier roller.

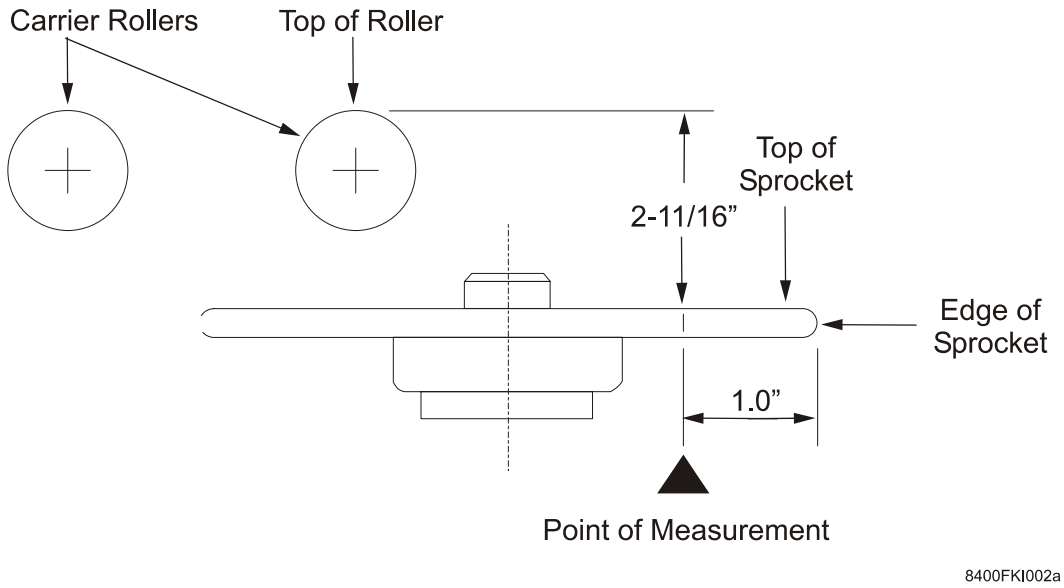


Figure G - 15 Check Idler Sprocket Height

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" OD) tubing is attached to the second port of the "rear" actuator.

Step 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'-0" discharge zone.

Step 2. Wire the solenoid valve to the system control panel.

Step 3. Connect the air supply line (yellow, 1/4" OD) of the zone-controlling solenoid-valve to the upstream intermediate section's main air-supply line (red).

Note: An AGPE Intermediate Section (with photo-eye sensors) requires a brass 1/2" to 1/4" push-to-connect reducer and a 1/2" push-to-connect type fitting; an AG Intermediate Section (with roller sensors) requires a 1/4" to 3/8" push-to-connect type fitting.

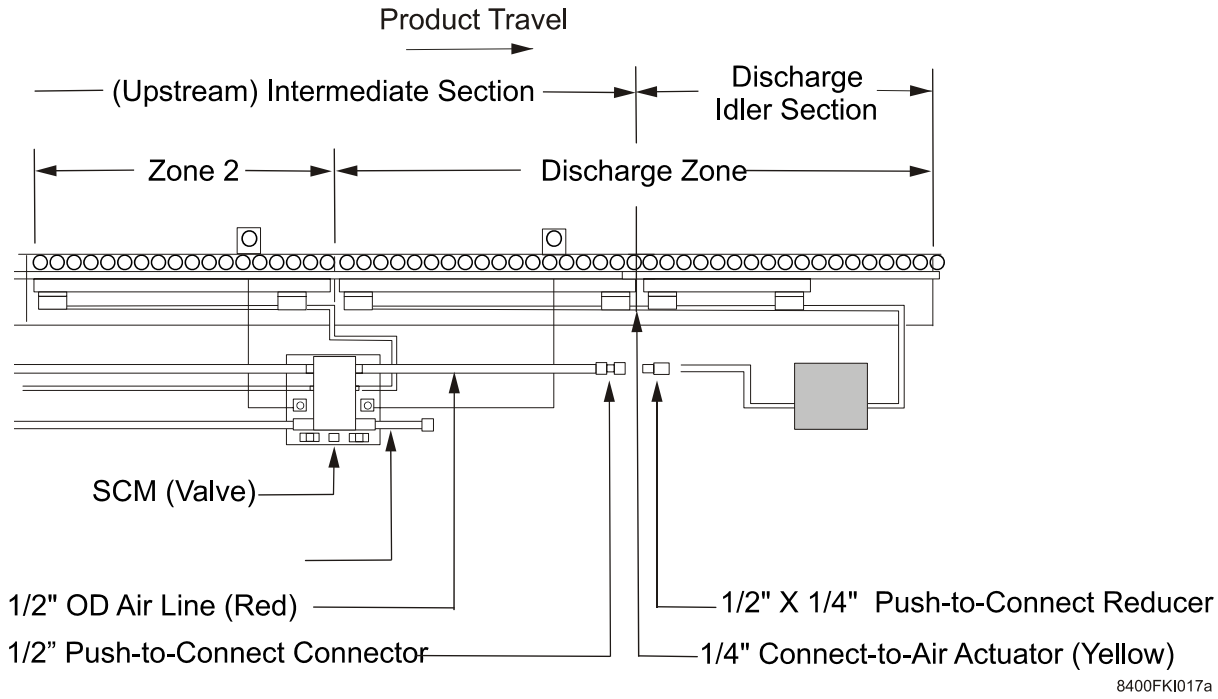


Figure G - 16 Discharge Zone Wiring/Piping Connection

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.

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

Step 2. Wire the solenoid to the control panel.

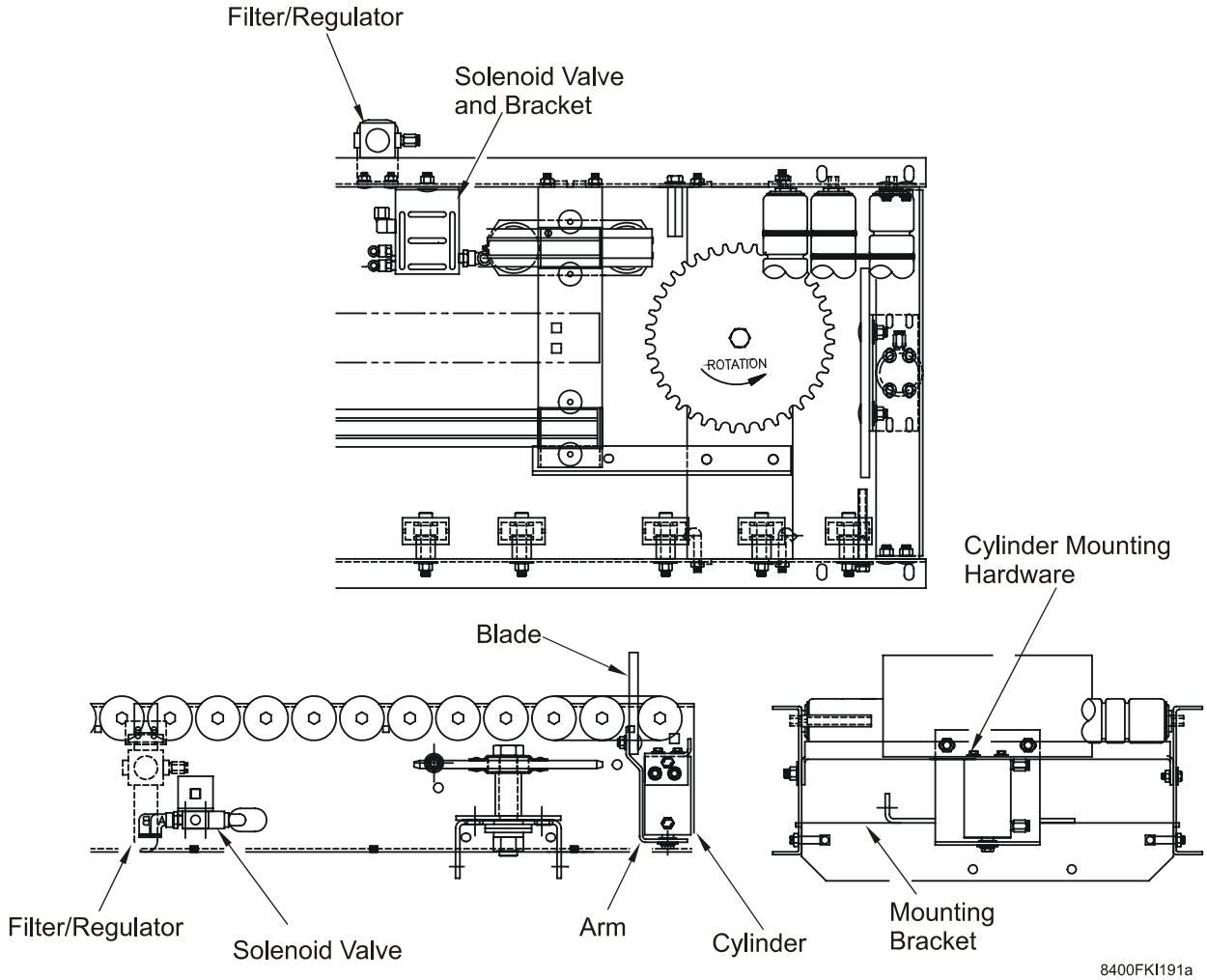


Figure G - 17 Blade Stop Installation

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

Note: The piping "codes" shown in Table G - 1 are based on the conveyed product being approximately zone length (3' lg.). 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 G - 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)

Step 1. At the conveyor's mid-point, mount the Filter/Regulator Unit.

Step 2. Cut the "red" main air supply line (near the Filter/Regulator Unit) and install a "Tee" fitting.

Note: For AG Intermediate Sections (with Roller Sensors) - 3/8" x 3/8" x 3/8" "Tee".
for AGPE Intermediate Sections (with PE Sensors) - 1/2" x 1/2" x 3/8" "Tee".

Step 3. Install a 3/8" OD line from the installed "Tee" fitting to the Filter/Regulator Unit.

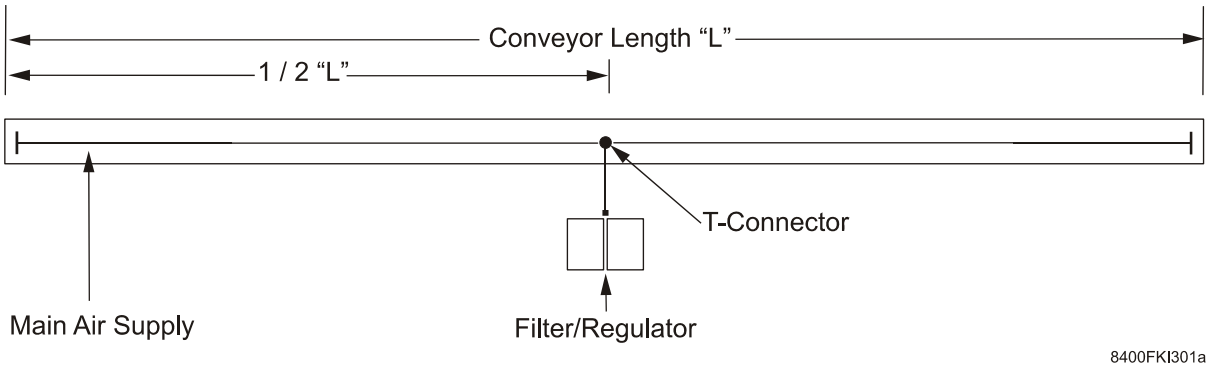


Figure G - 18 Installing a Single Filter/Regulator Unit (Code "A")

Single Filter/Regulator Unit Installation (Code B)

Step 1. With the Filter/Regulator Unit installed at the mid-point of the conveyor (same as "A"), divide each half of the conveyor's length into thirds and cut the "red" main air supply line at two (2) points (1/6 "L" in from each end of the conveyor).

Step 2. Install two (2) "Tee" fittings into the cut main air-supply line.

Note: For AG Intermediate Sections (with Roller Sensors) - 3/8" x 3/8" x 3/8" "Tee".
For AGPE Intermediate Sections (with PE Sensors) - 1/2" x 1/2" x 3/8" "Tee".

Step 3. Cut and install two (2) 3/8" x 3/8" x 3/8" "Tee" fittings in the 3/8" OD air line (refer to Step 3) in the topic "Single Filter/Regulator Unit Installation (Code A). Connect the "T" fittings in the "red" main air supply line to the "T" fittings at the Filter/Regulator Unit with "red" 3/8" tubing.

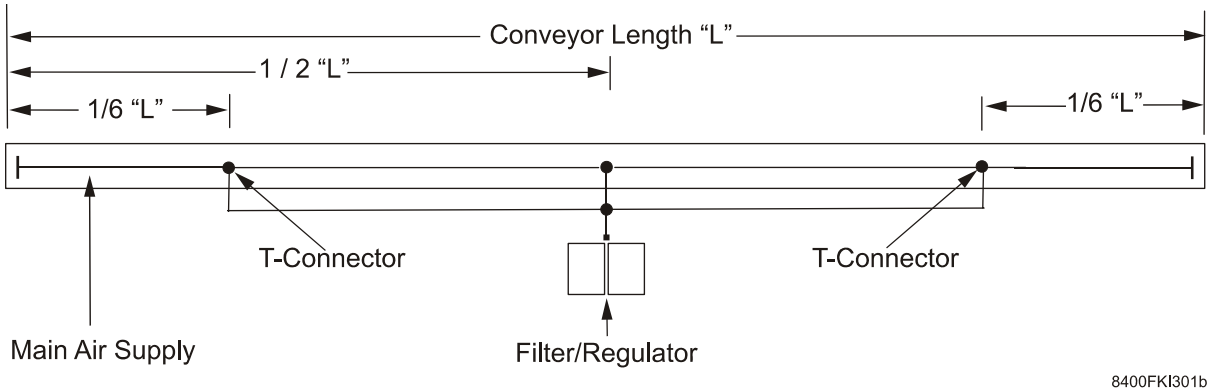


Figure G - 19 Installing a Single Filter/Regulator Unit (Code B)

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

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

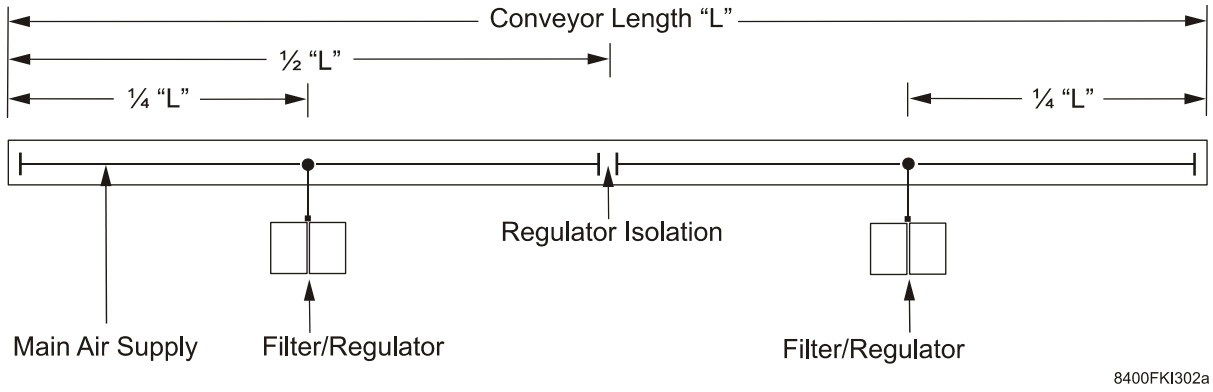


Figure G - 20 Installing Multiple Filter/Regulator Units (Code “C”)

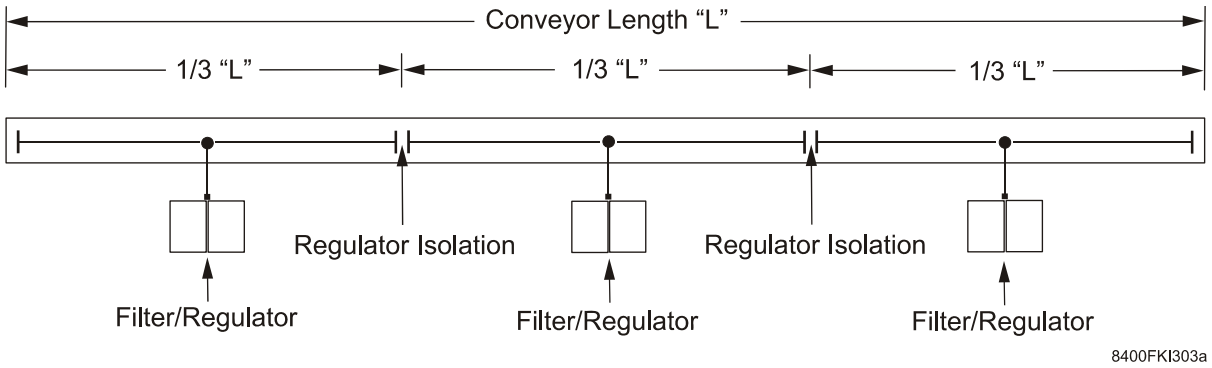


Figure G - 21 Installing Multiple Filter/Regulator Units (Code “D”)

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

Step 1. For AG Intermediate Sections cut and remove a 3'-0" long section of the main air supply line at the mid-point between two (2) Filter/Regulator Units.

Step 2. Using 3/8" x 1/4" reducer fittings, connect the 1/4" OD supply lines of two (2) successive sensor valves to the two cut ends of the main air supply line.

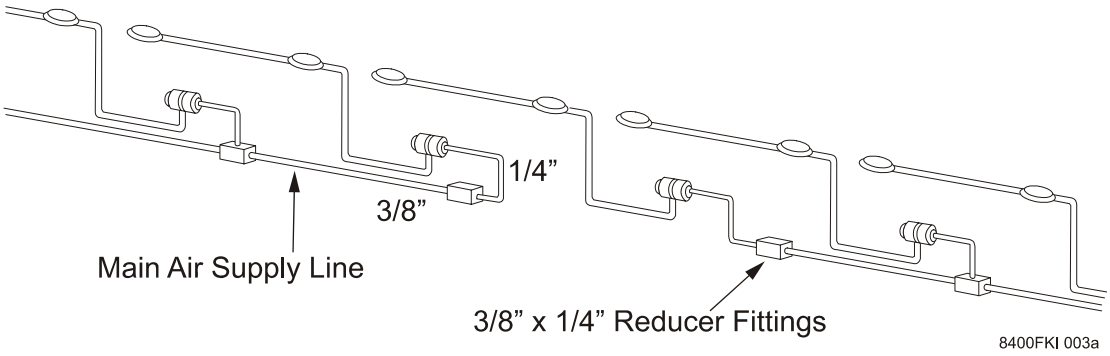


Figure G - 22 Isolating Multiple Filter/Regulator Units - AG Conveyor

Step 3. For AGPE Intermediate Sections make two (2) cuts in the 1/2" O.D. "red" air supply line (midway between two (2) filter/regulators approx. 6" from the Solenoid Control Modules.

Step 4. Insert each tubing end into a 1/2" x 1/2" Connector Fitting; insert a plug fitting into the connector's other end.

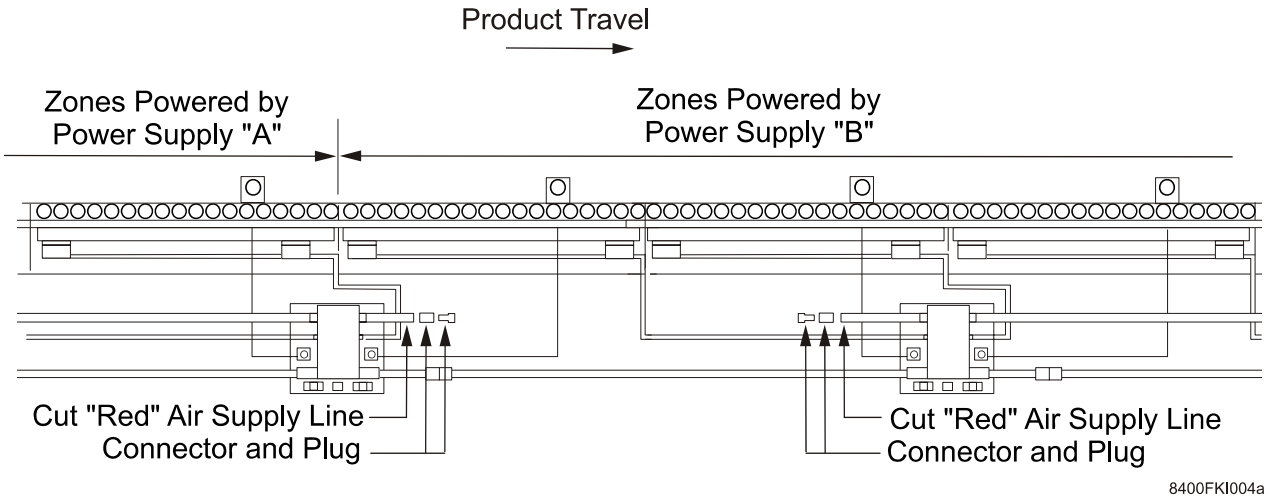


Figure G - 23 Isolating Multiple Filter/Regulator Units - AGPE Conveyor

Connecting the Main Air Supply

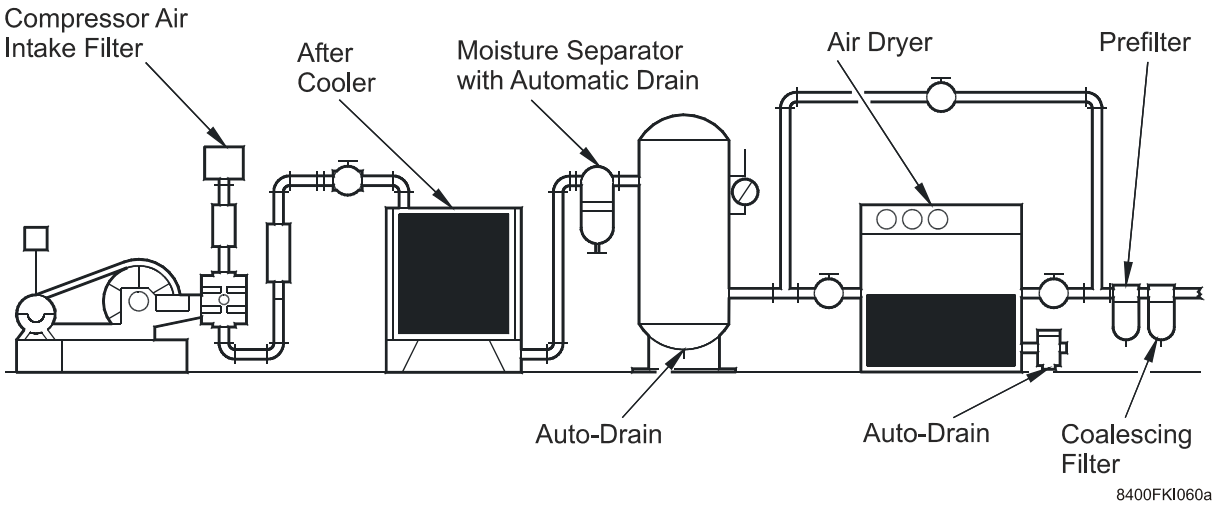


Figure G - 24 Typical Air Treatment for Compressed Air Systems

AGPE Intermediate Section Preparation

Intermediate Air Supply Line Connection(s)

Step 1. Uncoil the 1/2” 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.

Step 2. Uncoil and connect the 1/4” OD “yellow” tubing to the first air actuator in the next upstream section.

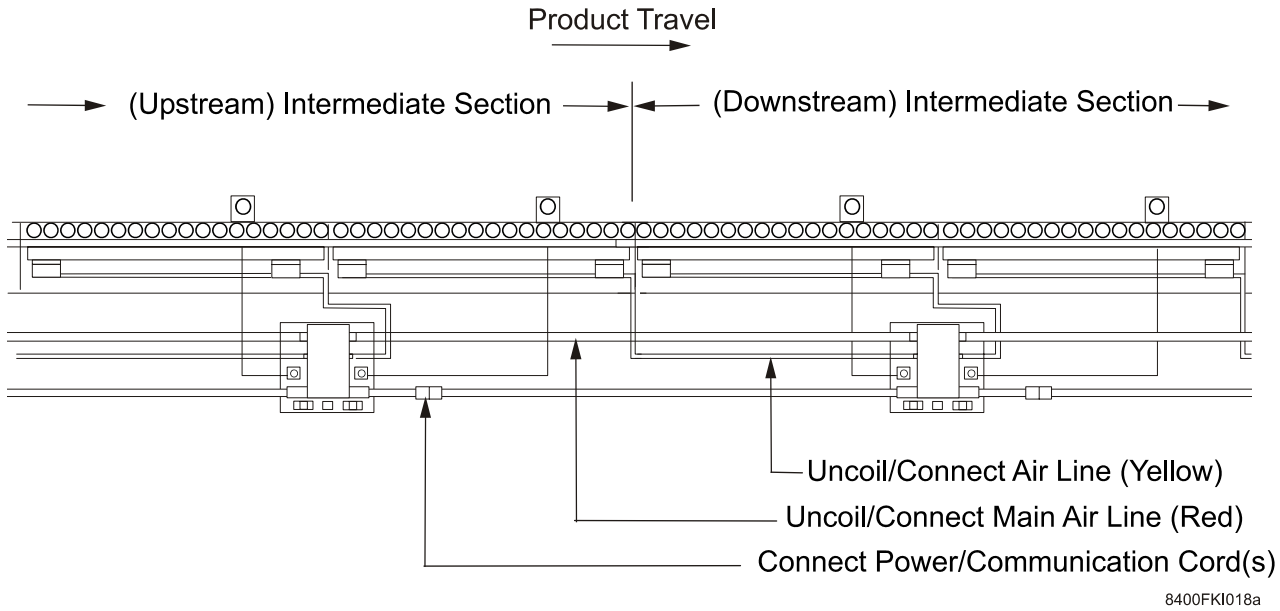


Figure G - 25 Intermediate Section Air Line Connections

24VDC Power Supply Installation - Single

The standard 24VDC power supply with its AGPE 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).

Step 1. Mount the power supply to any appropriate structure within reach of the AGPE T-Cord's long leg (6'-0") and the desired connection point.

Step 2. Connect the two (2) short legs (with male/female push-type connectors) to the connectors of the two (2) adjoining Solenoid Control Modules.

Step 3. Connect the T-Cord's long leg to the power supply.

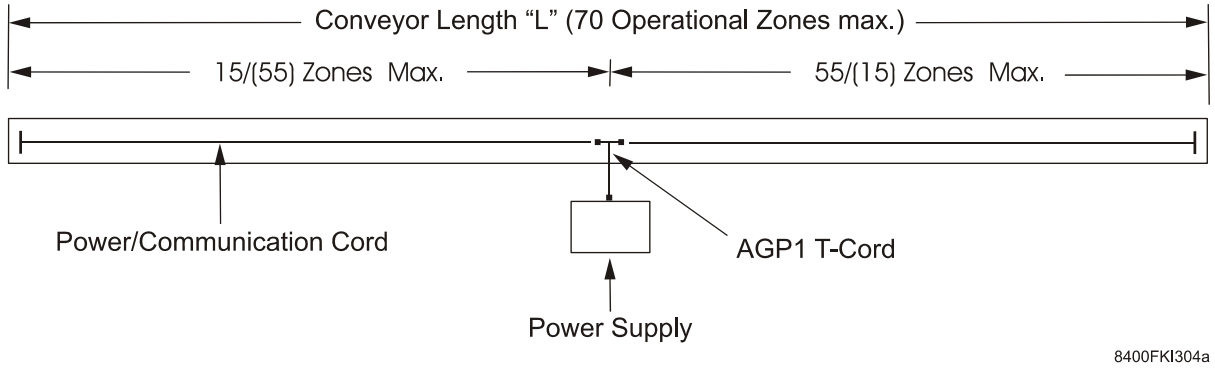


Figure G - 26 Install Single Power Supply

24VDC Power Supply Installation - Multiple

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

Step 1. Install the power supply units as described above (Steps 1 through 3 in topic 24VDC Power Supply Installation - Single)

Step 2. At the mid-point between the two power supplies, install an AGPE Power Isolation Cord into the Power/Communication Cord.

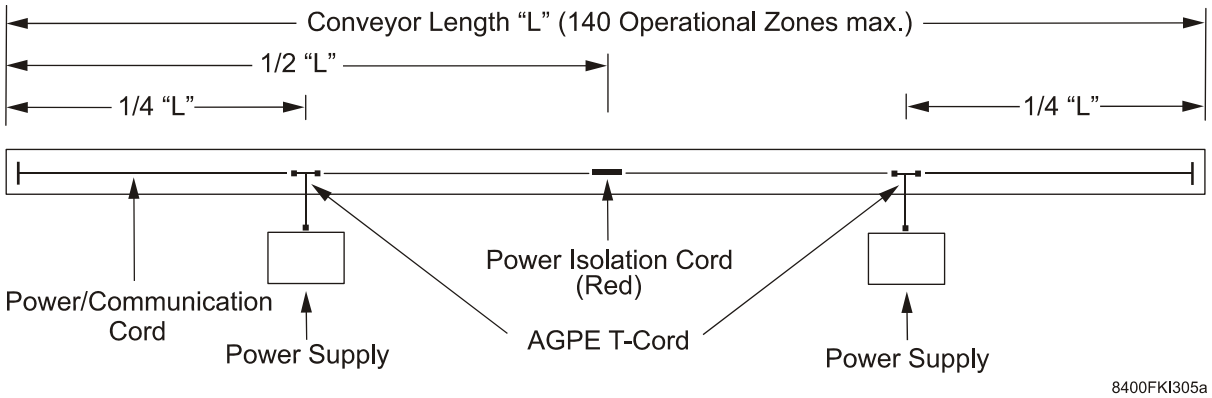


Figure G - 27 Isolate Multiple Power Supply(s) with AGPE Isolator Cord

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.

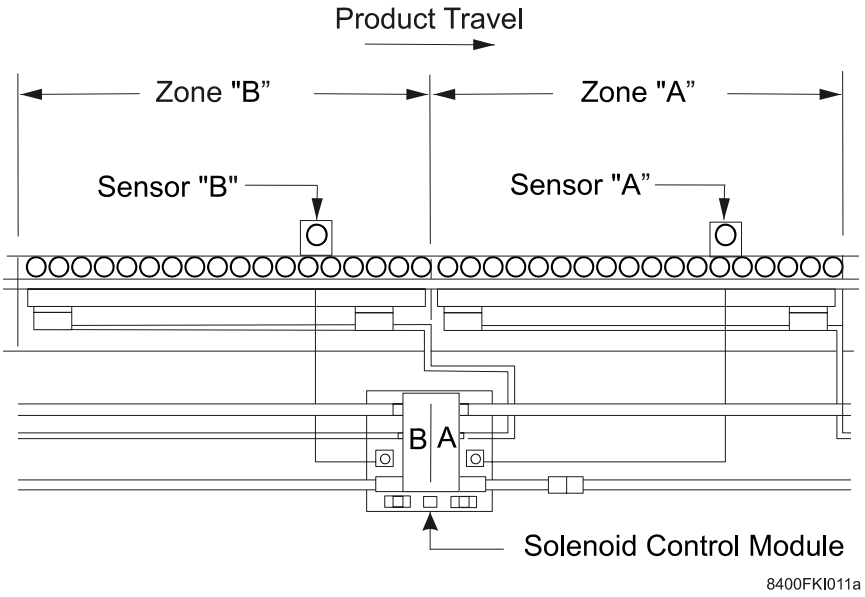


Figure G - 28 Solenoid Control Module Controls Two (2) Operational Zones

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 G - 33 “Switch Position” labels on frame rail.

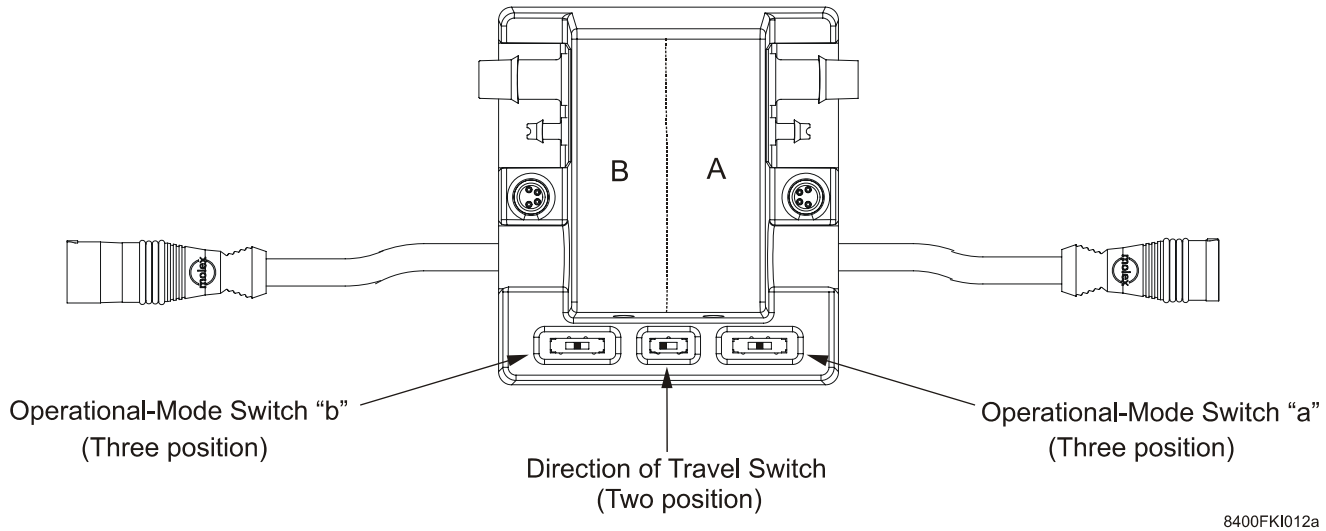


Figure G - 29 Solenoid Control Module Switches

Direction of Travel (DOT) Switch Setting

The Solenoid Control Modules in Figure G - 30 and Figure G - 31 are shown mounted on the inner face of the right-side or left-side frame rail (based on the sections' RH/LH assembly).

Step 1. Check that the "Direction of Travel" switch of each SCM is properly set for the required direction of travel.

For "LH" sections, Figure G - 30, the SCM mounts on the left-side frame rail (when looking in the direction of travel) and the DOT switch must be shifted to the "right" towards the discharge end of the conveyor.

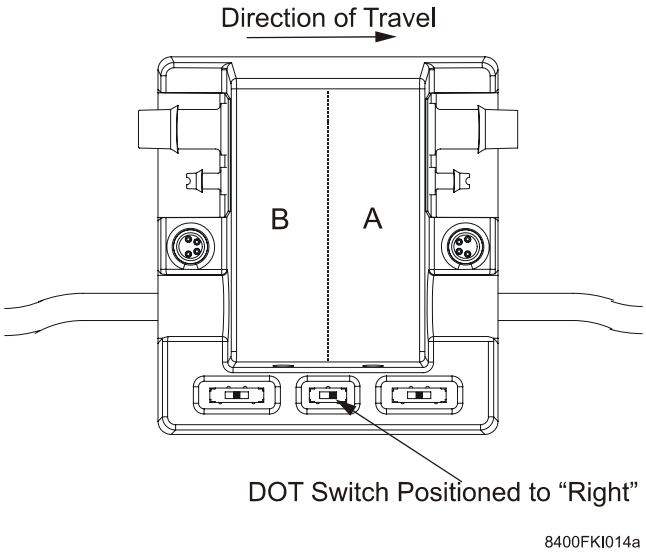


Figure G - 30 DOT Switch Setting for Left-Hand (LH) Section Assembly

For "RH" sections, Figure G - 31, the SCM mounts on the right-side frame rail (when looking in the direction of travel) and the DOT switch must be shifted to the "left" towards the discharge end of the conveyor.

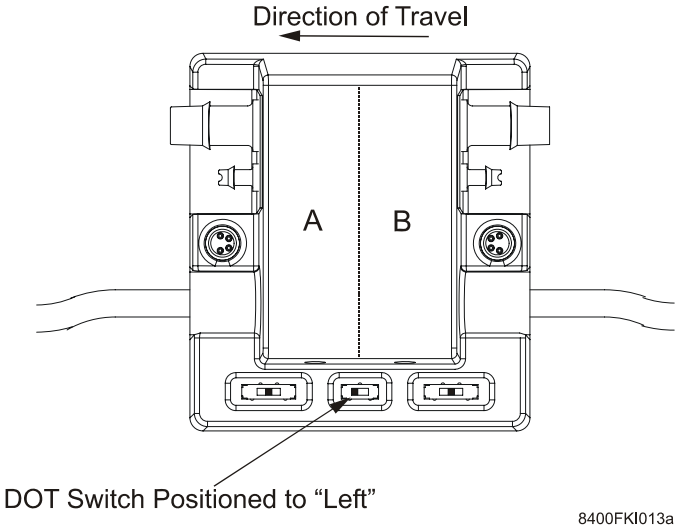


Figure G - 31 DOT Switch Setting for Right-Hand (RH) Section Assembly

Primary Operational Mode - Switch 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 G - 33 for Operational Mode Switch Positions.

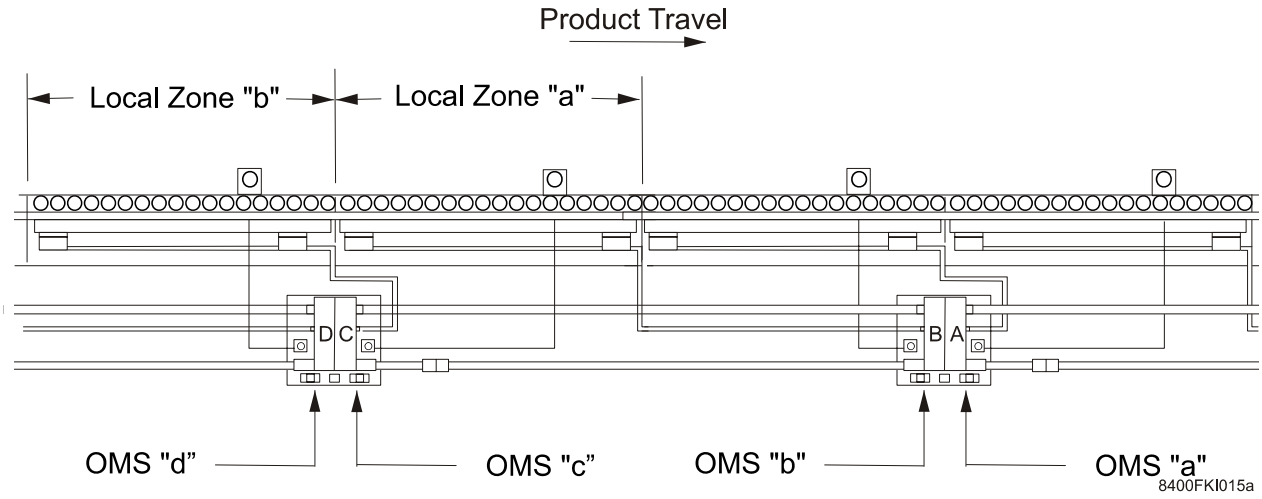


Figure G - 32 OMS “a” Programs Solenoid Valve “B” and Operational Mode of Local Zone “a”

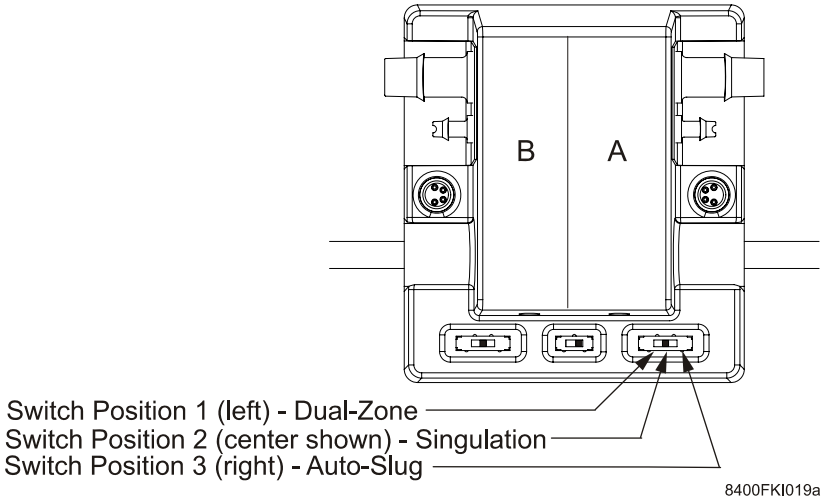


Figure G - 33 Operational Mode Switch Positions

Step 1. 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 Operational Mode - Slug

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 of Conveyor

Step 1. 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.

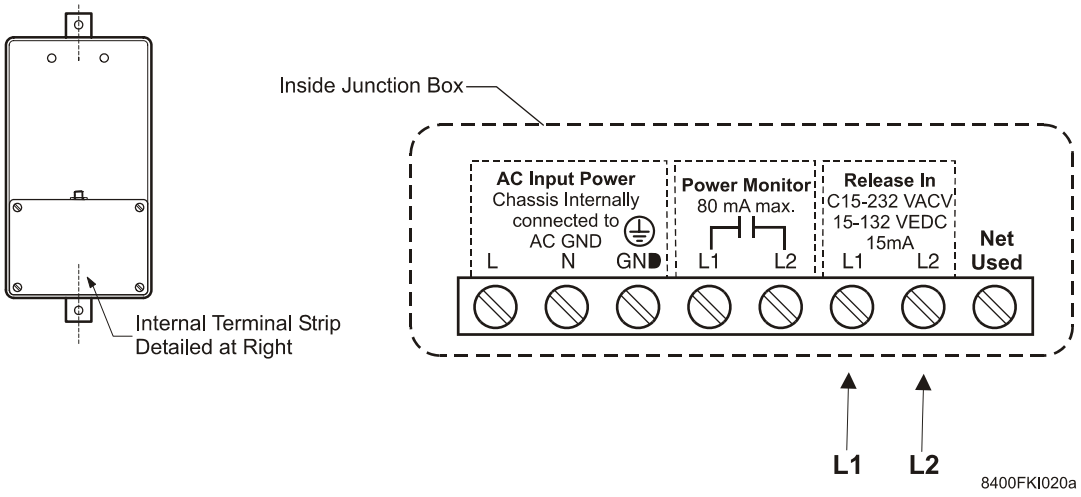


Figure G - 34 Remote Slug Signal Connection to Power Supply

AGPE Control - 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.

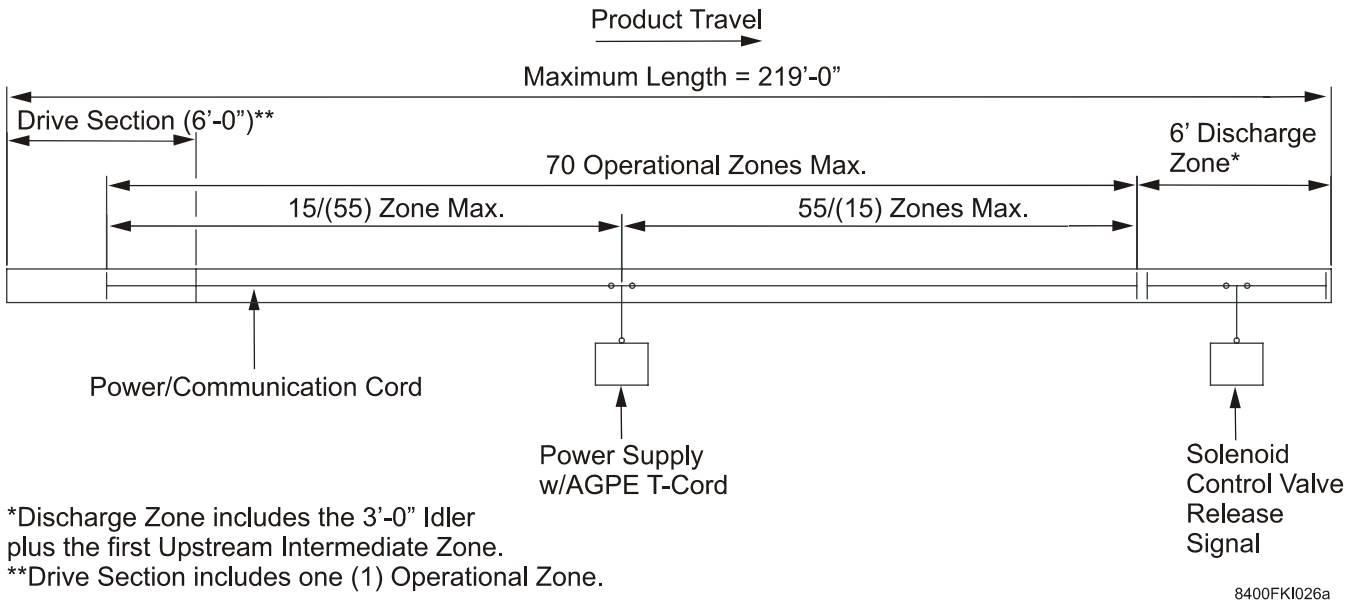


Figure G - 35 Primary Operational-Mode Release - (Single Power Supply).

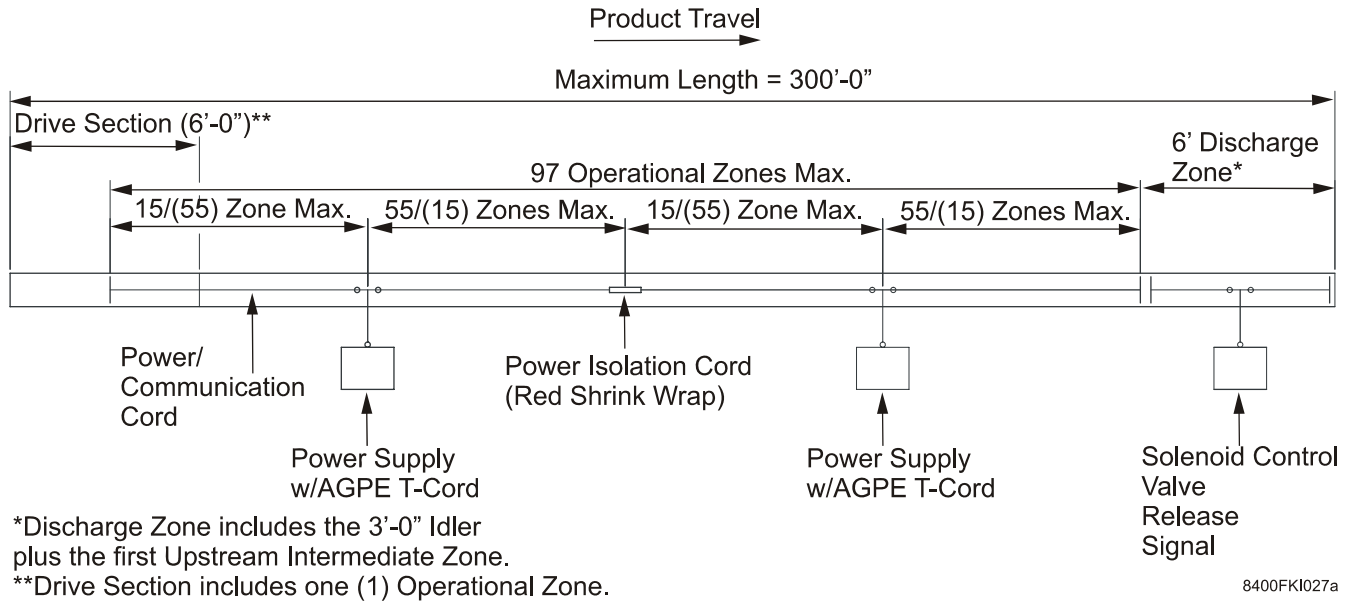


Figure G - 36 Primary Operational-Mode Release - (Dual Power Supplies)

AGPE Control - 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 AGPE T-Cord to the Power Communication cord; and 2) to the Discharge-Zone's (solenoid-type) control valve.

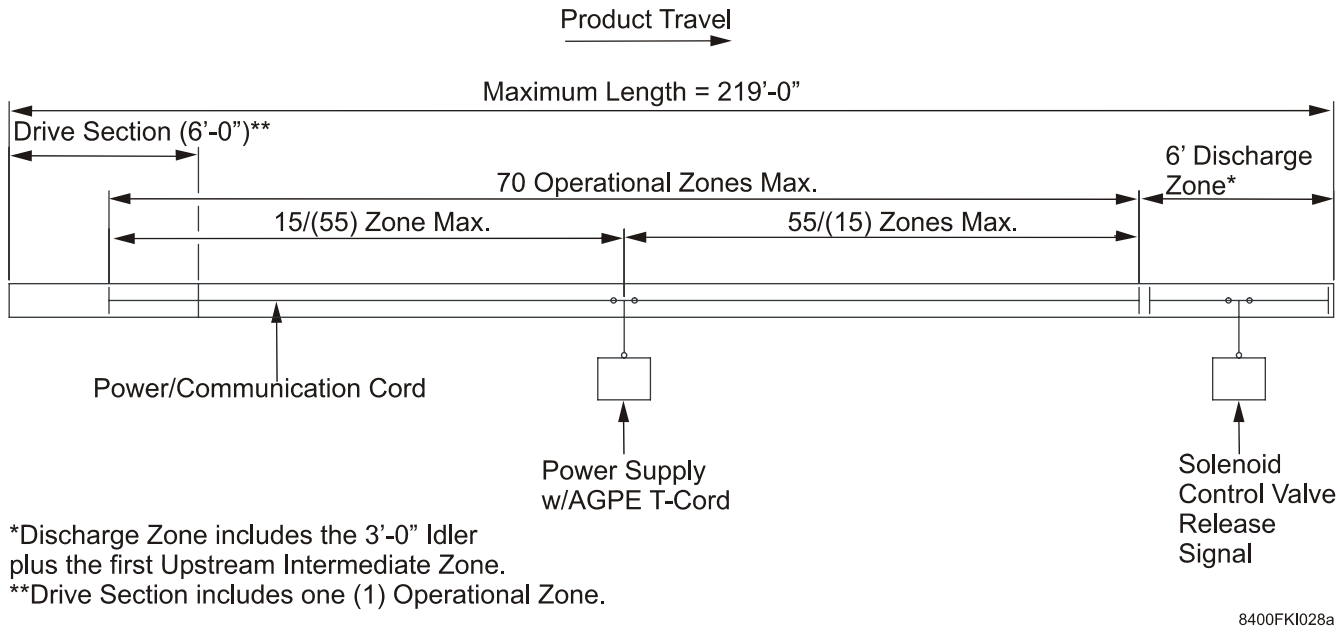


Figure G - 37 Full-Length Slug-Release (Single Power Supply)

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.

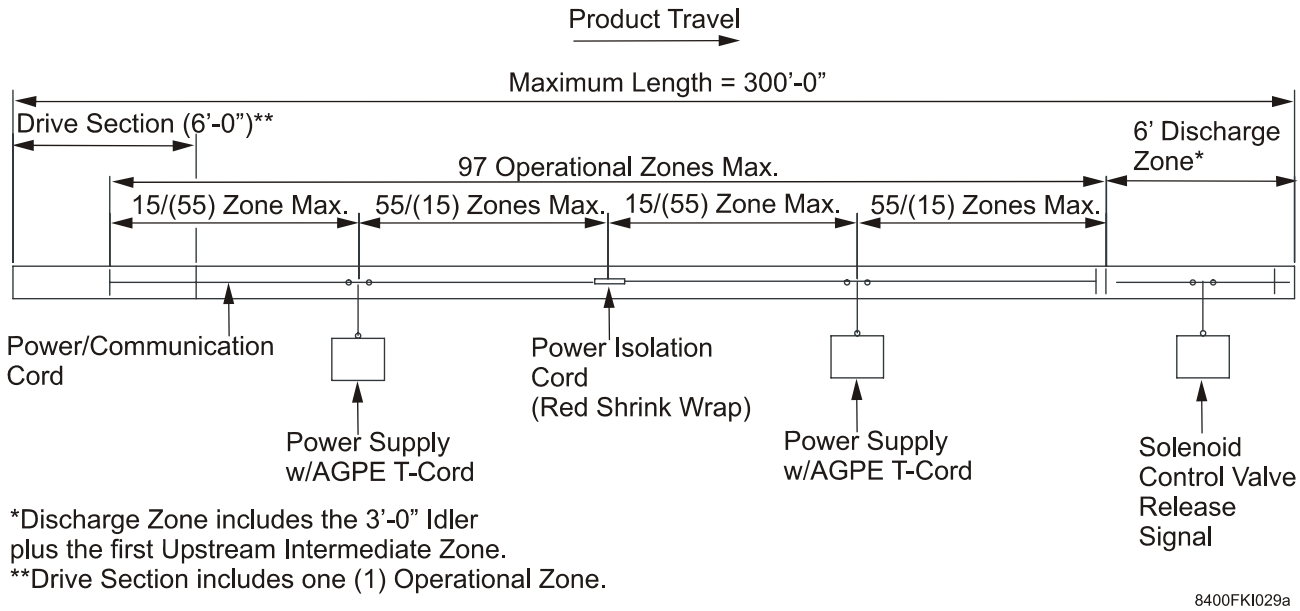


Figure G - 38 Full-Length Slug-Release (Dual Power Supplies).

AGPE Control - 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.

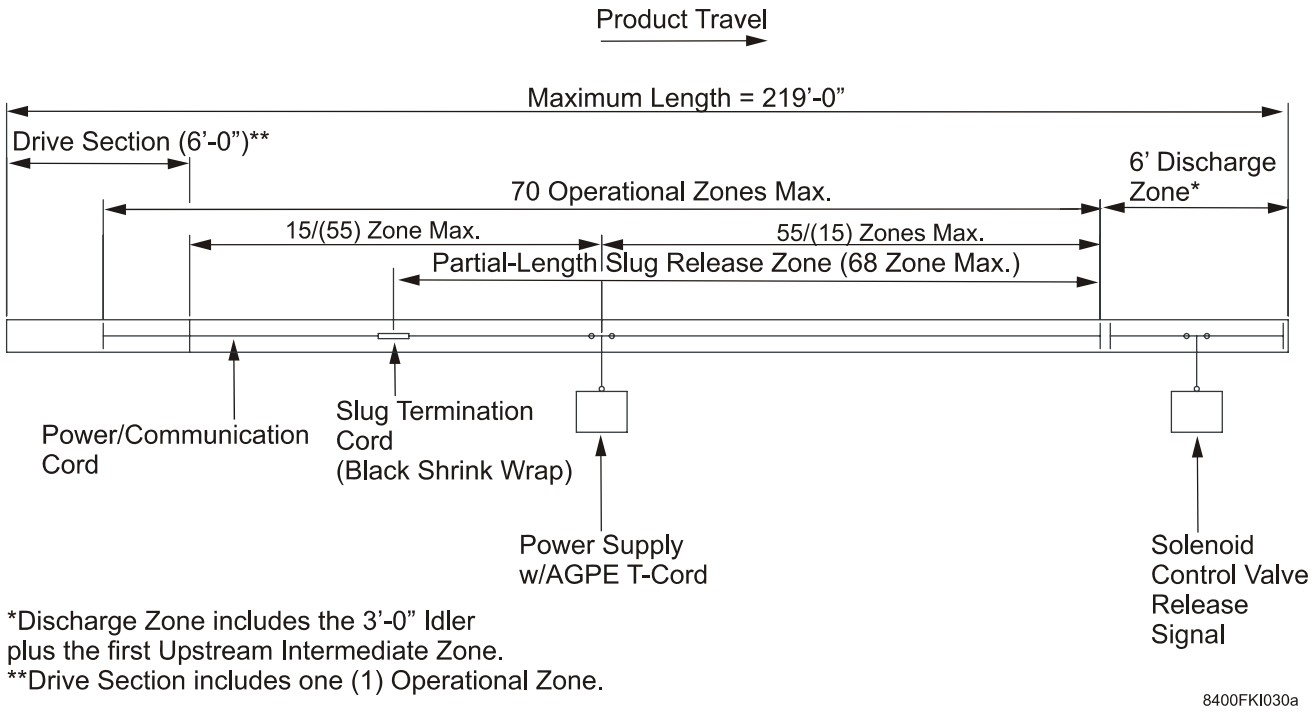
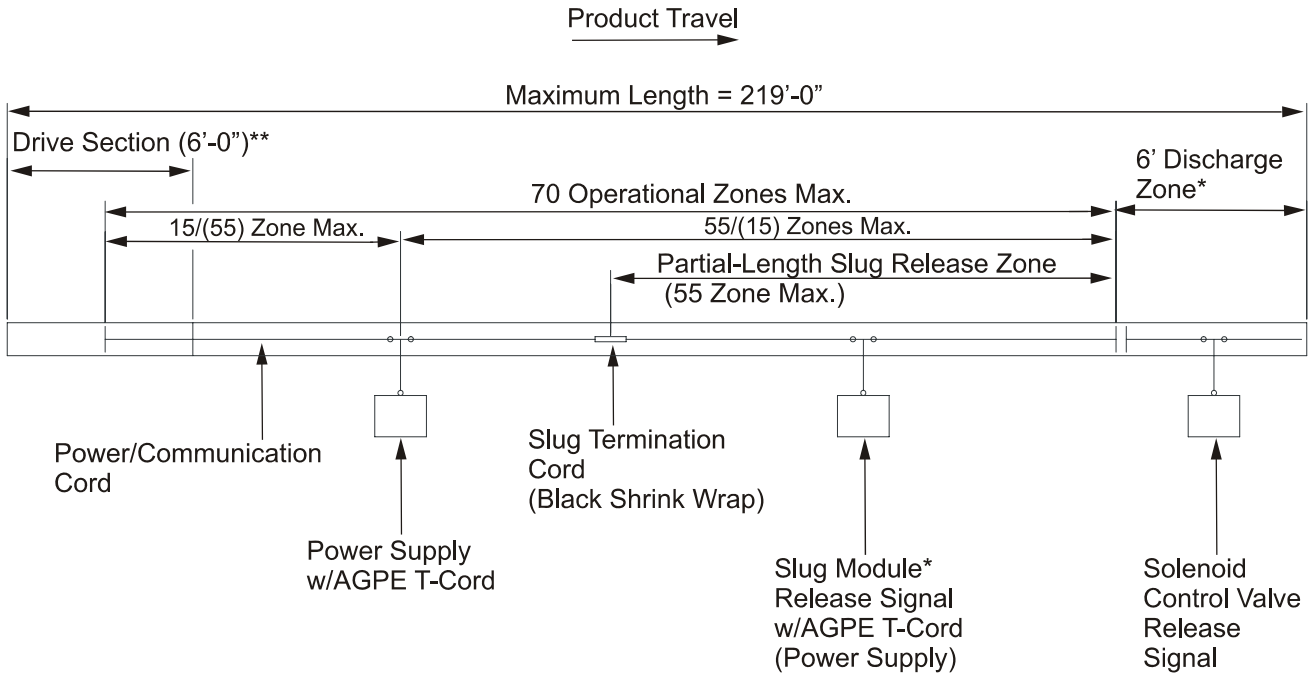


Figure G - 39 Partial-Length Slug-Release (Single Power Supply)

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) an AGPE Slug Module*; and 2) to 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.



*Discharge Zone includes the 3'-0" Idler plus the first Upstream Intermediate Zone.
**Drive Section includes one (1) Operational Zone.

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Figure G - 40 Partial-Length Slug-Release (Single Power Supply and 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.

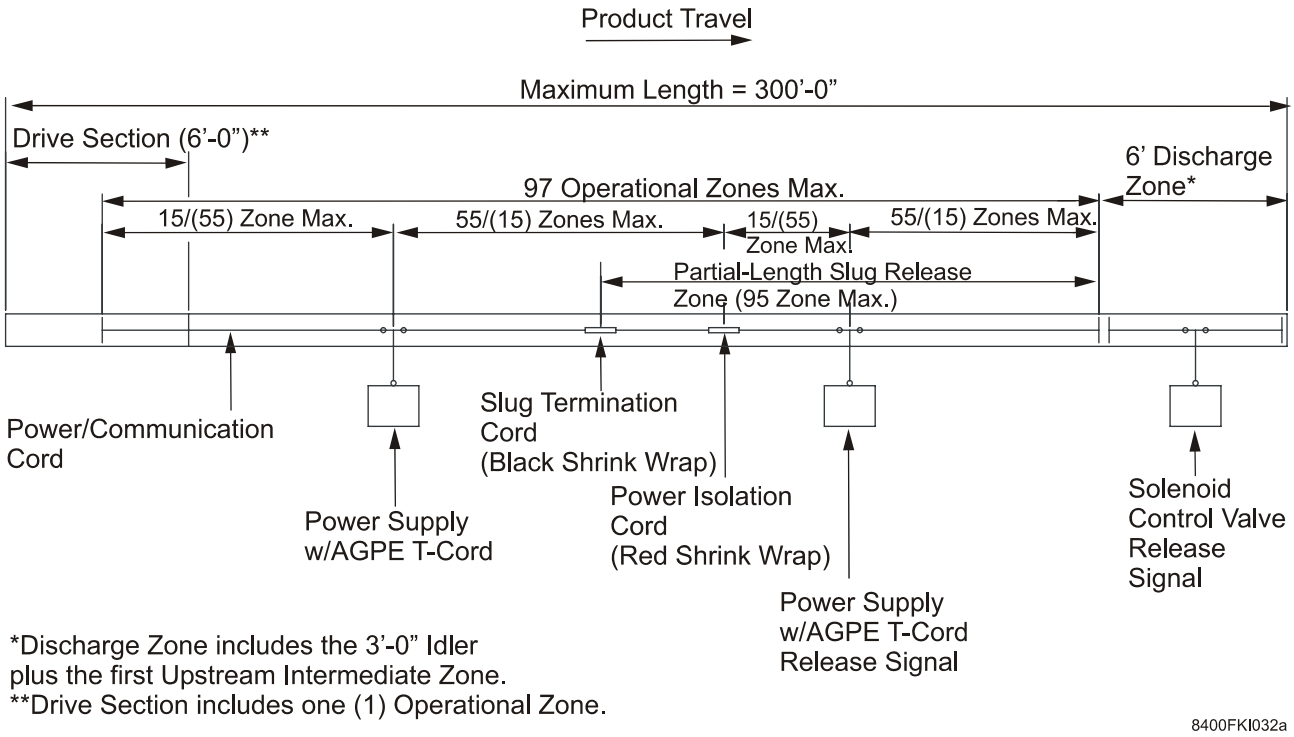


Figure G - 41 Partial-Length Slug-Release (Dual Power Supplies)

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.

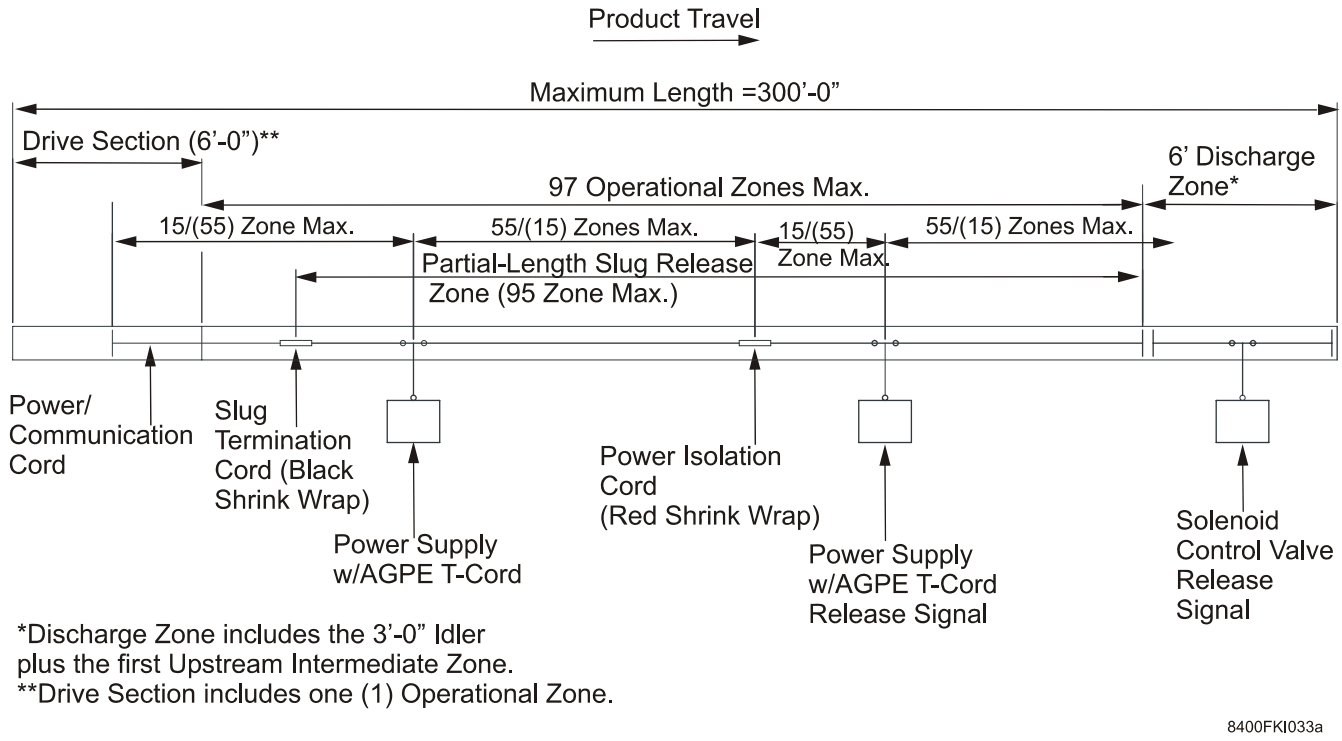


Figure G - 42 Partial-Length Slug-Release (Dual Power Supplies)

AGPE Control - Slug Mode Infeed / Primary Mode Release

An AGPE 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.

Refer to Figures B-29-31 and their associated text (above) for multiple Power Supply / Slug-Module information.

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.

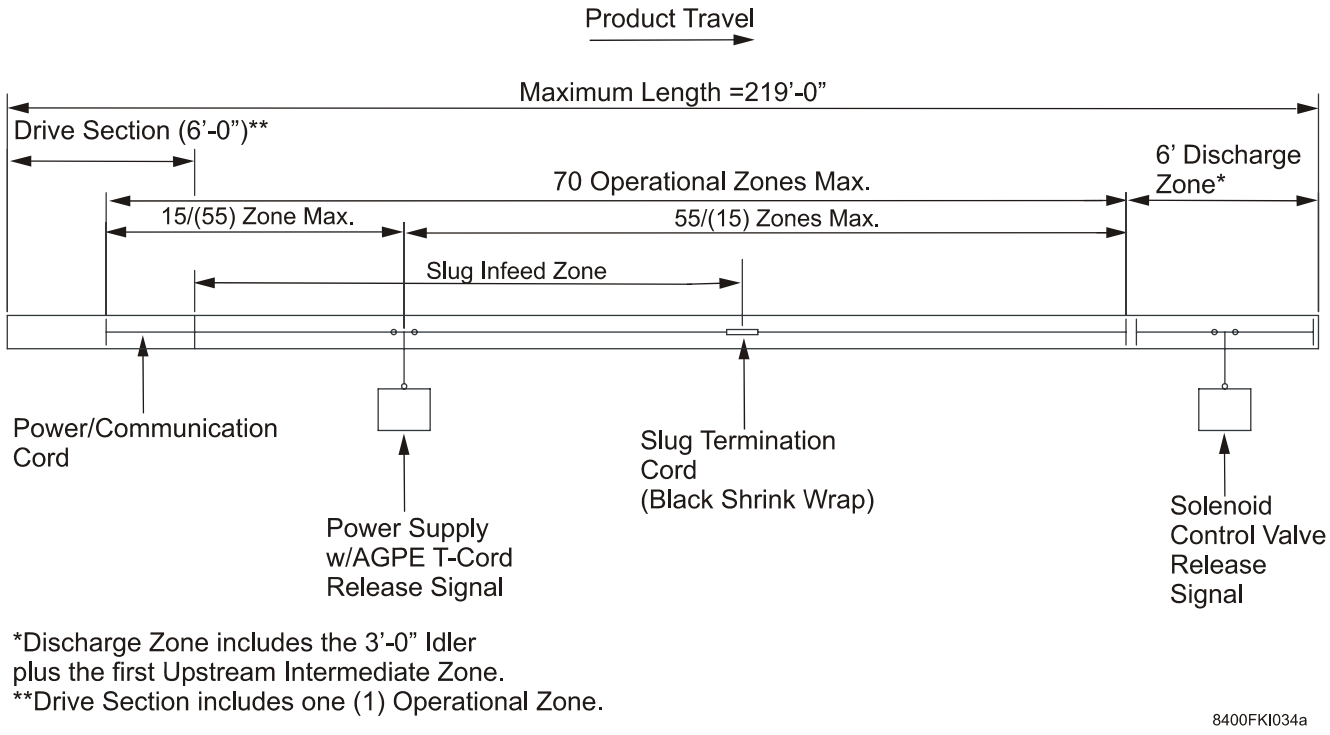


Figure G - 43 Slug-Infeed / Primary Release (Single Power Supply)

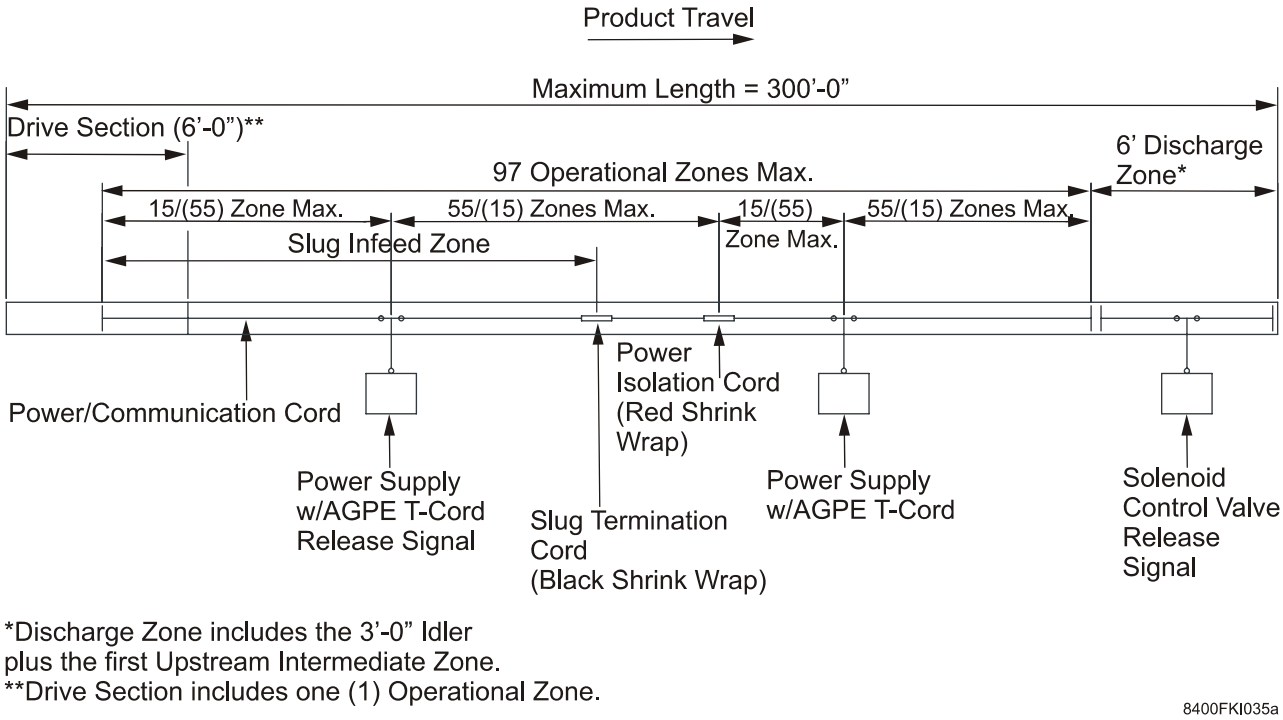


Figure G - 44 Slug-Mode / Primary Release (Multiple Power Supplies)

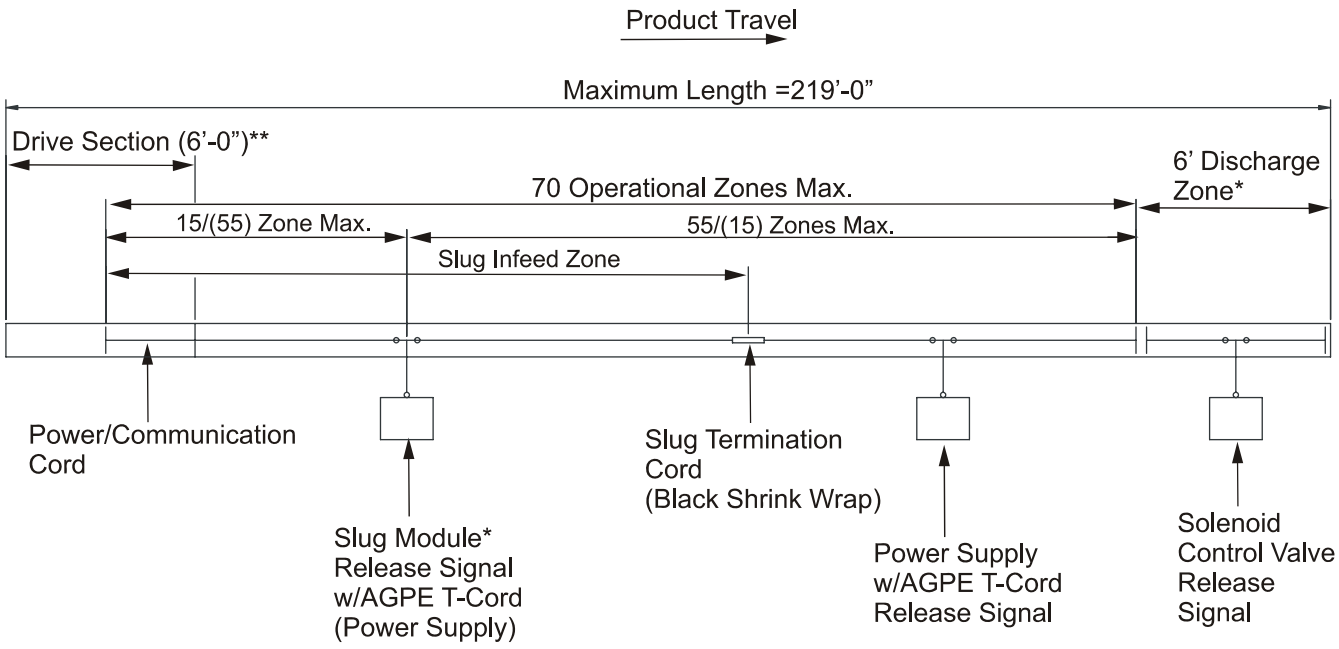
AGPE Control - Slug Mode Infeed / Slug Mode Release

An AGPE 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(s); 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.



*Discharge Zone includes the 3'-0" Idler plus the first Upstream Intermediate Zone.
**Drive Section includes one (1) Operational Zone.

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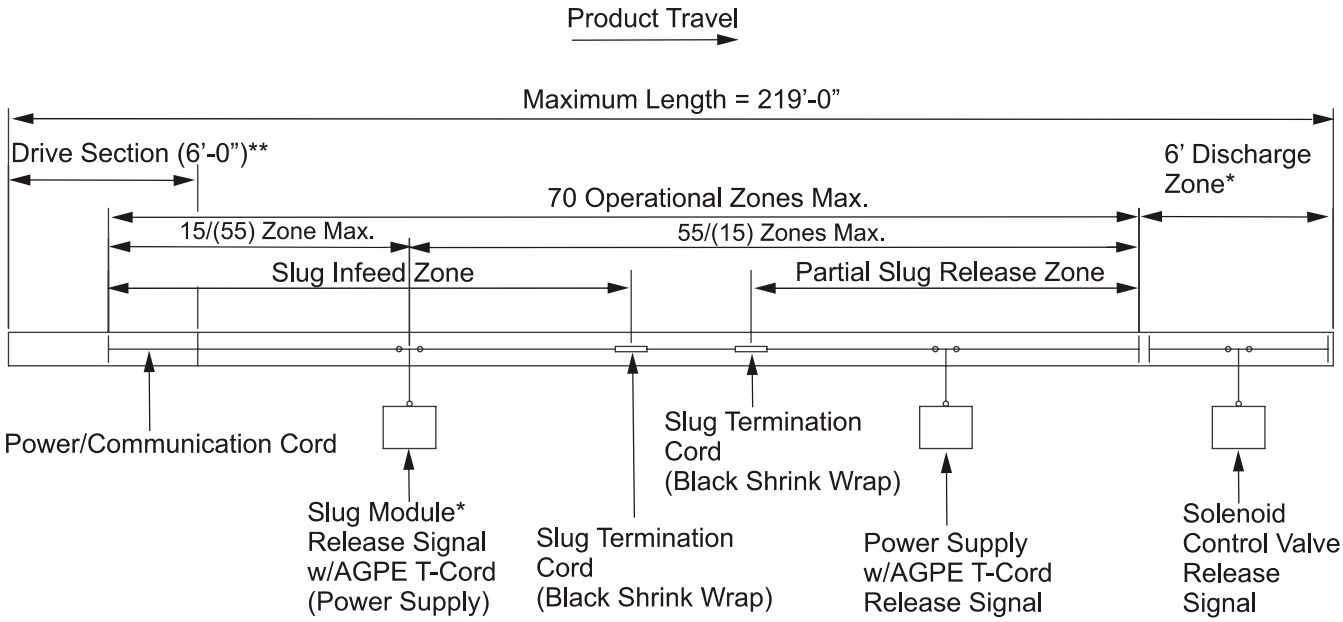
Figure G - 45 Slug-Infeed / Full-Length Slug-Release (Single Power Supply shown)

Initiating "slug-release" (partial-length) requires an external slug-release signal be connected to: 1) all Slug-Module(s) and/or Power Supply(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.



*Discharge Zone includes the 3'-0" Idler plus the first Upstream Intermediate Zone.
**Drive Section includes one (1) Operational Zone.

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Figure G - 46 Slug-Infeed / Partial-Length Slug-Release (Single Power Supply shown)

AGPE - Slug Mode Infeed / Slug Mode Release - continued

An AGE1 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.

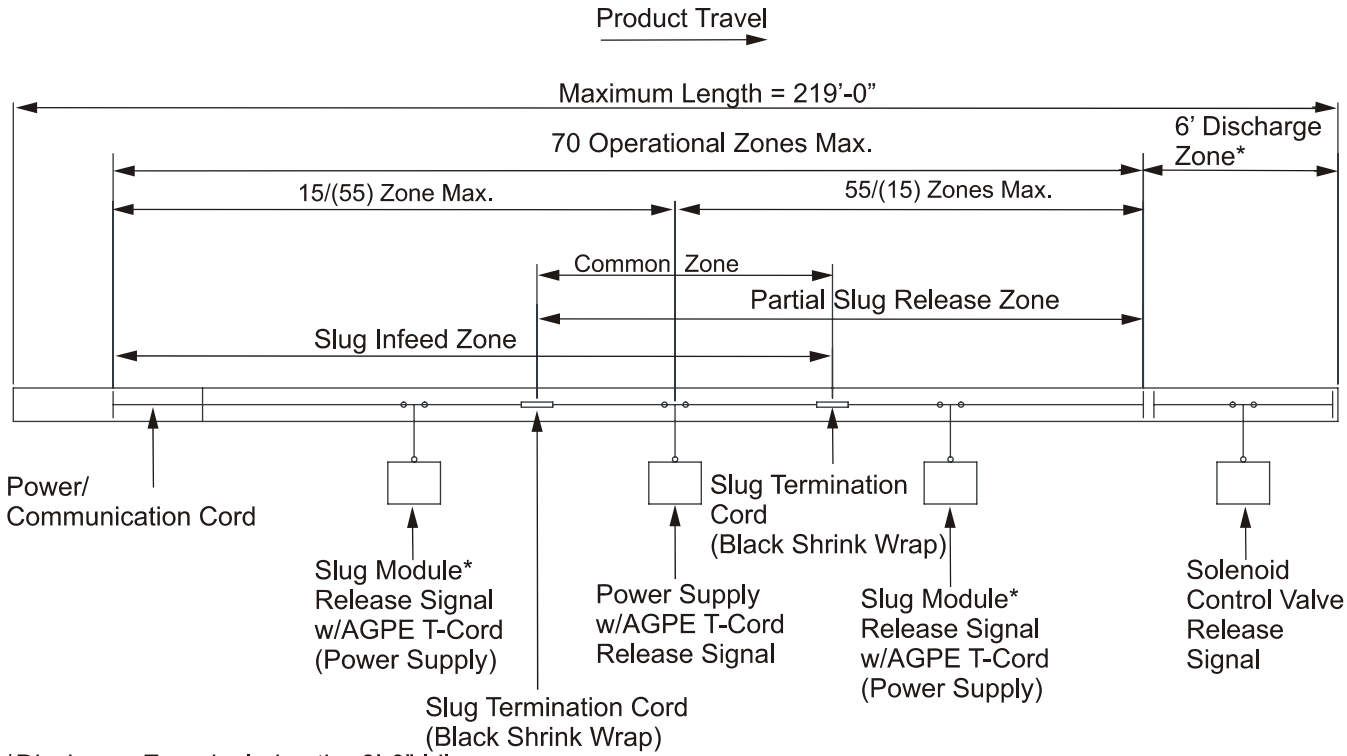


Figure G - 47 Slug-Mode Infeed / Over-lapping Partial-Length Slug-Mode Release (Single Power Supply shown)

AG Intermediate Section Preparation

Sensor Roller Removal

Step 1. Remove all Sensor Rollers from the Intermediate Sections to allow for the installation of the drive chain and pad.

Note: "Record" the assembled position of the Sensor Rollers before removing so that they will be properly re-installed after the chain and pad are installed.

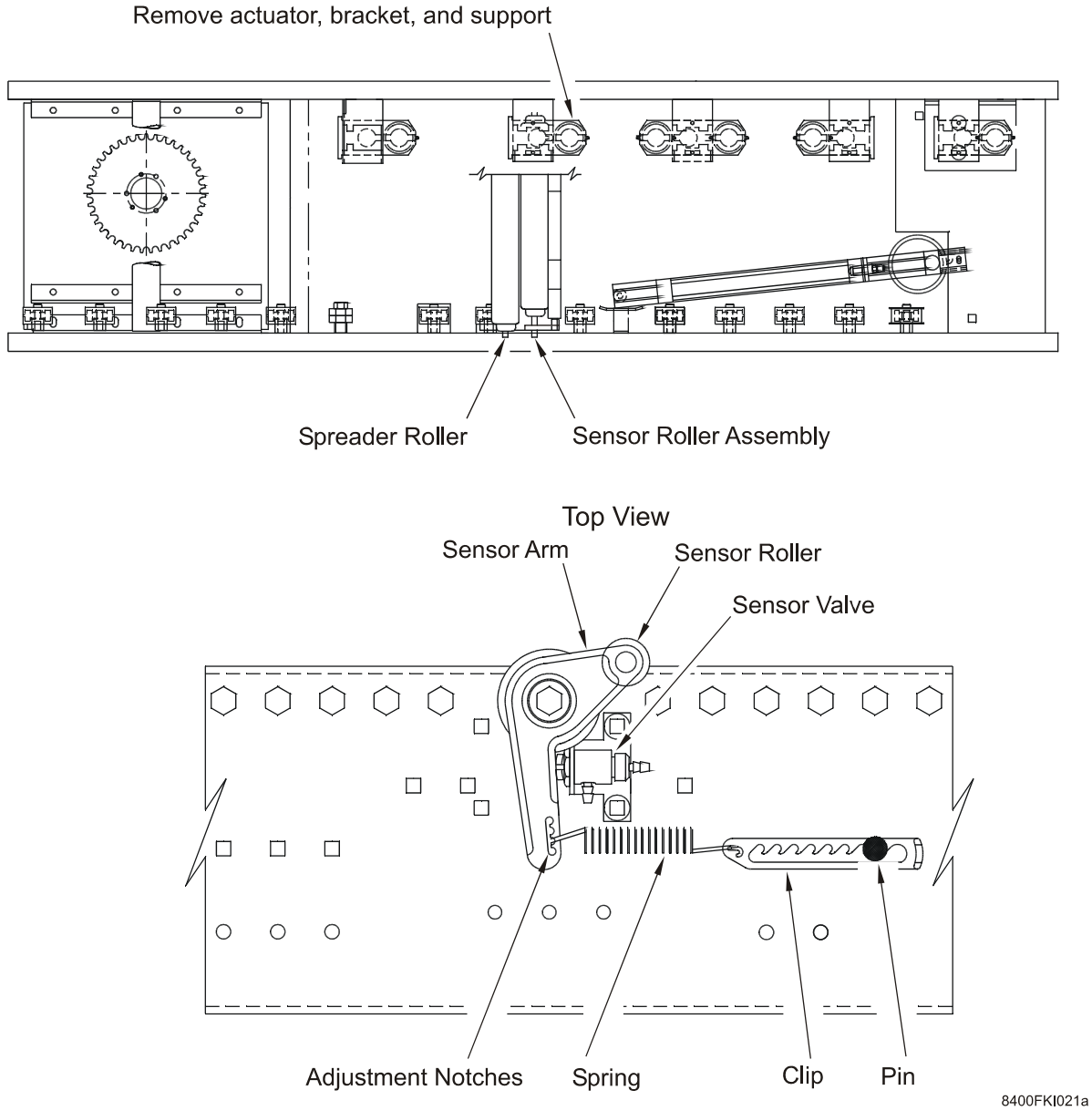


Figure G - 48 Remove Sensor Rollers

AG Intermediate Section to AG Intermediate Section Air Line Connections - Singulation

Step 1. Uncoil the 3/8” OD (Red) tubing and connect the 3/8” x 3/8” x 1/4” T-fitting in first operational zone of the adjoining upstream section.

Step 2. Uncoil the 1/4” OD (Yellow) tubing (connected to valve in the last zone of the downstream section) and connect to the first air-actuator in the next upstream section.

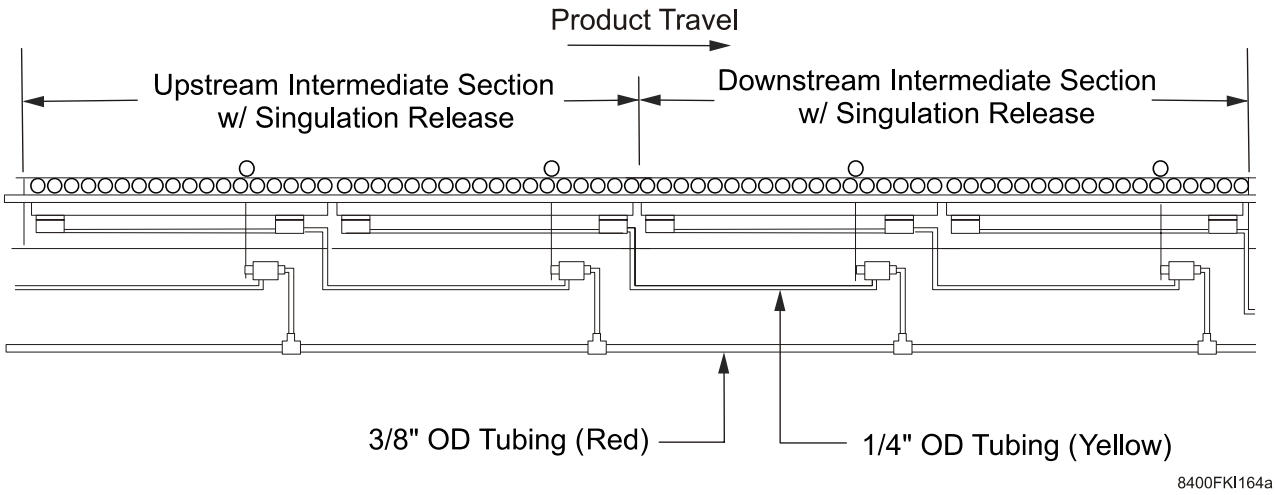


Figure G - 49 Intermediate Section Air Line Connections (Singulation)

AG Intermediate Section to AG Intermediate Section Air Connections - Auto-Slug

Step 1. Uncoil the 3/8” OD (Red) tubing and connect to the 3/8” x 3/8” x 1/4” T-fitting in first operational zone of the adjoining upstream section.

Step 2. Uncoil the 1/4” OD (Yellow) tubing (connected to the valve in the last zone of the downstream section) and connect to the first air-actuator in the next upstream section.

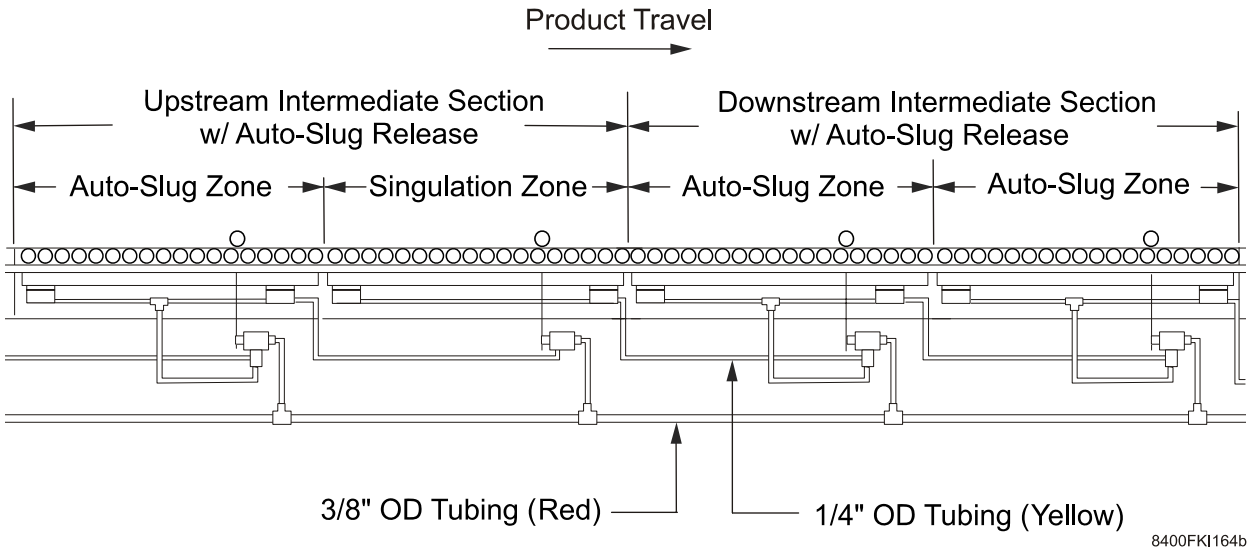


Figure G - 50 Intermediate Section Air Line Connections (Auto-Slug)

AG Intermediate Section to AG Intermediate Section Air Line Connections - Slug

Step 1. Uncoil the 3/8” OD (Red) tubing and connect to the 3/8” x 3/8” x 1/4” T-fitting in the first operational zone of the adjoining upstream section.

Step 2. Uncoil the 1/4” OD (Yellow) tubing (connected to the valve in the last zone of the downstream section) and connect to the first air-actuator in the next upstream section.

Step 3. Uncoil the 1/4” OD (Light Green) tubing and connect to the 1/4” x 1/4” x 1/4” T-fitting in the first operational zone of the adjoining downstream section.

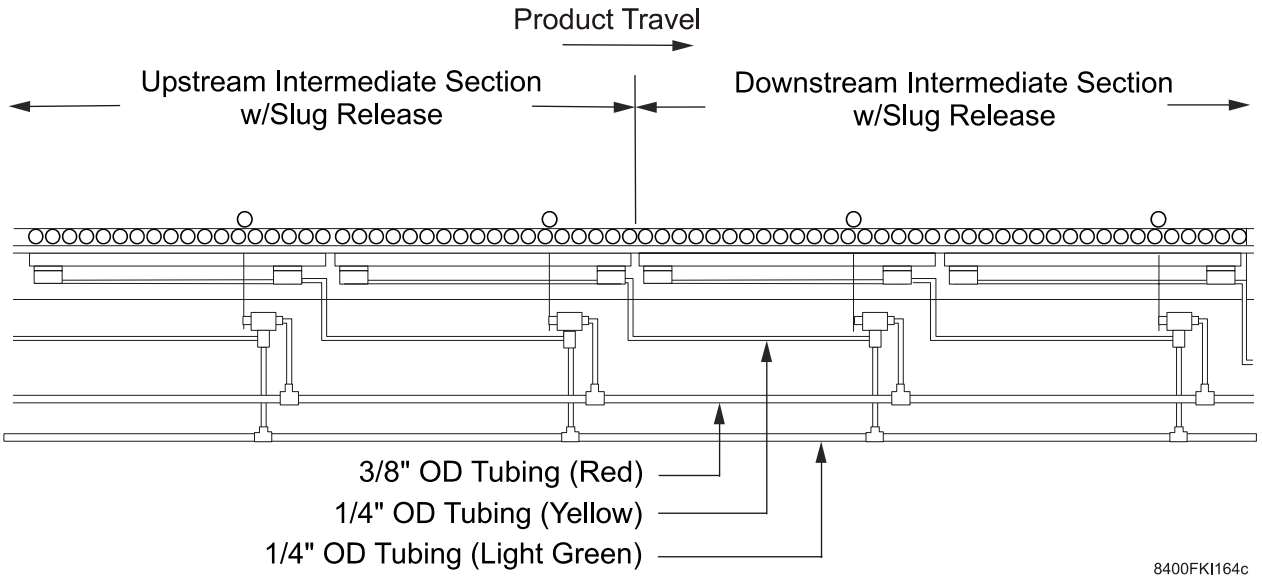


Figure G - 51 Intermediate Section Air Line Connections (Slug)

AG Intermediate Section (Singulation or Auto-Slug) to Drive Section - Air Line Connections

Step 1. Uncoil the 3/8” OD (Red) main air supply tubing and connect to Chain Track Lubricator’s supply line using 3/8” x 1/4” Push-to-Connect Reducer Fitting.

Step 2. Uncoil the 1/4” OD (Yellow) tubing connected to the last sensor valve in the Intermediate Section and connect to the first air-actuator in the Drive Section.

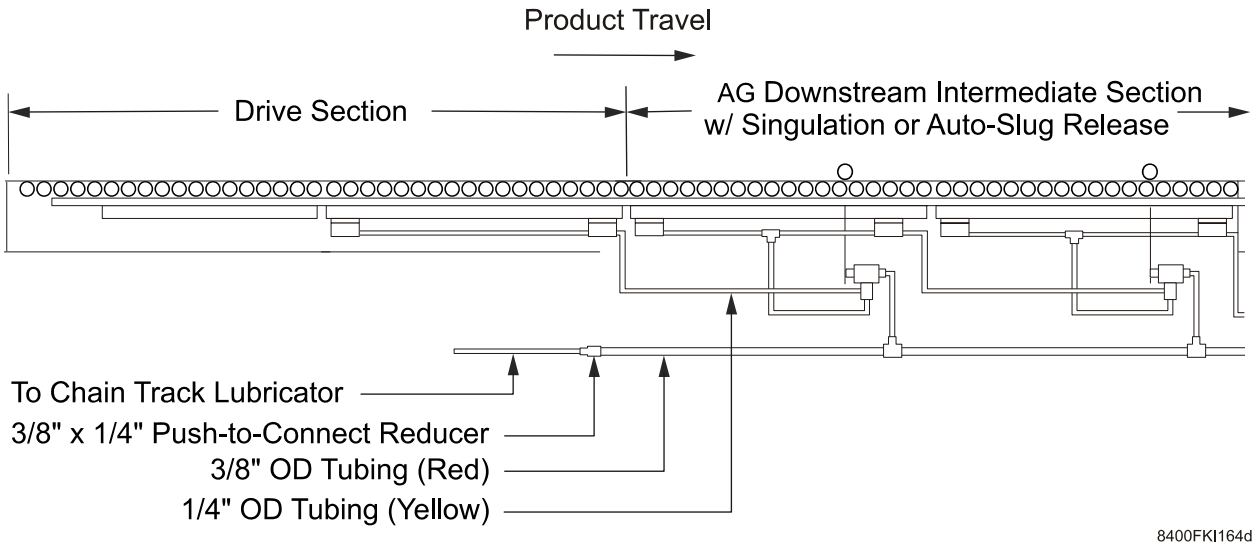


Figure G - 52 Intermediate Section to Drive Section Connection (Auto-Slug shown)

AG Intermediate Section (Singulation or Auto-Slug) to Idler Section - Air Line Connections

Step 1. Uncoil the 1/4” OD (Yellow) tubing that is connected to the idler Section’s upstream air-actuator and connect to the air-actuator in the first operational zone of the Intermediate Section.

Step 2. Uncoil the 3/8” OD (Red) tubing that is connected to the T-fitting (in the Intermediate Section’s downstream zone) and connect to the 3/8” x 1/4” Reducer Fitting that is connected to the Release Control Valve’s air supply line (1/4” OD (Yellow).

Step 3. (Auto-Slug only) Optional

Step 3 is optional for Auto-Slug release-mode applications. Replacing the first zone’s “singulation” sensor valve with a “slug” sensor valve will yield a slight increase in the conveyor’s release rate.

a. Replace the “singulation” sensor valve in the Intermediate Section’s first zone with a “slug” type sensor valve (see Figure G - 54).

b. Cut the 1/4” OD (Yellow) tubing that connects the two (2) air-actuators in the same first zone and insert a 1/4” T-fitting into the line.

c. Reconnect the 1/4” OD (Yellow) tubing from the second Operational Zone’s air-actuators to the output port (“C”) of the first zone’s slug-type sensor valve.

d. Reconnect the 1/4” OD line from the 3/8” x 1/4” T-fitting (in the air-supply line) to “slug” sensor valve’s supply port “A”.

e. Connect a length of 1/4” OD tubing (Light-Green - in field materials) to the T-fitting and the “slug” sensor valve’s supply port “B”.

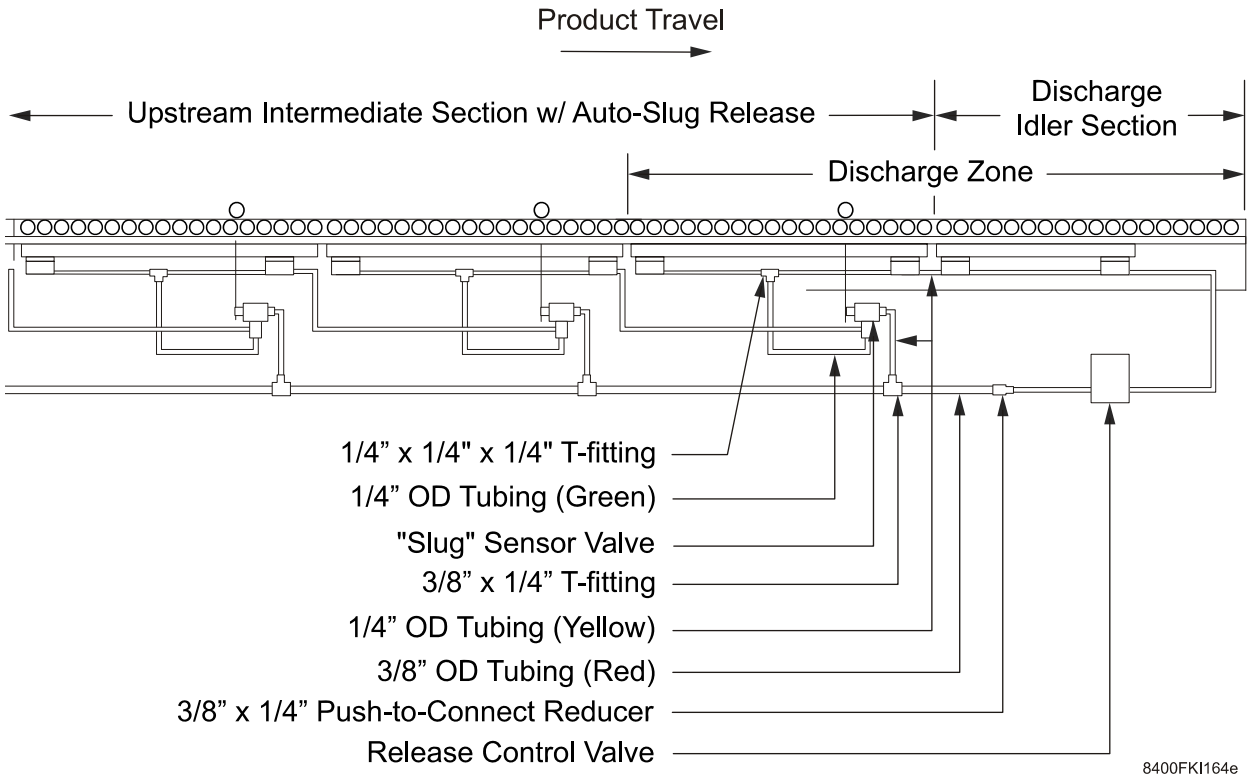


Figure G - 53 Intermediate Section to Idler Section Connection (Auto-Slug shown)

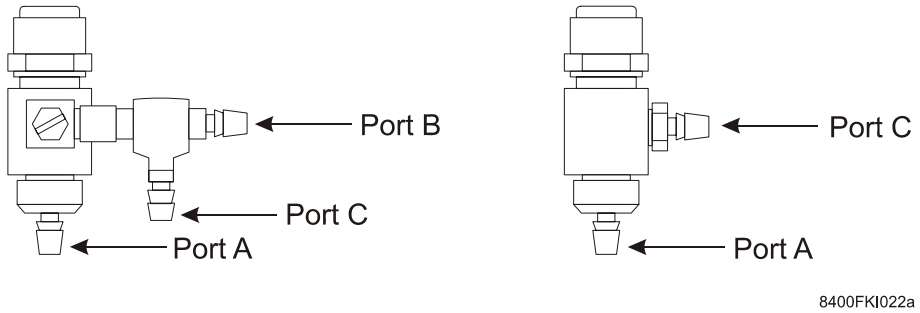


Figure G - 54 Slug Valve (left) and Singulation Valve (right)

Intermediate Section (Slug) to Drive Section - Air Line Connection

Step 1. Uncoil the 3/8” OD (Red) main air supply tubing and connect to Chain Track Lubricator’s air supply line using the 3/8” x 1/4” Push-to-Connect Reducer Fitting.

Step 2. Uncoil the 1/4” OD (Yellow) tubing connected to the last “slug” sensor valve in the Intermediate Section and connect to the first air-actuator in the Drive Section.

Step 3. Locate the 1/4” OD (Yellow) tubing that connects the last zone’s “slug” sensor valve (port “B”) and the 1/4” x 1/4” x 1/4” T-fitting that is installed in the “slug-release” signal line (1/4” OD tubing (Light Green); remove the T-fitting from the “release” signal line.

Step 4. Install a 1/4” straight connector fitting into the “slug” release signal line.

Step 5. Connect the 1/4” OD (Yellow) tubing to the other end of the 1/4” straight connector fitting.

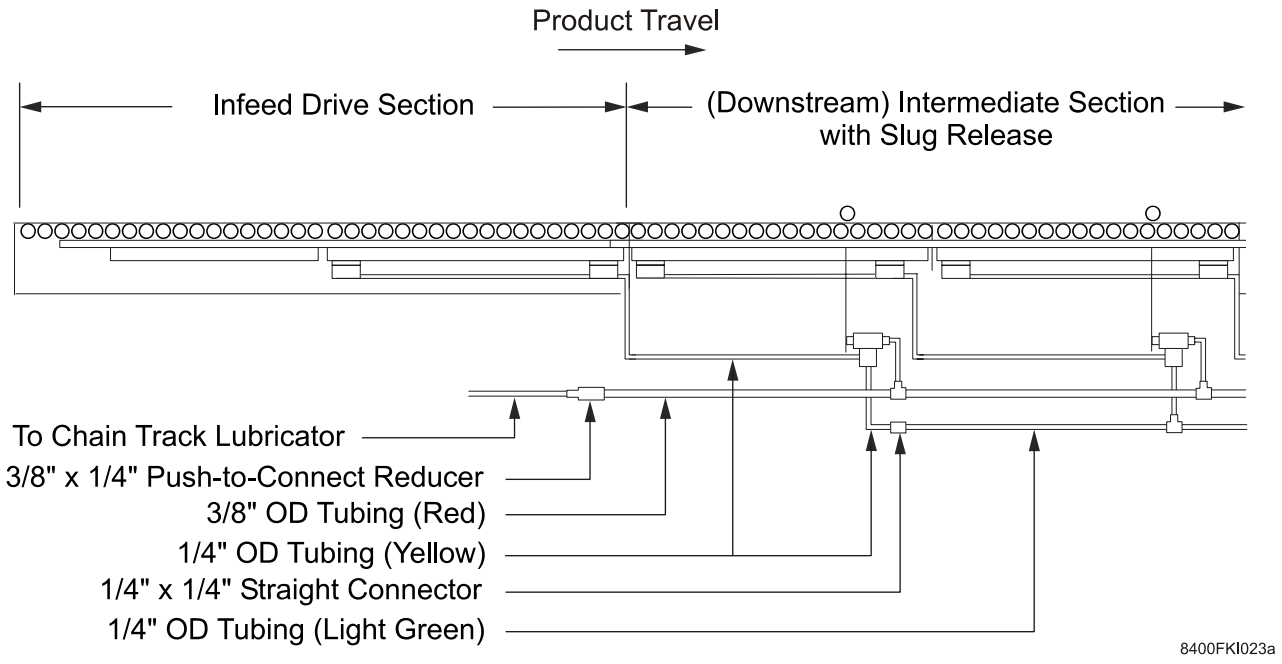


Figure G - 55 Slug Intermediate Section to Drive Section Connection

Intermediate Section (Slug) to Idler Section - Air Line Connections

Step 1. Uncoil the 1/4” OD (Yellow) tubing that is connected to the Idler Section’s upstream air-actuator and connect to the first air-actuator in the adjoining Intermediate Section.

Step 2. Uncoil the 3/8” OD (Red) tubing that is connected to the T-fitting (in the Intermediate Section’s downstream zone) and connect to the 3/8” x 1/4” Reducer Fitting that is connected to the Release Control Valve’s air supply line (1/4” OD (Yellow).

Step 3. Cut the 1/4” OD (Yellow) tubing that connects the Release Control Valve and the Discharge Zone’s air-actuators; insert a 1/4” x 1/4” T-fitting into the line.

Step 4. Connect a length of 1/4” OD (Light Green) tubing to the new T-fitting and to the 1/4” x 1/4” T-fitting that is connected to the “slug” signal line 1/4” OD (Light Green) tubing.

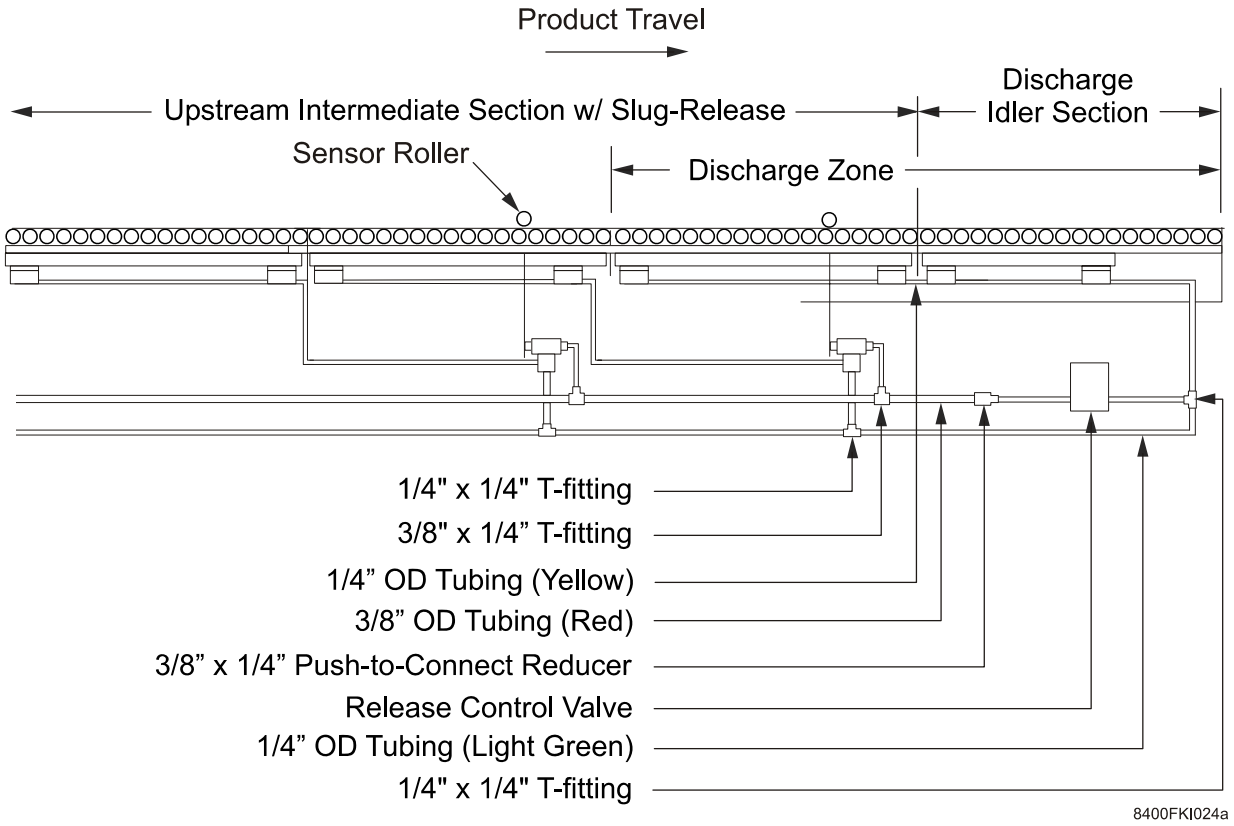


Figure G - 56 Slug Intermediate Section (Slug) to Idler Section Connection

Intermediate Section (Slug) Quick Exhaust Valve Installation

Quick-Exhaust Valves (QEV) are used in AG Intermediate Straight Sections with “slug-release” piping logic. They are used where it is necessary to quickly switch between the “slug” and the singulation” operational modes. One unit should be installed for each 36 ft. of “slug” length.

Step 1. Assemble the crossmember to the frame at the required QEV location(s).

Step 2. Assemble the pressure valve w/mounting bracket to the crossmember supplied and attach to the conveyor frame at the required locations.

Step 3. Cut the main air supply line (“red” 3/8” OD) tubing and install a 3/8” x 3/8” x 1/4” T-fitting.

Step 4. Cut the “slug” signal line (“green” 1/4” OD) tubing and install a 1/4” T-fitting.

Step 5. Connect a length of 5/32” ID tubing to:

a. the main-air supply line’s T-fitting, and

b. the supply port of the solenoid valve.

Step 6. Connect a length of 5/32” ID tubing to:

a. the “slug” signal line’s T-fitting, and

b. the output port of the solenoid valve.

Step 7. Make wiring connection to the control panel.

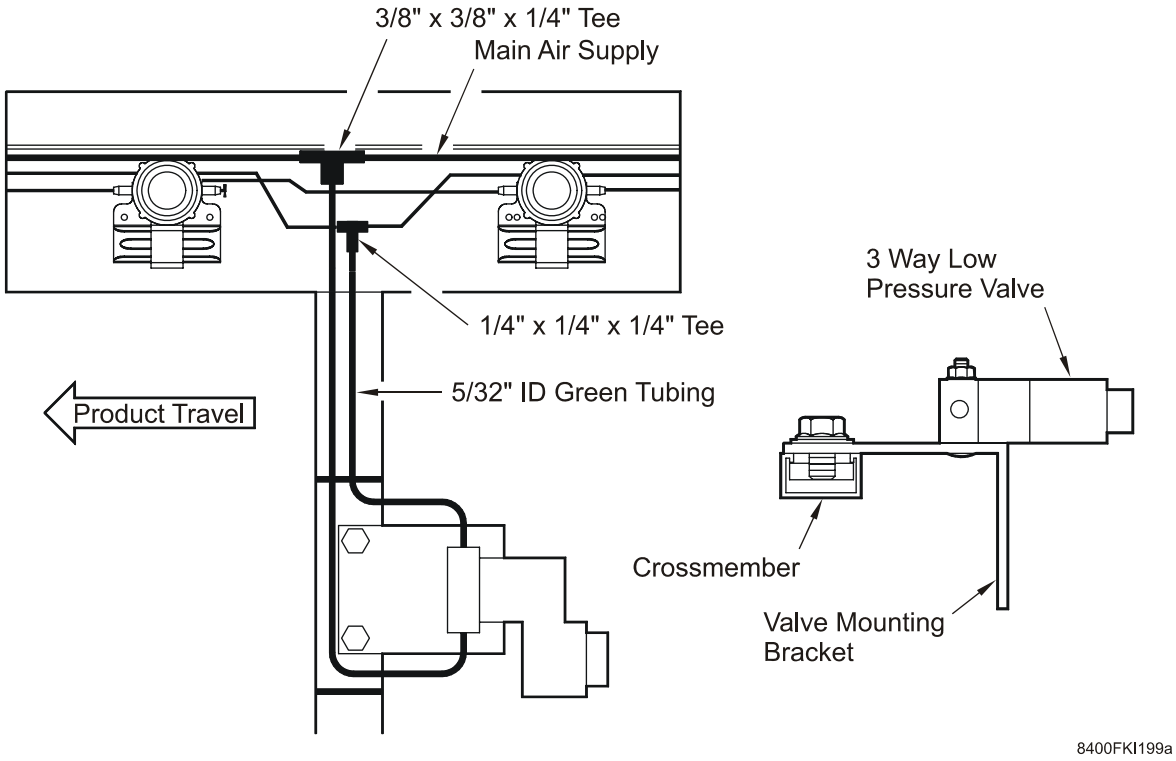


Figure G - 57 Quick Exhaust Valve (AG Intermediate Sections)

Intermediate Curve Section - Transportation-Type Preparation

Carrier Roller Removal

Step 1. Remove all Carrier Rollers (non-bolted) from the section(s) to facilitate the installation of the drive chain and pad.

AGPE - Power Communication Cord Connections

Step 1. 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.

AGPE - Air Supply Line Connections

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

AGPE / AG - 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. If yes, proceed to Step 1

Step 1. Bolt two (2) Brake-Modules to the crossmembers of each zone using the hardware supplied.

Step 2. Install the appropriate Field Kit to make the pneumatic connections.

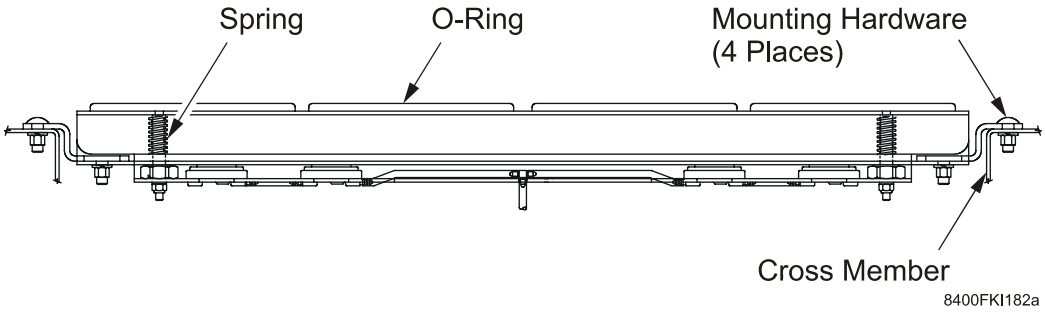


Figure G - 58 Drop-in Brake-Module

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

Operational Mode	Intermediate Straight Section - Type			
	AGP1		AG	
	PN	Drwg	PN	Drwg
Air-Controlled - Intermediate Curve/Straight Sections				
Singulation	004764	AGF26	00866	AGF16
Auto-Slug	004765	AGF27	00864	AGF17
Solenoid-Controlled - Intermediate Curve/Straight Sections				
Singulation / Auto-Slug - 110VAC	004766	AGF28	000867	AGF18
Singulation / Auto-Slug - 24VDC	004767	AGF28	000876	AGF18

Intermediate Curve Section - Accumulation-Type Preparation

Carrier Roller Removal

Step 1. Remove all Carrier Rollers (non-bolted) from the curve section(s) to facilitate the installation of the drive chain/pad and accumulation-control components.

Main Air Supply Line Connections

Step 1. Remove the coiled air supply line (1/2" OD red tubing) from the curve frame(s) and uncoil.

Step 2. (For 90^{o} curve) Use the tubing to connect the air-supply ports of the curve's Solenoid Control Module (Figure G - 59 inset) and the ports of the adjacent upstream & downstream Solenoid Control Modules (mounted on opposite-side frame rail).

(For 180^{o} curve) Use the tubing to connect: a) the air-supply ports of the curve's two (2) Solenoid Control Modules; and b) the ports of the adjacent upstream and downstream Solenoid Control Modules (mounted on opposite-side frame rail).

The curve's SCM(s) are factory-mounted to the inside face of the outer frame rail.

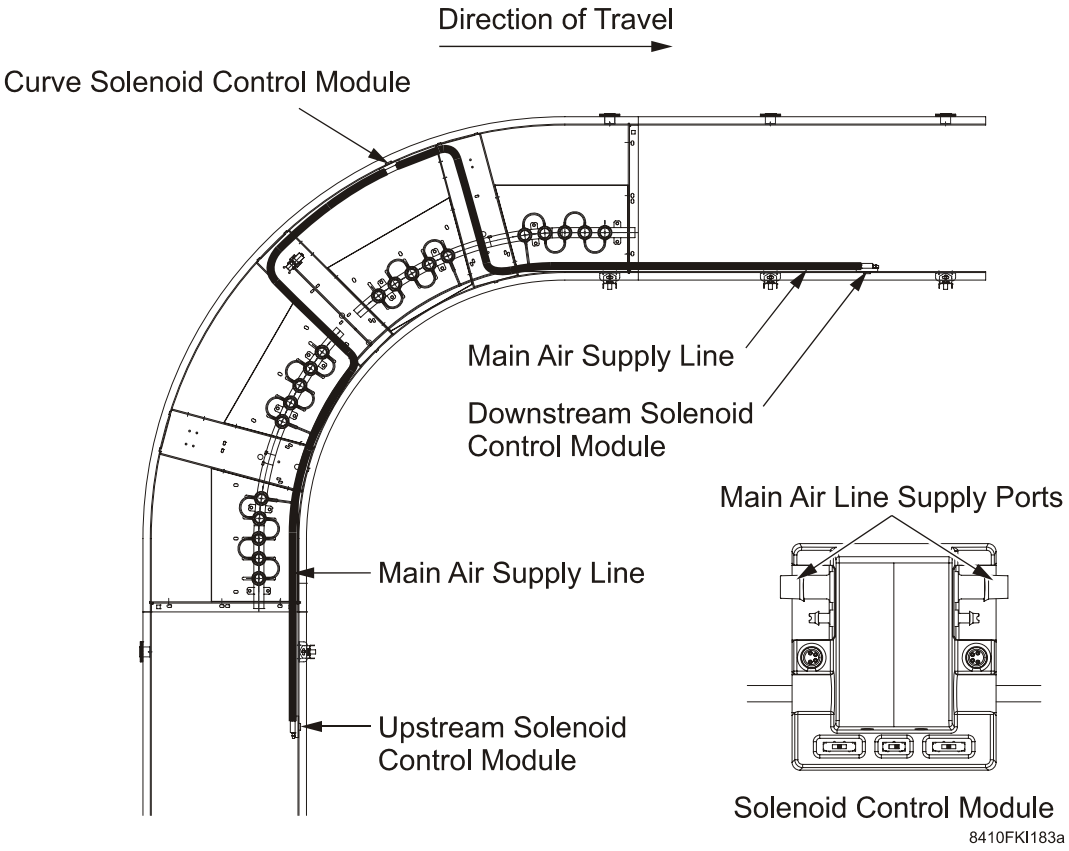


Figure G - 59 Main Air Supply Line Connections - 90^{o} Curve Assembly (RH Assembly)

Air Filter/Regulator Assembly Mounting / Air Connections

Step 1. Mount the Filter/Regulator/mounting-bracket assembly (shipped with Field Materials) to the same crossmember that the pilot-actuated Control Valve is attached (two valves for a 180^{o} curve).

Step 2. Connect the facility's main air supply to filter/regulator assembly's "supply" port.

Note: It is recommended that a shut-off valve be located ahead of the supply port of the air-filter/ regulator.

Step 3. Connect the Filter/Regulator's output port and the air-supply port of the Control Valve using a length of 1/4" dia. (red) tubing (shipped with Field Materials).

(For 180^{o} curves) - Connect the second Control Valve's air-supply port and the Filter/ Regulator using a T-fitting and a second length of tubing.

Note: Multiple curves (up to 30' apart) can be serviced by one (1) air-filter/regulator assembly. Each curve's Control Valve must be connected to the air-filter/regulator using T-fitting(s) and length(s) of tubing.

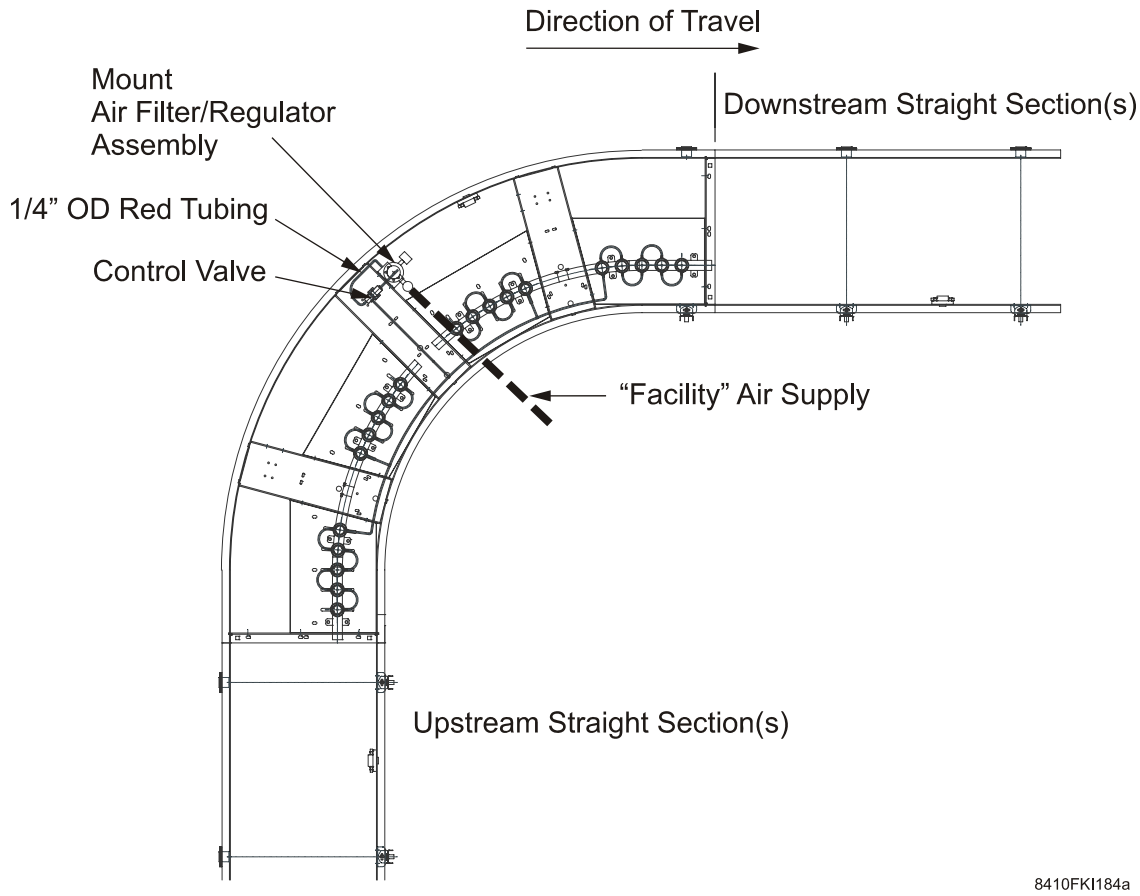


Figure G - 60 Mounting and Piping of Air Filter/Regulator Assembly

Attach Air Lines from Solenoid Control Module to Zone Control Valve

For 90^{o} Curve

Step 1. Attach a piece of 1/4” OD Yellow tubing from output of side “A” of SCM to input of the Control Valve mounted to cross spreader.

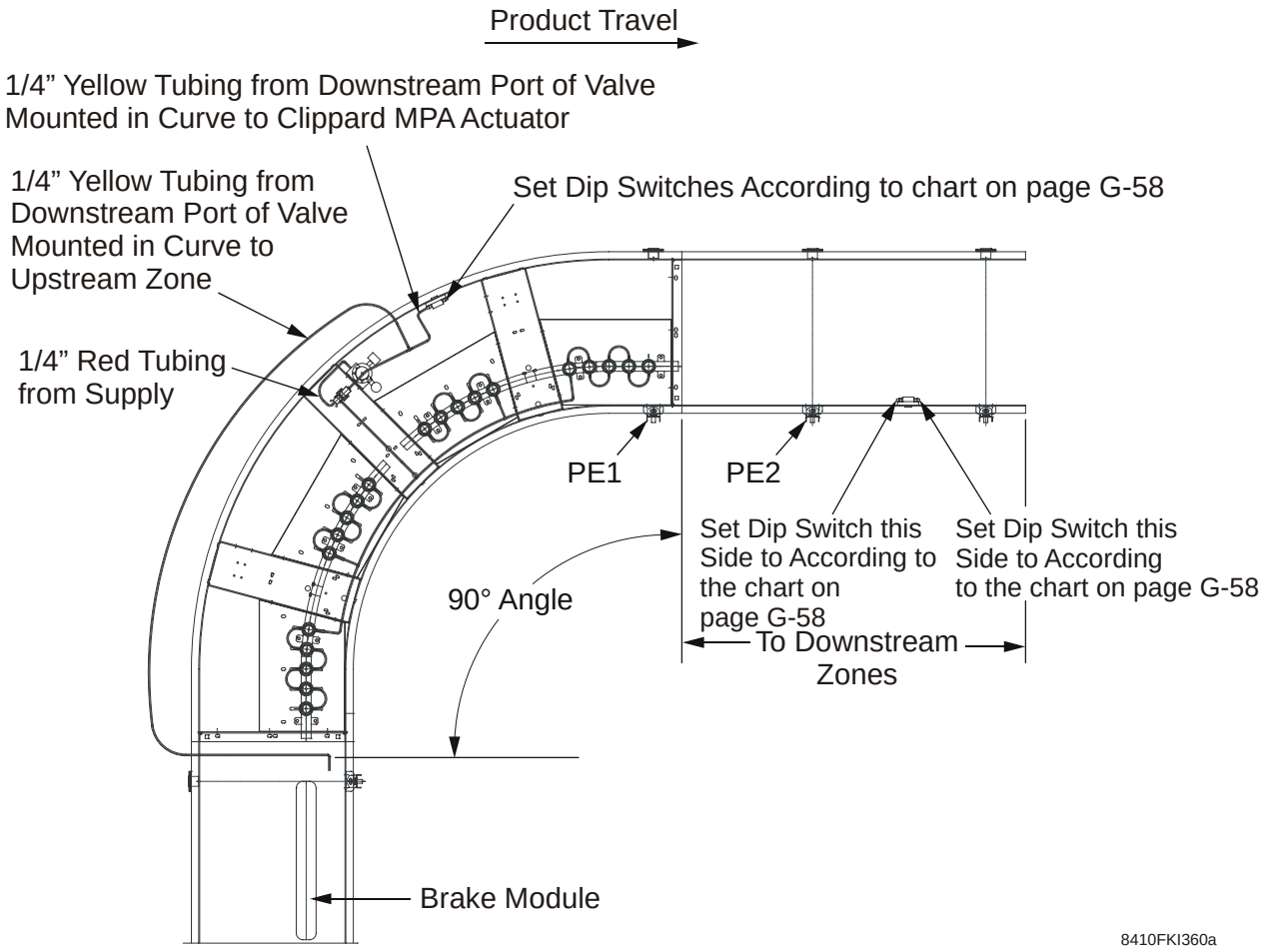


Figure G - 61 Attaching Air Lines to a 90^{o} Curve

For **180° Curve**

Step 1. Attach a piece of 1/4” OD Yellow tubing from output of side “A” of SCM to input of the Control Valve mounted to cross spreader for the 90° discharge portion of the 180° curve.

Step 2. Attach a piece of 1/4” OD Yellow tubing from output of side “B” of SCM to input of the Control Valve mounted to cross spreader for the 90° injeed portion of the 180° curve.

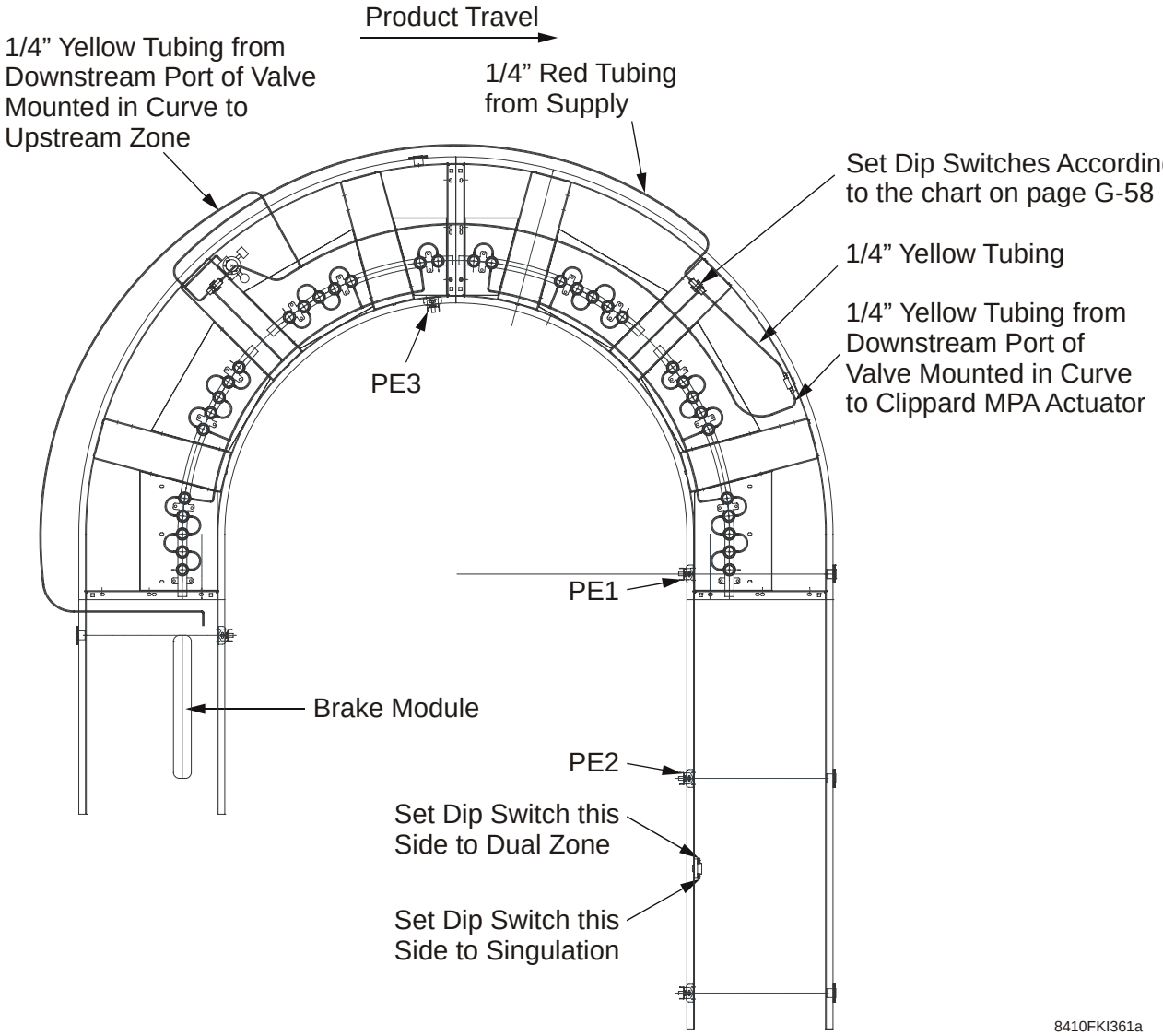


Figure G - 62 Attaching Air Lines to a 180° Curve

Power/Communication Cord Connections

Step 1. For 90^{o} Curve, and downstream 90^{o} segment of 180o Curve: a) connect the yellow Power/Communication Cord attached to "A" side of the curve's Solenoid Control Module (Figure G - 63 inset) to the Power/Communication Extension Cord (shipped with Field Materials); b) route the cord to the curve's inner frame rail and then forward (in the direction of travel); and c) connect the cord to the mating (keyed) P/C Cord connector (attached to "B" side of the downstream Solenoid Control Module).

Step 2. For 90^{o} Curve, and upstream 90^{o} segment of 180^{o} Curve: a) connect the "B" side Power/Communication Cord (Figure G-61 inset) to the P/C Extension Cord (shipped with Field Materials); b) route the cord to the curve's inner frame rail and then rearward (opposite the direction of travel); and c) connect the cord to the mating (keyed) P/C Cord connector (attached to "A" side of upstream Solenoid Control Module).

Step 3. For 180^{o} Curve ONLY: a) connect the "A" and "B" P/C Cords of the two (2) adjoining SCMs.

Note: Figure G - 63 shows a "Right-Hand" curve assembly. For "Left-Hand" curves, the "A"/"B" sides of the SCM are reversed.

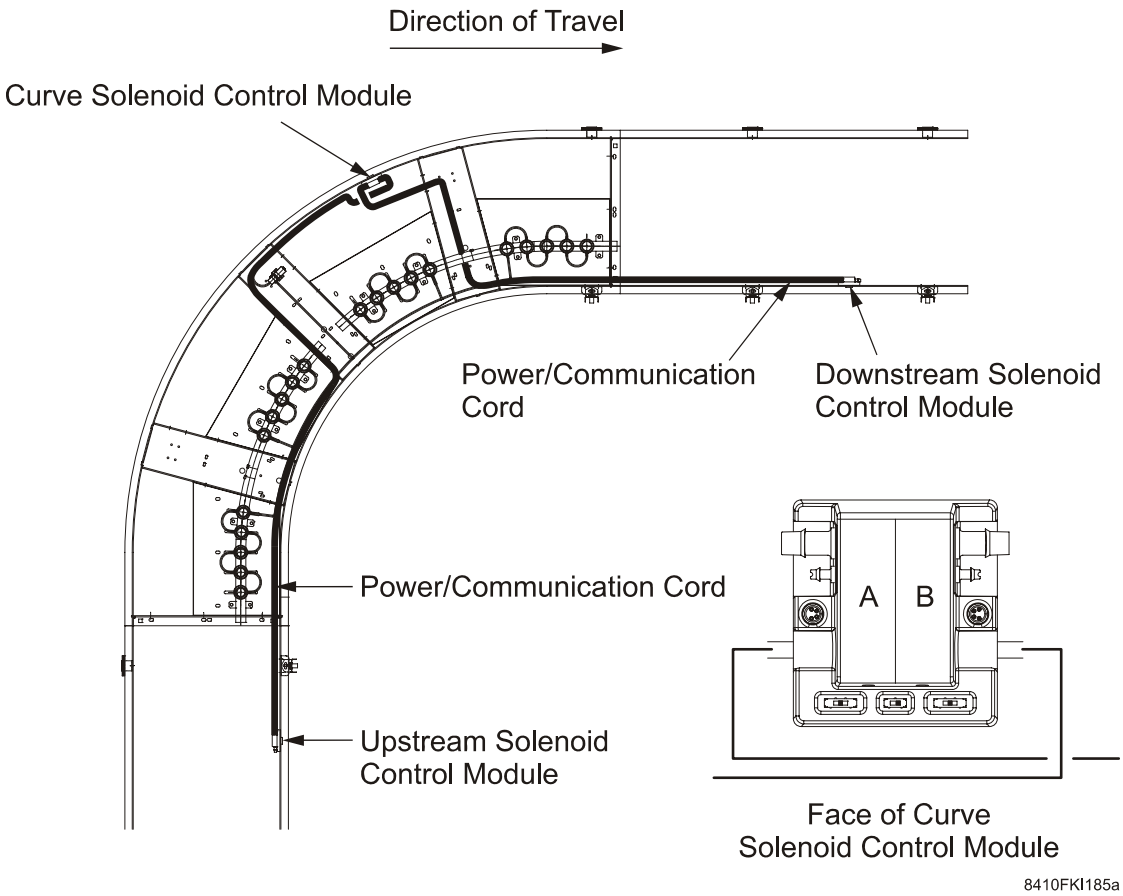


Figure G - 63 Power/Communication Cord Connections (Right-Hand Curve Shown)

Photo-Eye Sensor Mounting / Cord Connection

Step 1. (For 90^{o} and 180^{o} curves) mount a Photo-eye Sensor w/Mounting Bracket (shipped with Field Materials) to the curve's inner rail (approx. 30^{o} back from the 11" lg. straight tangent) using the mounting holes provided in the rail.

Step 2. Route the photo-eye cord from the photo-eye through the opening provided in the inner rail, across the crossmember to the outer rail, and along the outer rail to the PICO connector on the "A" side of the curve section's SCM (Figure G - 64 inset).

(For 180^{o} Curves w/90^{o} Operational Zones) mount the second Photo-eye Sensor to the inner rail (approx. 30^{o} back from mid-point of the curve) and route the photo-eye cord to the "B" side of the second SCM.

Step 3. Mount the reflect/mounting bracket assembly(s) on the outer frame rail in required alignment (offset) with associated photo-eye sensor.

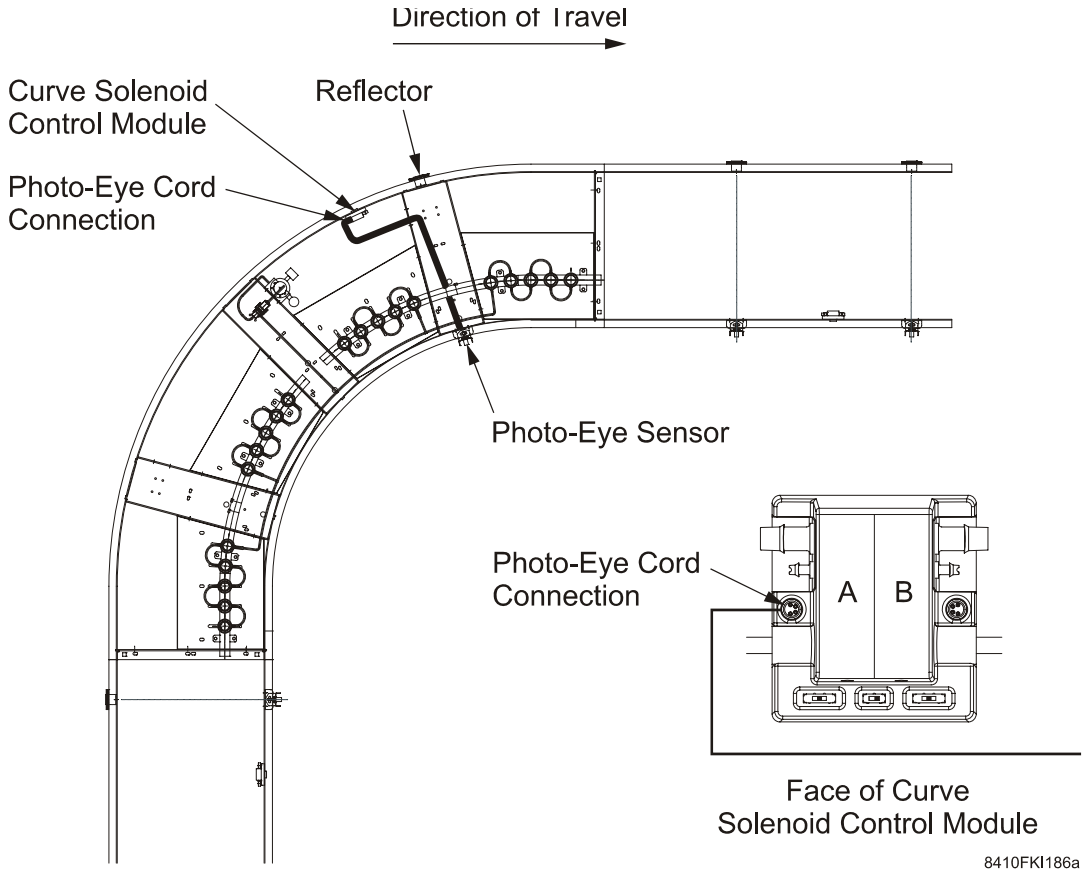


Figure G - 64 Photo-Eye Sensor Mounting and Cord Connection (Right-Hand Curve Shown)

Solenoid Control Module and Valve Designation - Direction of Travel (DOT) Switch Setting

Because the curve's SCM is mounted on the outside frame rail (opposite the mounting side of the adjoining Intermediate Straight Sections), its DOT orientation is reversed. This requires that the 2-position DOT switch (center) be set "opposite" the conveyor's actual direction of travel (towards the valve designated "A").

For RIGHT-HAND Curve assemblies - the curve's 2-position DOT switch must be set to the "LEFT" position when looking directly at the face of the SCM (Figure G - 65 left). For LEFT-HAND Curve assemblies - the DOT switch must be set to the "RIGHT" position (Figure G - 65 right).

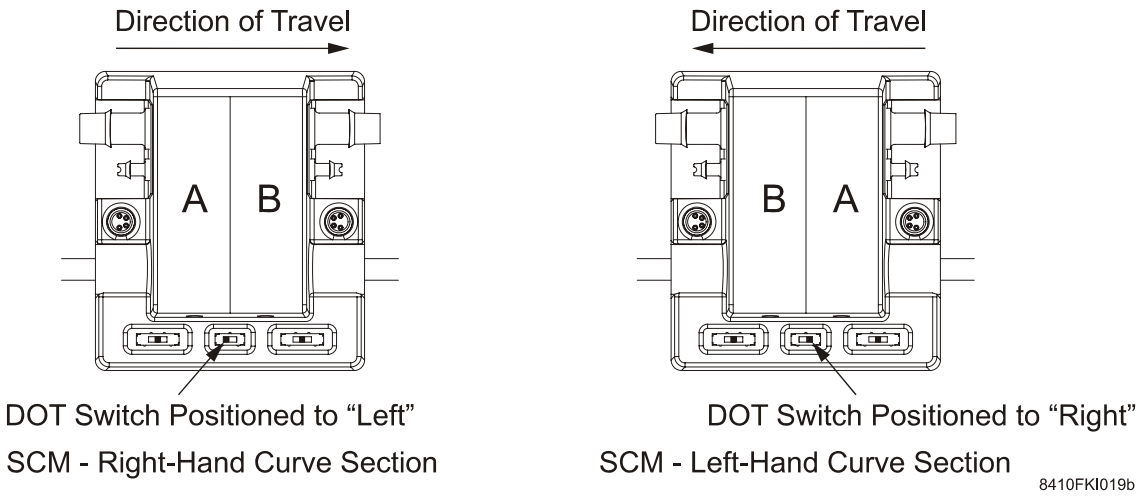


Figure G - 65 View of Solenoid Control Modules (Right-Hand and Left-Hand Curves)

For adjoining upstream/downstream Intermediate Straight Sections, the DOT switch(s) must be set towards the conveyor's direction of travel (when looking directly at the face of the SCM. Set to "left" for RH straight sections (Figure G - 66 left); set to "right" for LH straight sections (Figure G - 66 right).

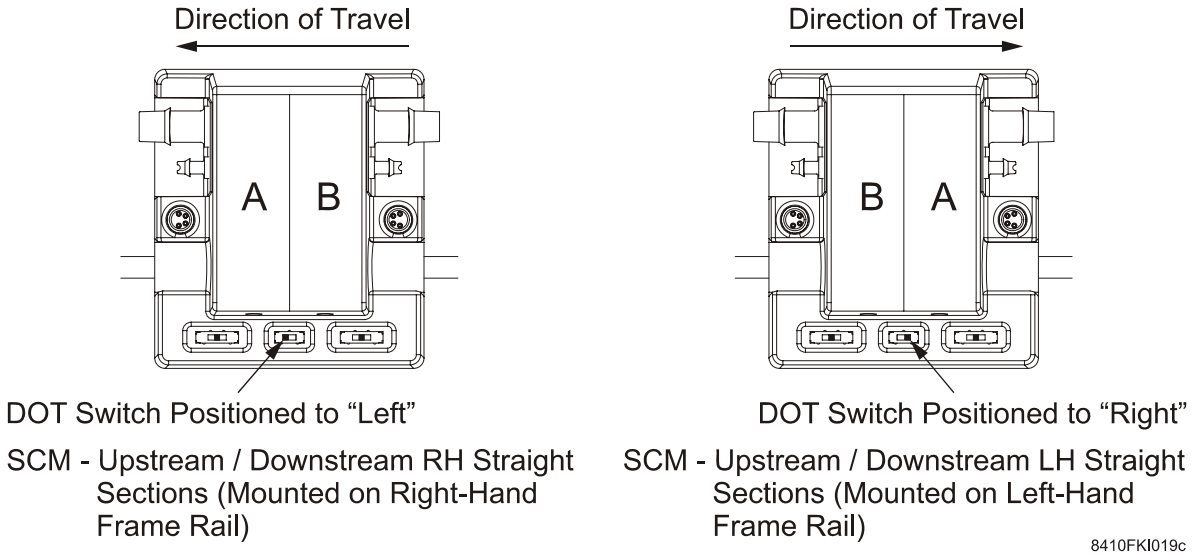


Figure G - 66 View of Solenoid Control Modules - (Adjoining Intermediate Straight Sections)

Solenoid Control Module - Operational-Mode Switch Setting

Each of the SCM's valves have a 3-position Operational Mode Switch that can be set for: a) Singulation; b) Auto-Slug; or c) Dual-zone.

The setting of Operational-Mode Switch "A", determines the function of Valve "B" (valve open or closed). The setting of Operational-Mode Switch "B" determines the function of Valve "A" (of the next "upstream" SCM).

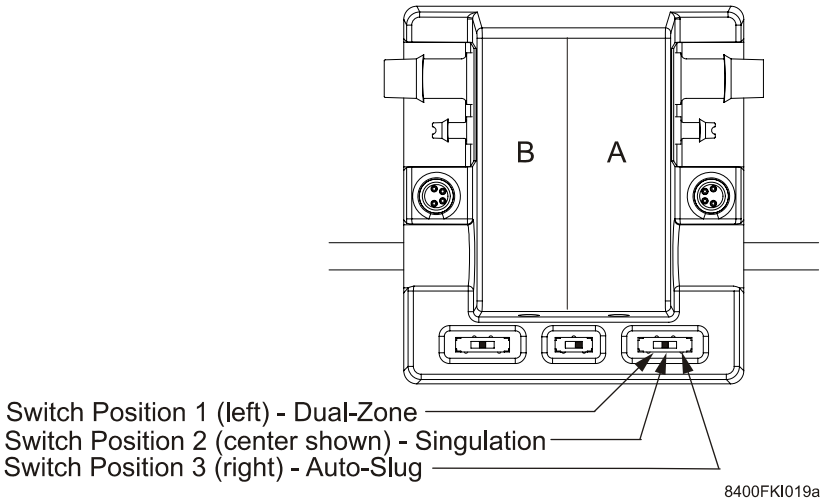


Figure G - 67 Setting of Operational-Mode Switch ("A" Switch shown)

Step 1. Based on: a) the conveyor line's Operational-Mode requirement; b) the curve section's arc; and c) the "downstream" Intermediate Straight Section's length (even or odd number of operational-zones) - set the Operational-Mode switches per Table G-3.

Table G - 3 Operational-Mode Switch Settings

Arc		**Solenoid Control Module**			
		Curve Section		**Downstream (Straight) Section**	
Curve	**Operational-Zone**	**Valve Designation**			
		90° / 180°(a)	**180°(b)**	**"B"**	**"A"**
		"A/B"	**"A/B"**		
Downstream Intermediate Straight Section - 12'-0" or 6'-0" lg. (4 or 2 Operational Zones)					
90°	90°	Auto-Slug	NA	Dual-Zone	Conveyor-Mode (c)
180°	90°	Auto-Slug	Auto-Slug	Dual-Zone	Conveyor-Mode (c)
Downstream Intermediate Straight Section - 9'-0" or 3'-0" lg. (3 or 1 Operational Zones)					
90°	90°	Auto-Slug	NA	Auto-Slug	Dual-Zone
180°	90°	Auto-Slug	Auto-Slug	Auto-Slug	Dual-Zone

Note "a" - 180° Intermediate Curve Section has one (1) SCM that controls the first 90° Operational Zone

Note "b" 180° Intermediate Curve Section has one (1) SCM that controls the second 90° Operational Zone

Note "c" - Operational Mode Switch "A" of the first downstream SCM is set to match the operation of the conveyor downstream of the curve.

AG Intermediate Sawtooth Merge Section Preparation

Carrier Roller Removal

Step 1. Remove all Carrier Rollers from the merge section(s) to facilitate the installation of the drive chain and pad.

Air Line Connections - AG

Step 1. Install the appropriate Field Kit to make the pneumatic connections.

Air Line / Power Communication Cord Connections - AGPE

Step 1. Install the appropriate Field Kit to make the pneumatic connections.

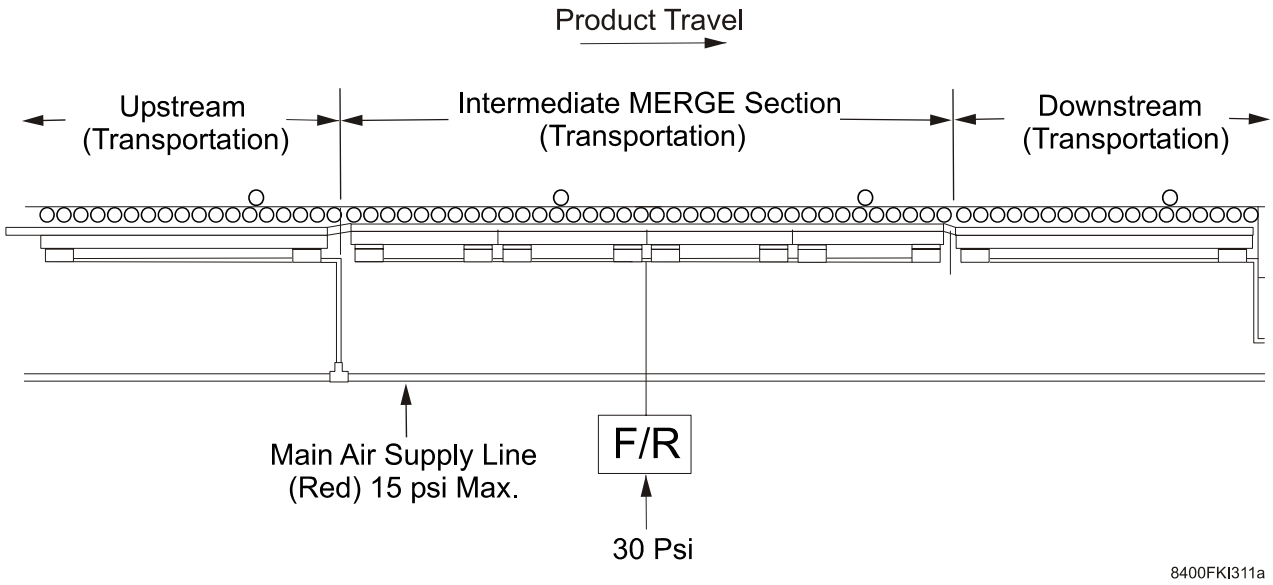


Figure G - 68 Sawtooth Merge

Table G - 4 Field Kit Part Numbers and Installation Drawing Numbers

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

Chain Installation

Note: **Chain Installation Notes**

- The single-pitch RC50 roller chain (with extended pins) is shipped separately in 100' lengths and is installed after all conveyor sections are installed.
- When unrolling the chain from its spool, keep the spool axis vertical to avoid twisting or distorting the chain.
- All Carrier Rollers and Sensor Rollers are removed to facilate chain installation.
- Always install the chain with its extended pins oriented the same way (upwards).
- 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.

Chain Installation Procedure - Drive / Straight Sections

Step 1. Beginning at the Drive Section, unreel and lay the first chain segment (100 ft.) into the extruded, green "Drive Chain" track with the leading end of the chain downstream of the drive sprocket.

Step 2. Pull sufficient chain (towards the drive sprocket) to allow the chain to be routed through all of the drive components (drive, tensioner, and idler sprockets, chain track lubricator, guides, etc.) with the leading end laying in the "Return Chain" track of the next downstream Intermediate Section, see Figure G - 69.

Step 3. Ensure that the chain is properly engaged with the teeth of all sprockets.

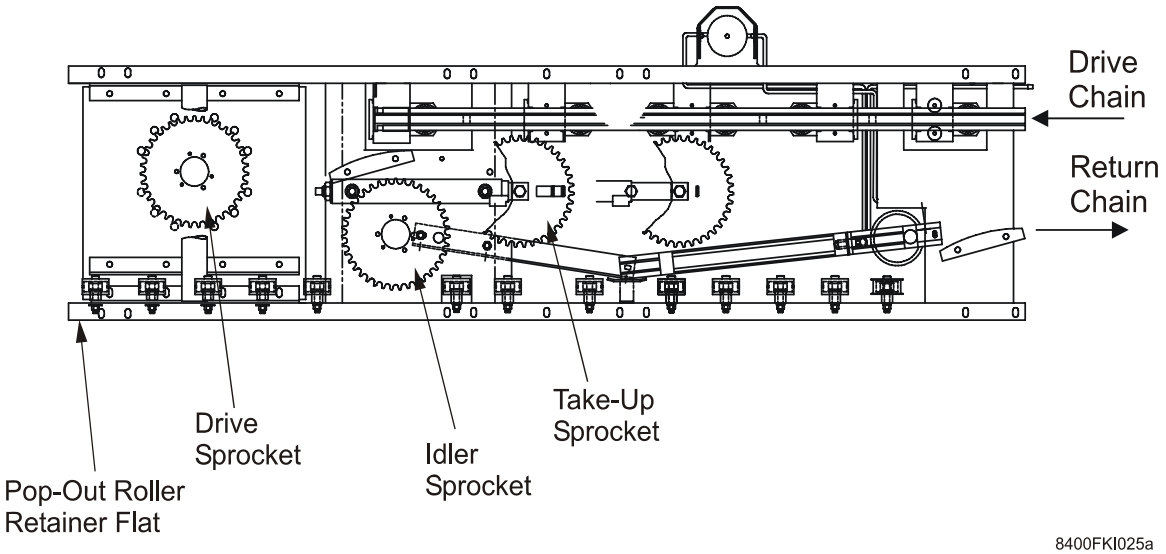


Figure G - 69 Chain Installation - Infeed Drive Section

Step 4. Working from either end of the first chain segment, lay the next chain segment into the chain tracks.

Step 5. Connect the chain segment ends using connector link assembly, see Figure G - 70.

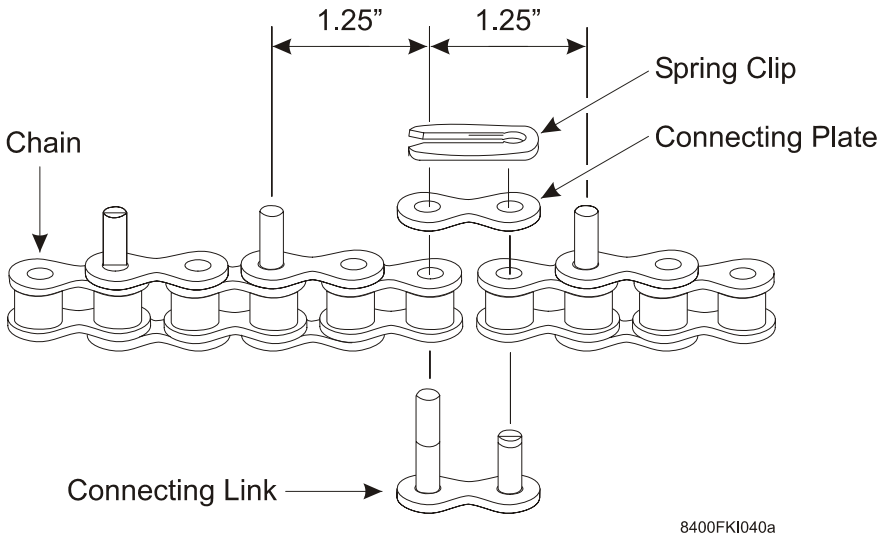


Figure G - 70 Chain Connection

Chain Installation Procedure - Curve Section

Step 1. Lay chain segments into the chain tracks ahead of the idler sprockets.

Step 2. Pull the chains through the sprocket assemblies and ensure that they are properly aligned/engaged with the sprocket teeth, see Figure G - 71.

Step 3. Install the connecting link between this chain segment and the segment previously installed, see Figure G - 71.

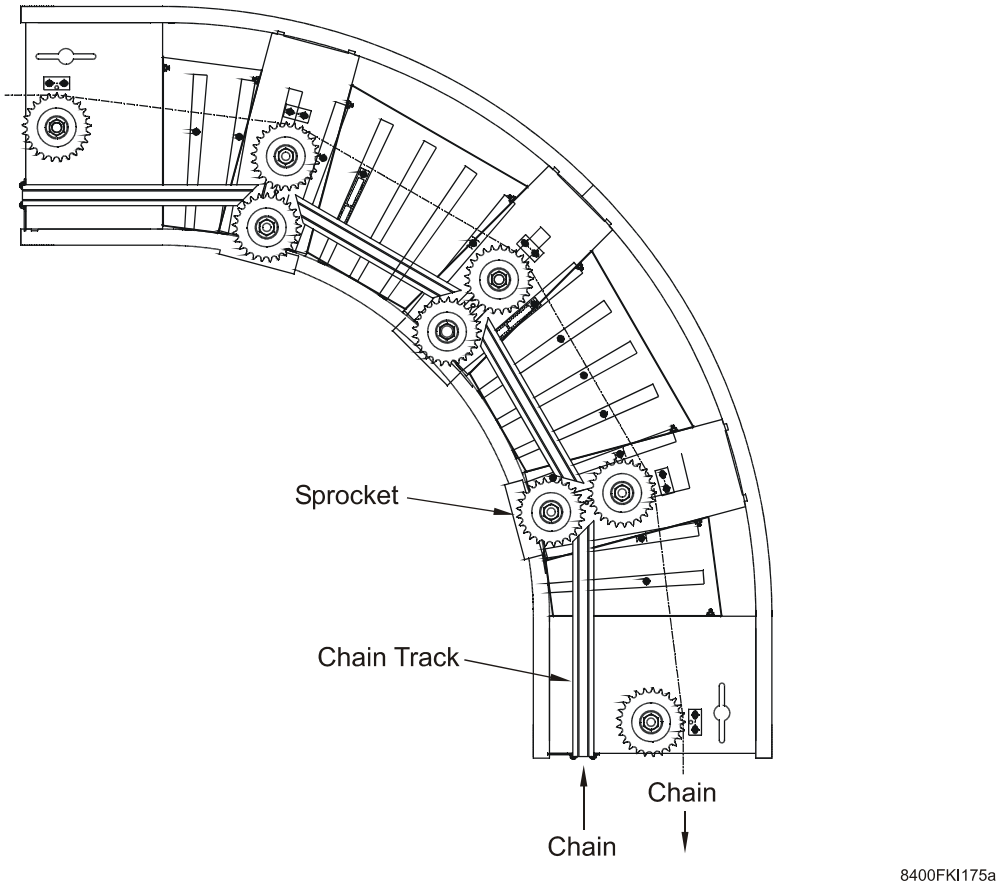


Figure G - 71 Chain Installation - Curve Sections

Chain Installation Procedure - Idler Section

Step 1. Lay the chain segment into the chain track ahead of the idler sprocket.

Step 2. Pull the chain around the idler sprocket and ensure that it is properly aligned/engaged with the sprocket teeth.

Step 3. Install the connecting link between this chain segment and the segment previously installed, see Figure G - 72.

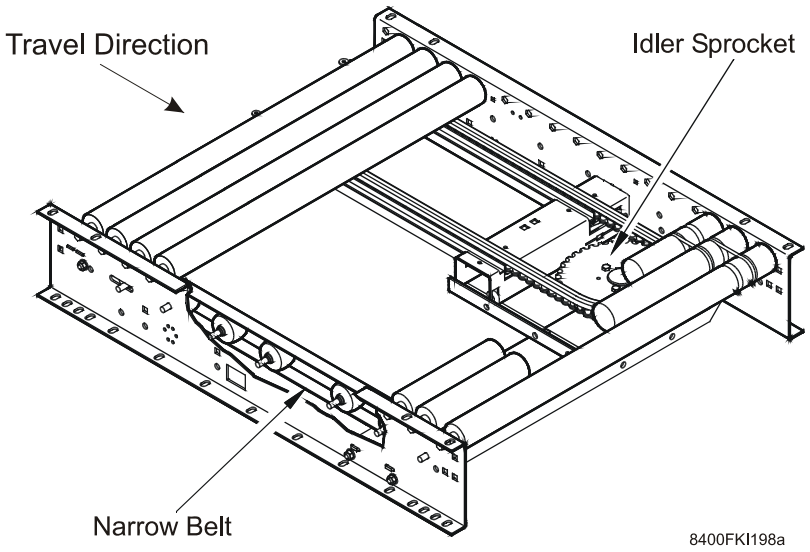


Figure G - 72 Chain Installation - Idler Section

Chain Installation Procedure - Final Connection

Step 1. When the last chain segment is placed in the chain track, couple one (1) end to the previously installed segment, see Figure G - 70.

Step 2. Pull the non-coupled end of the chain to remove any slack.

Step 3. Ensure that the chain is aligned and engaged with the teeth of all sprockets.

Step 4. Overlap the chain's two (2) non-coupled ends and break the chain at the correct length.

Step 5. Couple the two (2) ends of the chain, see Figure G - 70.

(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.

Step 1. Turn the Compression Nut “counter-clockwise” to extend the Take-Up Sprocket and remove all remaining slack from the chain.

Step 2. Continue turning the Compression Nut tight until it is against the End Retaining Nut. This is the “normal” position for the Compression Nut after initial tensioning.

Step 3. Verify that the “indicator” (point) is within the “green” range of the Visual Indicator Band.

Note: If the “Indicator” is in the “yellow” or “red” range, remove chain links.

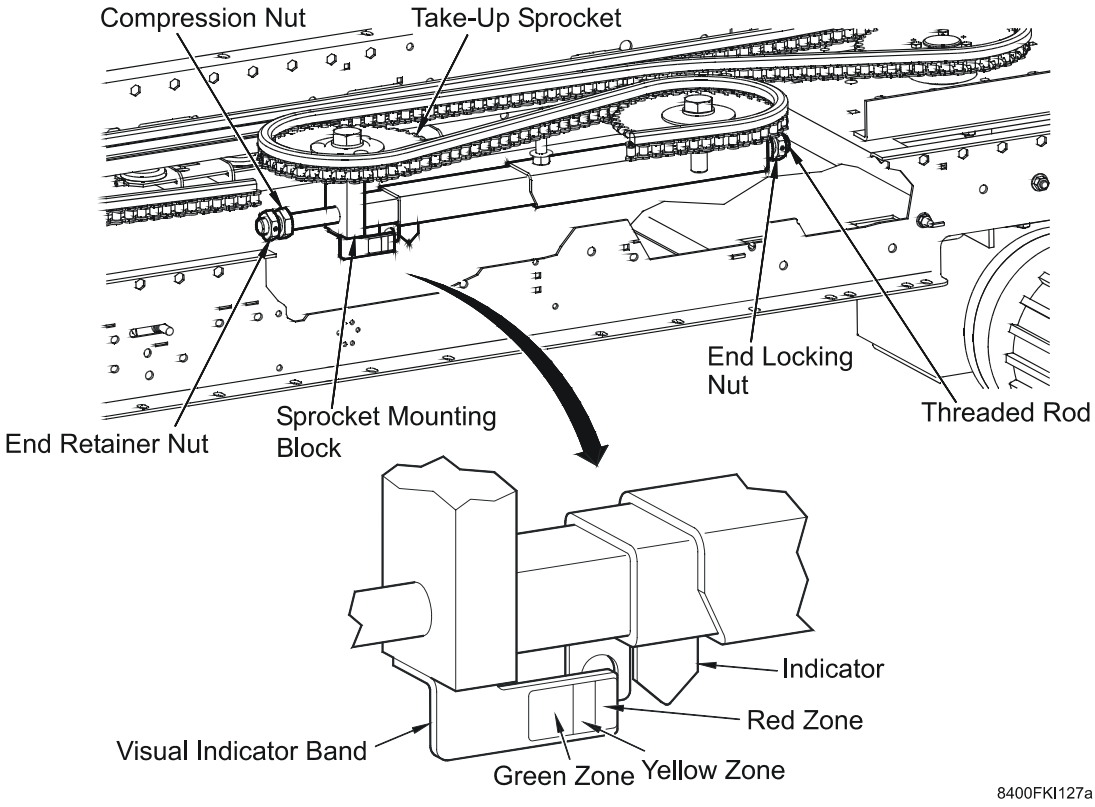


Figure G - 73 Spring Tensioner

(Optional) Air Tensioner Engagement

With the tensioner fully-retracted, check that the chain installation is complete (with the chain/teeth engagement of all sprockets verified). The air-tensioner is ready to be engaged.

Step 1. Turn “on” the air to the tensioner’s filter/regulator.

Step 2. Set the regulator to provide 80 psi to the tensioner.

Step 3. Verify that the “Indicator” (point) is within the “green” range of the Visual Indicator Band.

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.

Step 4. Check that the valve’s adjustment-screw is opened two (2) full turns from the full-closed position.

Note: If the “Indicator” is in the “yellow” or “red” range, remove chain links.

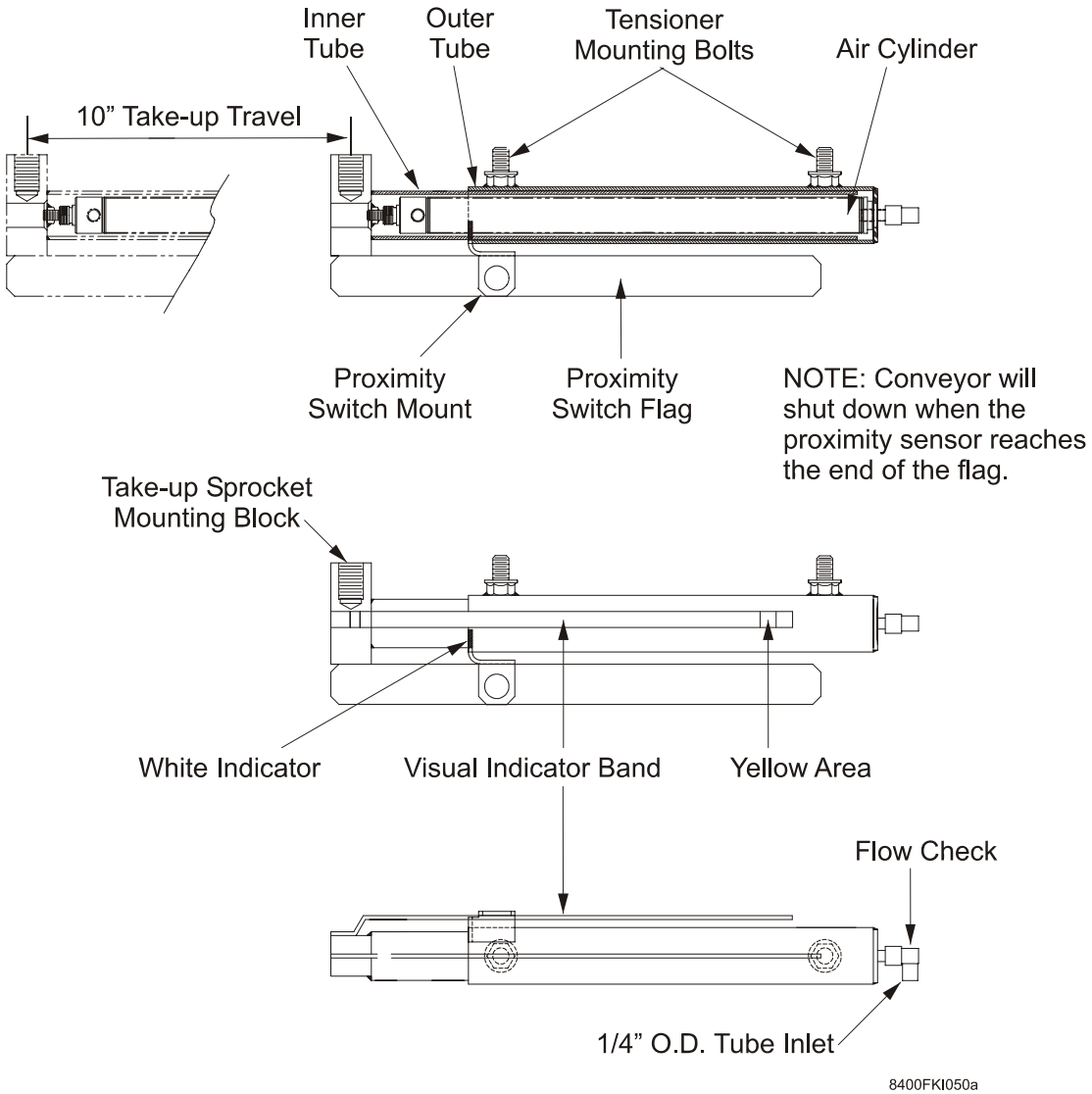


Figure G - 74 Air Tensioner

Driver Pad Installation

The Driver Pad, normally supplied in 500 ft. 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' long).

Step 1. Cut the end of the pad 9/16" from centerline of the last hole. Trim the edges at a 45 degree angle, see Figure G - 75.

Step 2. Start installing the Driver Pad with the end of the pad located 12" from a Connector Link. This makes it easy to find a connector Link assembly in the future.

Note: Make sure that the pad is pushed over the extended chain pins until it seats against the side links of the chain.

Step 3. Continue installing the pad along the entire length of the chain and "mark" the pad where it overlaps the pad's other end.

Step 4. Cut and trim the pad at the "mark" (Step 1).

Step 5. Make a splice-connection by inserting a 7/8" long piece of 1/4" tubing into both ends of the pad.

Step 6. Firmly push the pad (and splice connection) onto the chain pins.

Step 7. Remove all dirt and oil from the pad using a clean shop towel and a suitable cleaner.

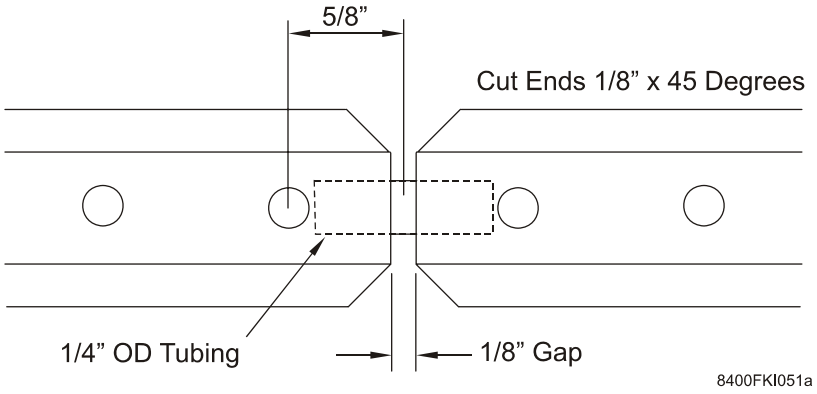


Figure G - 75 Driver Pad Installation and Joint

Sensor Roller Installation - AG

AG Intermediate Straight Sections are shipped with Sensor Rollers installed. They may have been removed prior to installing the chain and driver pad.

Step 1. Re-install the Sensor Roller assemblies (single or dual-type) into their roller axle mounting holes (or vertical slots) previously identified (see topic “Sensor Roller Removal in this section).

Step 2. Initially set the Position Pin in the rear most notch of the Spring Bracket’s sawtooth-shaped slot and position the other end of the Spring in the upper most notch in the Sensor Arm.

Note: This setting provides insufficient spring tension to actuate the Sensor Valve. If “air” is available, set the air pressure regulator for 12 psi, and continue to make spring-tension adjustments so that the sensor arm barely actuates the Sensor Valve. If air is not available, make these adjustments at a later time when it becomes available.

Step 3. Increase spring-tension by moving the spring to successively lower notches in the Sensor Arm.

Step 4. If sufficient spring-tension is not achieved, reset the spring to the upper notch and reposition the Positioning Pin in the next notch of the Spring Bracket. Repeat this process until sufficient tension is achieved.

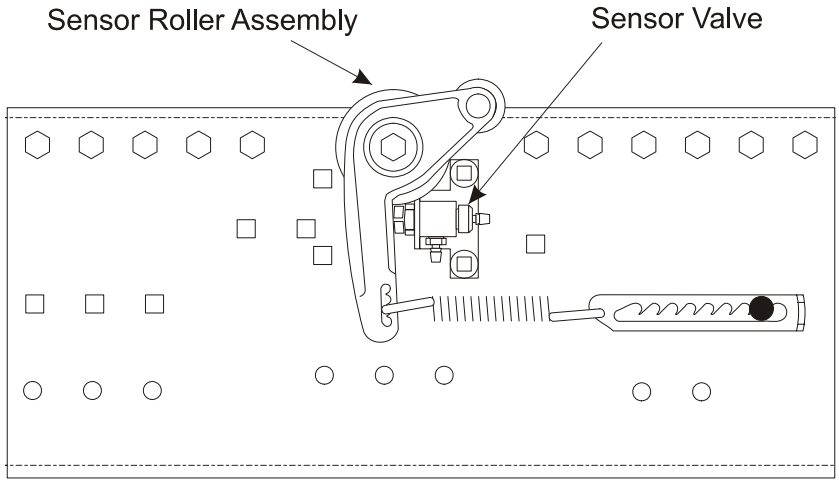


Figure G - 76 Sensor Roller Adjustment

Carrier Roller Installation

Note: Ensure that all rollers are clean before installing to ensure good drive.

Step 1. Install “fixed” Carrier Rollers (with spring-loaded axles) into the Drive Section and Idler Section at 2” centers.

Step 2. Install Carrier Rollers (“fixed” or “pop-out” type into Intermediate Straight Sections at required centers (2”, 3”, or 4”).

Step 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” 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 crossmembers for the frame.

Caution: Excessive pressure between the rollers and the pad will damage the pad.

Step 4. If required, install Axle Locks.

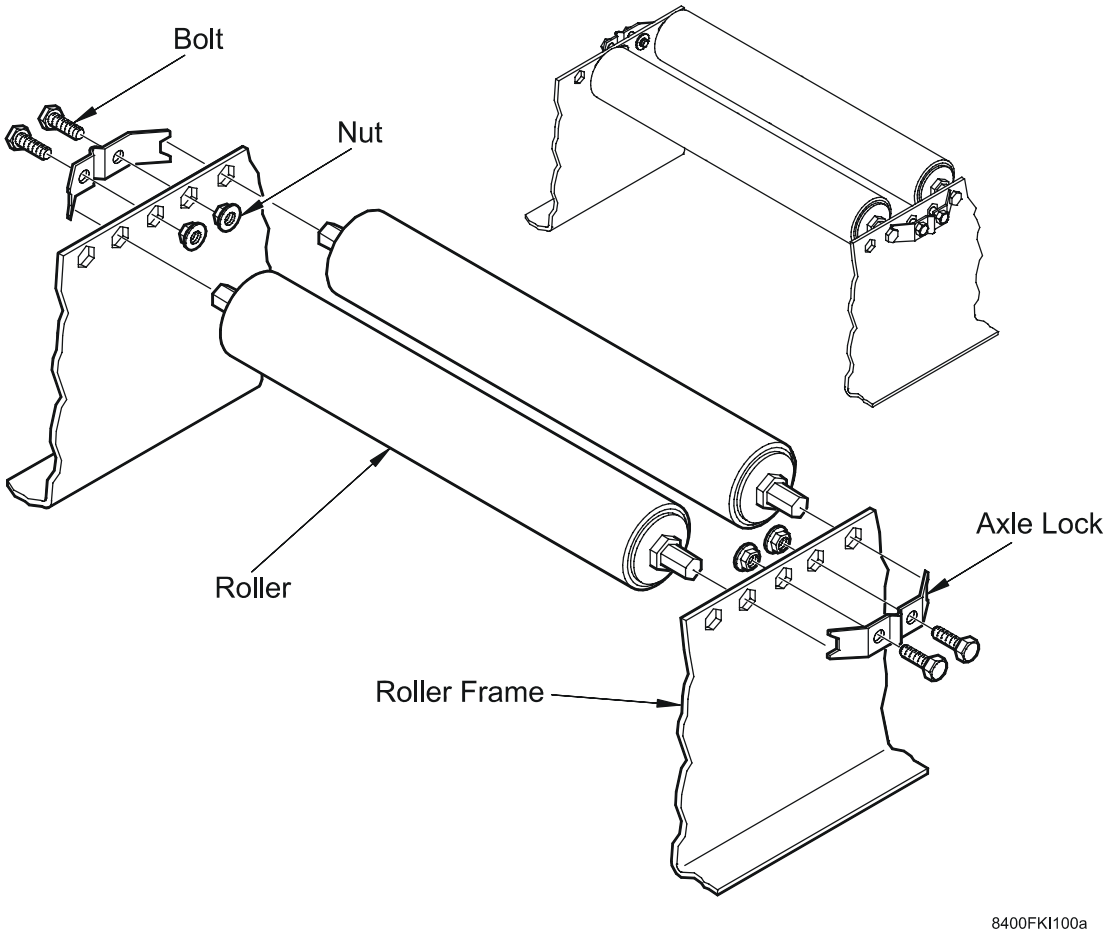


Figure G - 77 Installing Axle Locks (configuration shown is for 3” roller centers, Straight Intermediate section)

Skewed Carrier Roller / Driver Guide Installation

Intermediate Straight Section Carrier Rollers may be skewed (advanced on one side) to align product to the other side of the conveyor. Refer to the system layout drawing(s) to identify skewed roller requirements.

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

Step 1. Install one end of a Carrier Roller 1”-3” forward of the other side, depending on conveyor width.

Step 2. Bolt one (1) Driver-guide to each crossmember in the skewed-roller area. The Driver-guide must be positioned on the side of the Driver Pad that is opposite the side of the conveyor that the product is to be moved.

Step 3. Install one end of a Carrier Roller 1”-3” forward of the other side, depending on conveyor width.

Step 4. Bolt one (1) Driver-Guide to each crossmember in the skewed-roller area. The Driver-Guide must be positioned on the side of the Driver Pad that is opposite the side of the conveyor that the product is to be moved.

Note: In Figure G - 78 below, the “product travel” is from right to left with the conveyed product skewing to the “left” (bottom) side of the conveyor (looking in the direction of product travel).

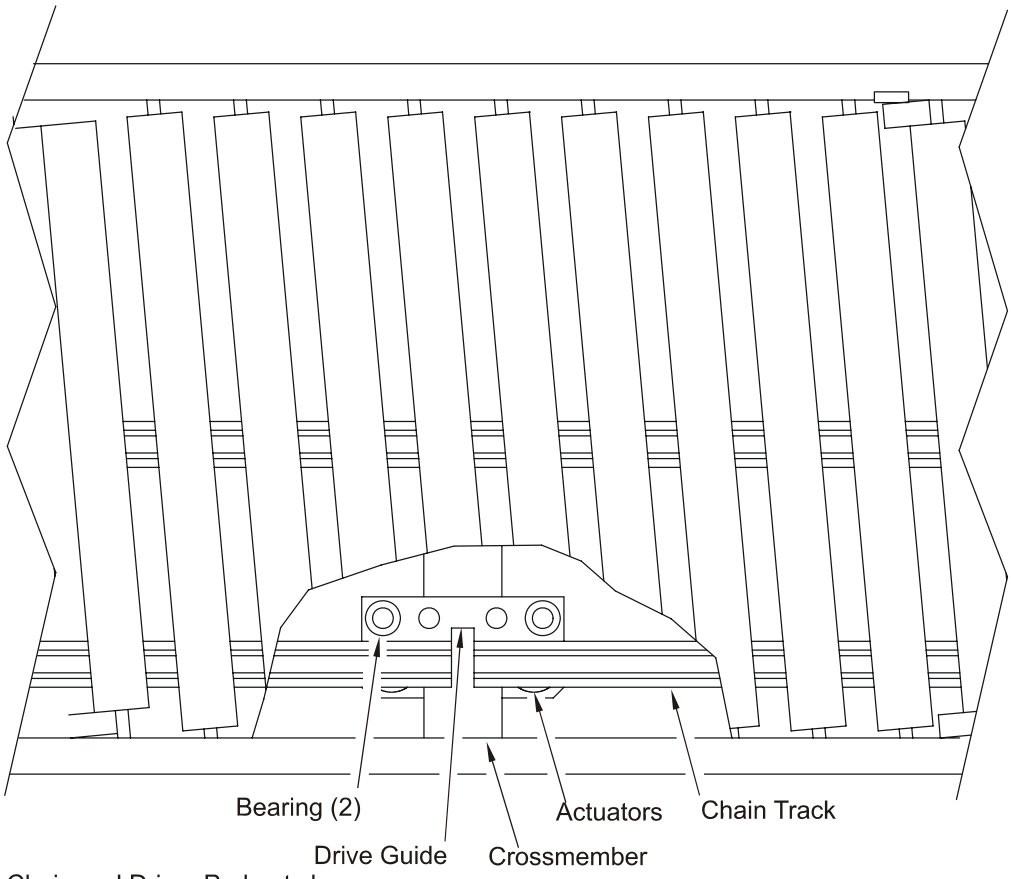


Figure G - 78 Skewed Roller Driver Guide(s)

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

Step 1. Install the appropriate Field Kit to make the pneumatic connections between two (2) inline conveyors that are to function as a single, continuous line.

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

Operational Mode	Intermediate Straight Section - Type			
	AGPE		AG	
	PN	Drwg	PN	Drwg
Singulation	7040222	AGF35	000863	AGF19
Auto-Slug	N.A.	AGF35	000864	AGF20
Time Delay	7040223	AGF35	N.A.	N.A.

Common Field Wiring Connections - AGPE / AG

Drive Section

Step 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.

Step 2. Connect the optional Air-Pressure Switch for the optional Air-Tensioner to the control panel.

Idler Section

Step 1. Connect the Solenoid-Valve that controls the power/non-powered state of the operational-zone to the control panel.

Step 2. Connect the Solenoid-Valve that controls the optional Solenoid Track Lubricator to the control panel.

Step 3. Connect the Solenoid-Valve that controls the optional Blade-Stop to the control panel.

Field Wiring Connections - AGPE

Step 1. Connect the Power Supply(s) to the power source, (110VAC). If multiple Power Supplies are required, install Power Isolator Cord(s) midway between units.

Step 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.

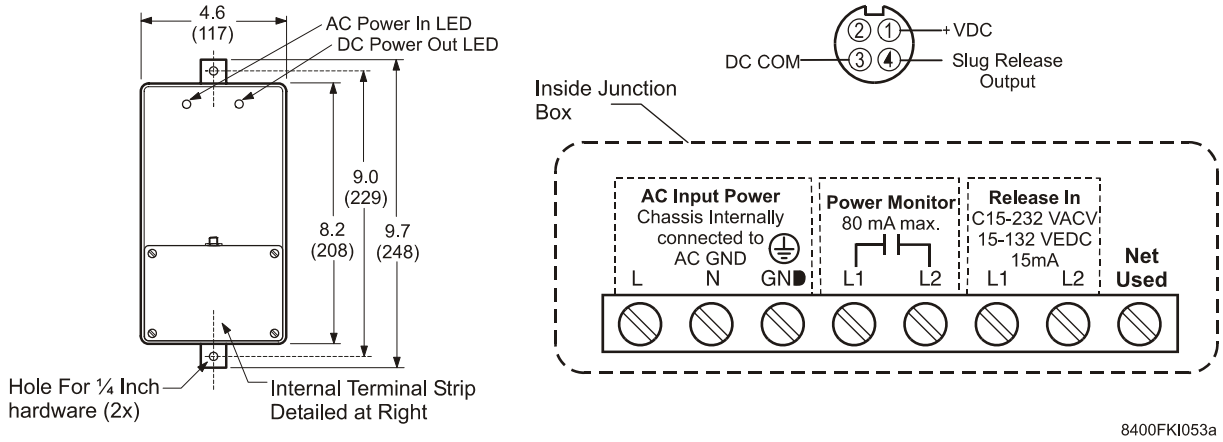


Figure G - 79 Connect Remote “Slug” Signal to Terminal Strip in Power Supply

Field Wiring Connections - Accumulating Curve

Step 1. Connect the curve’s two (2) controlling Photo-Eyes and Solenoid Valve to the control panel.

Common Field Piping Connections - AGPE / AG

Step 1. Connect the conveyor’s Filter/Regulator(s) (0-15 psi) to the air source.

Drive Section

Step 2. Connect the Filter/Regulator (0-100 psi) for the optional Air-Tensioner to the air source.

Idler Section

Step 3. Connect the Filter/Regulator (0-100 psi) for the optional Blade Stop to the air source.

Field Piping Connections - Sawtooth Merge / Accumulating Curve

Step 1. Connect the Filter/Regulator (0-100 psi) for the optional Sawtooth Merge Section to the air source.

Step 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.

Checking Zone Control Components - AGPE

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

Step 1. 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.

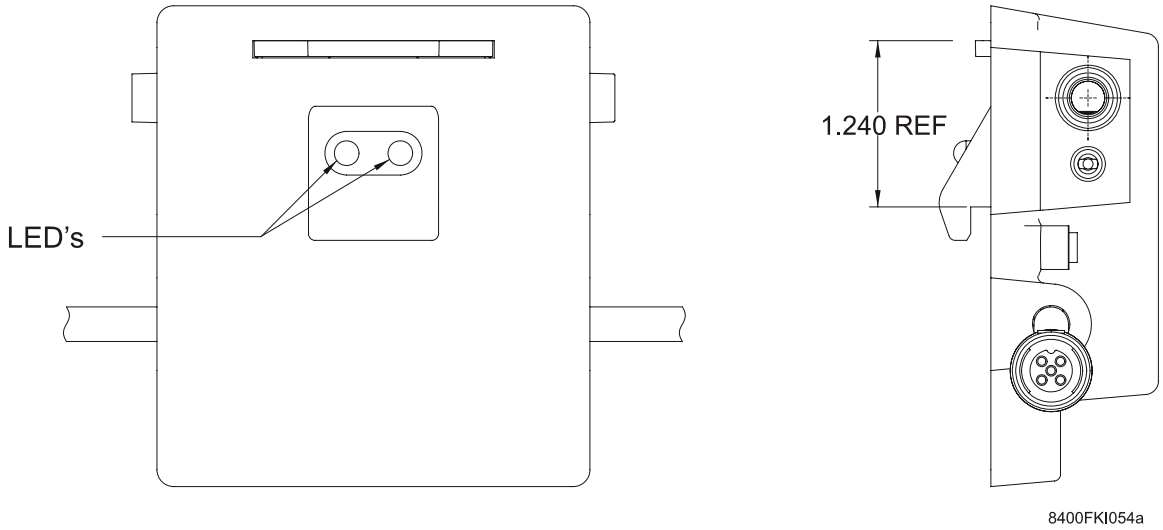


Figure G - 80 LED Indicators (As seen from outside of Conveyor)

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.

Step 2. 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.

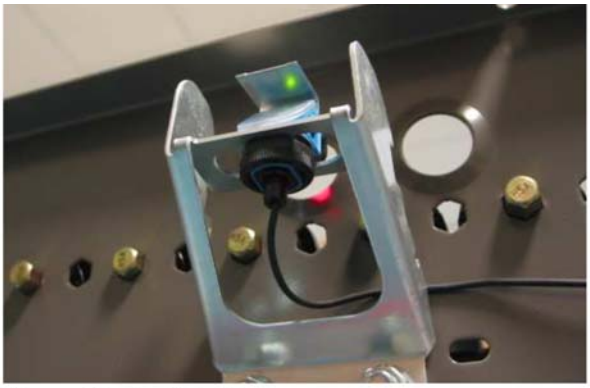
Checking Zone Control Components - AG

Step 1. Check that the Sensor Roller Spring-tension is properly adjusted.

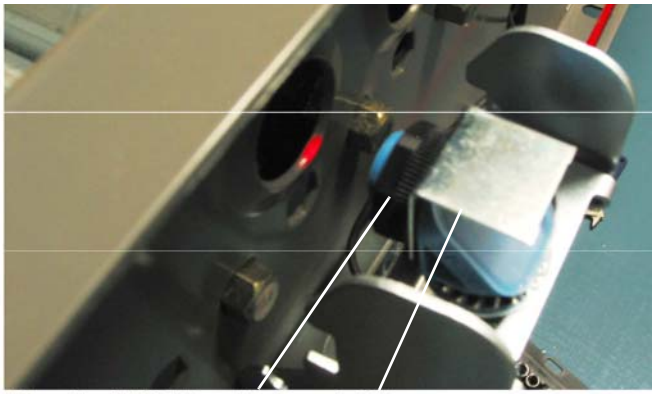
Installing the Inverted Photo-eye Sensor (Optional)

The inverted photo-eye option accommodates the SIC Elf sensor. The clip will not place any strain on the sensor cable, because the sensor does not need to be inverted.

The clip is a zinc plated part that reflects the LED light so that the photo-eye status is visible from the floor. The clip attaches to the Elf sensor with a plastic M18 hex nut, which is also the same fastener used to mount the sensor to the bracket.



Zince Plated PE Clip



Plastic M18 Hex Nut and Clip

Figure G - 81 Zinc Plated Photo-eye Clip

The clip and the plastic M18 nut will come with the sensor and bracket when the “inverted PE” option is selected.

The table below displays part numbers for the clip and M18 nut as well as the standard photo-eye sensor assemblies (photo-eye, reflector and brackets).

Standard Sick Assemblies			Old Banner Assemblies	
Part Number	**Description**		**Part Number**	**Description**
7043324	AGP1, REFL ASSY,9.00”RAIL,SICK	Replaces	7035261	AGP1,REFLECTOR ASSY,9.00”RAIL
7043325	AGP1,REFL ASSY,6.38”RAIL,SICK	Replaces	7035262	AGP1,REFLECTOR ASSY,6.38”RAIL
7043326	AGP1,PE ASSY,STANDARD,25”,SICK	Replaces	7035263	AGP1, PE ASSY,STANDARD,25”LG
7043327	AGP1,PE ASSY,TIME DEL,25”,SICK	Replaces	7035264	AGP1,PE ASSY,TIME DELAY,25”LG
7043328	AGP1,PE ASSY,STANDARD,79”,SICK	Replaces	7039842	AGP1,PE ASSY,STANDARD,79”LG
7043329	AGP1,PE ASSY,TIME DEL,79”,SICK	Replaces	7039843	AGP1,PE ASSY,TIME DELAY,79”LG
REFLECTORS				
7043325	REFL ASSY 6.38 RAIL	Replaces	7035262	REFL ASSY 6.38 RAIL
7043324	REFL ASSY 9.00 RAIL	Replaces	7035261	REFL ASSY 9.00 RAIL
NEW INVERTED PE OPTION				
7043780	CLIP			
7043779	M18 NUT			

Note: Photo-eye / Reflector without mounting bracket not available.

Standard SICK PE and Bracket

Old Banner PE and Bracket

Figure G - 82 Standard SICK PE and Bracket and Old Banner PE and Bracket

The clip and photo-eye assembly include:

- PE inverted clip allowing easy assembly to PE while using the same bracket with no need to invert PE, this eliminates PE cord strain,
- Fewer parts,
- Easy alignment, not tools required, and
- One piece design mounts closer to rail for better protection.

Pre-Start-Up Preparation

Step 1. Check-out all of the following before turning the electrical power “ON” and running an Accuglide Conveyor for the first time.

1. Check that the conveyor is level (across its width) and that adjoining sections are aligned.
2. Check that the conveyor’s elevation is correct.
3. Check that the drive chain / pad’s path is correct
4. Check that the drive chain / pad is properly tensioned.
5. 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.

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

Initial Start-Up

Step 1. Turn on the conveyor’s air supply and electrical power.

Step 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.

Step 3. Check that the Drive Chain / Pad does not jump a tooth on the drive sprocket when the power unit is turned on.

Step 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 tend to run hot when first put into operation. This condition will continue for approx. 120 hours (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.

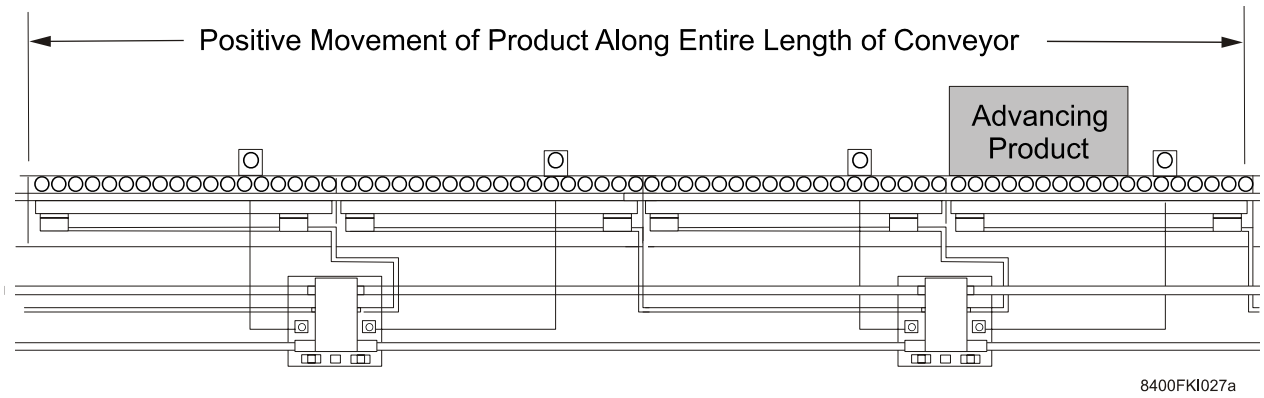


Figure G - 83 Product(s) Travel Positively Along Conveyor

Checking Accumulation Function - Straight Sections

Confirm that 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.

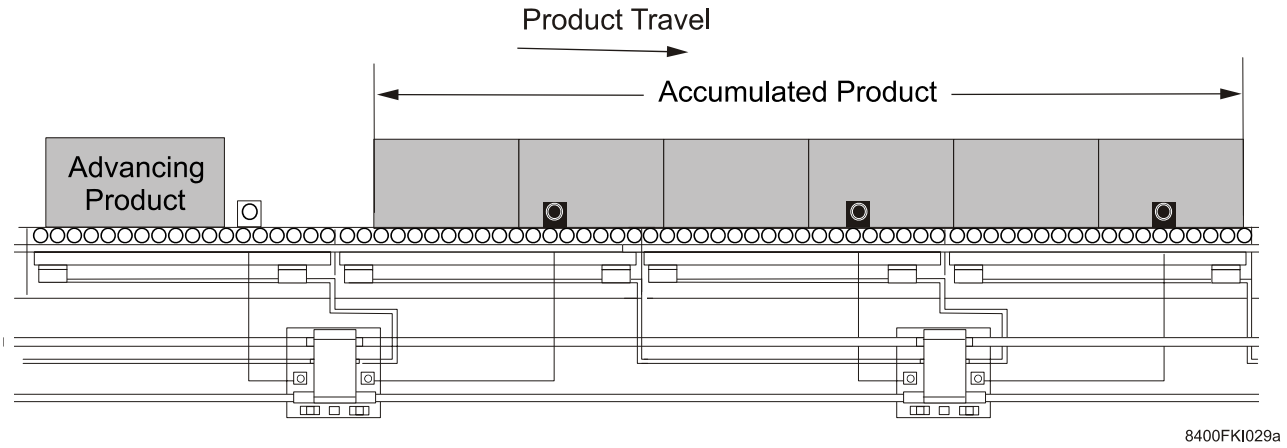


Figure G - 84 Product Accumulation

Checking Accumulation Function - Single Operational-Zone

Step 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.

Step 2. Confirm that operational-zone "UZ1" (not shown in Figure G - 85) becomes non-powered when operational-zone "CZ1" stops.

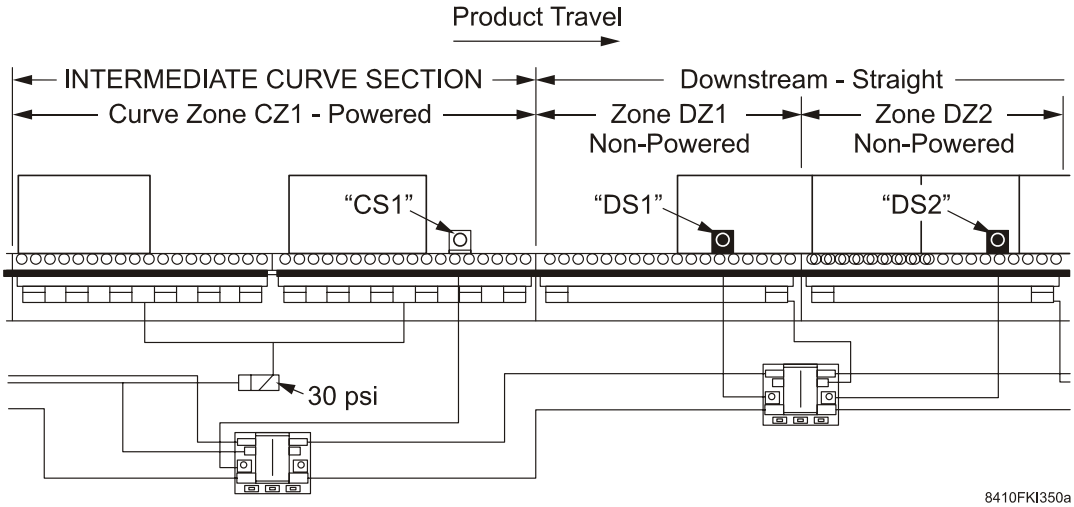


Figure G - 85 Intermediate Curve Section - Single Zone Accumulation

Checking Accumulation Function - Dual Operational-Zones

Step 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.

Step 2. Confirm that trailing product stop in operational-zone "CZ2" when sensor "CS2" is blocked.

Step 3. Confirm that operational-zone "UZ1" (not shown in Fig. G-75) becomes "non-powered" when the operational-zone "CZ2" stops.

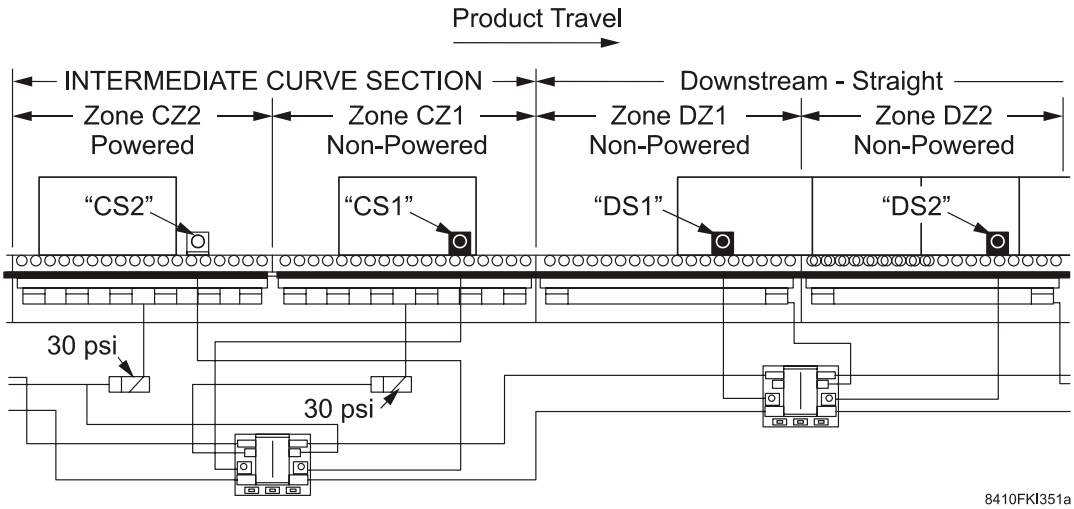


Figure G - 86 Intermediate Curve Section - Dual-Zone Accumulation

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”.

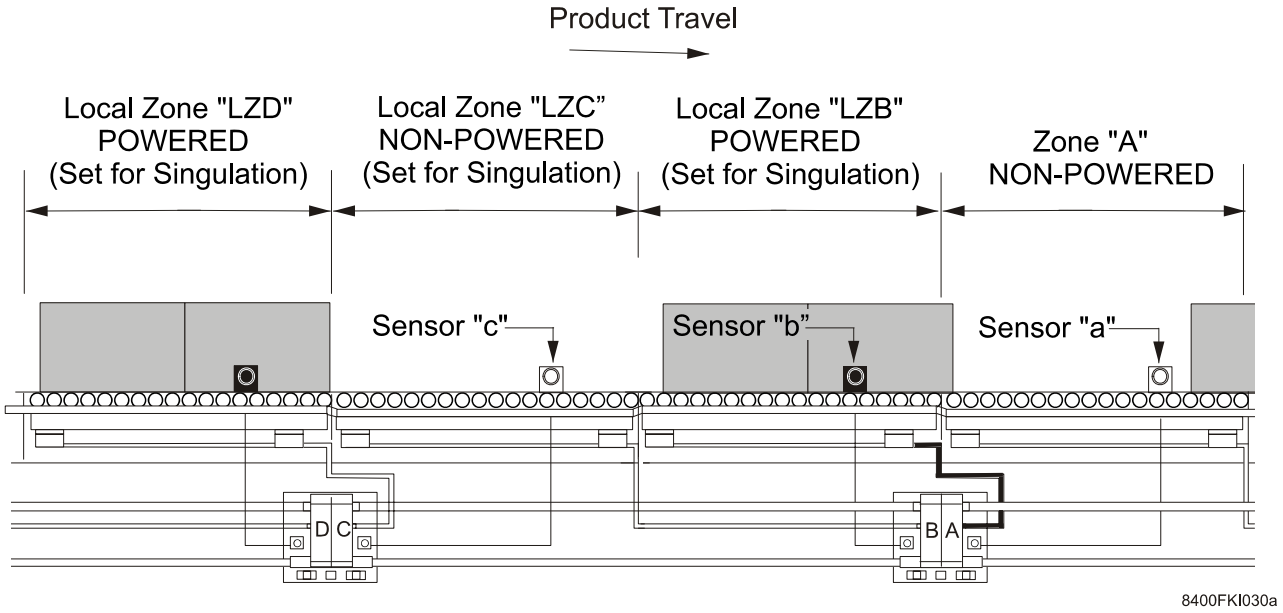


Figure G - 87 Singulation Operational Mode

Step 1. Product Acceptance: Check that the volume of product being fed onto the conveyor properly advances on the conveyor with gaps (approx. 3’ long) between each product (or groups of smaller products).

Step 2. Product Release: Provide a “release” signal to the SCM and confirm that:

1. accumulated product “A” (sitting in the first operational zone “A”) advances; and
2. 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’ lg. gaps between products.

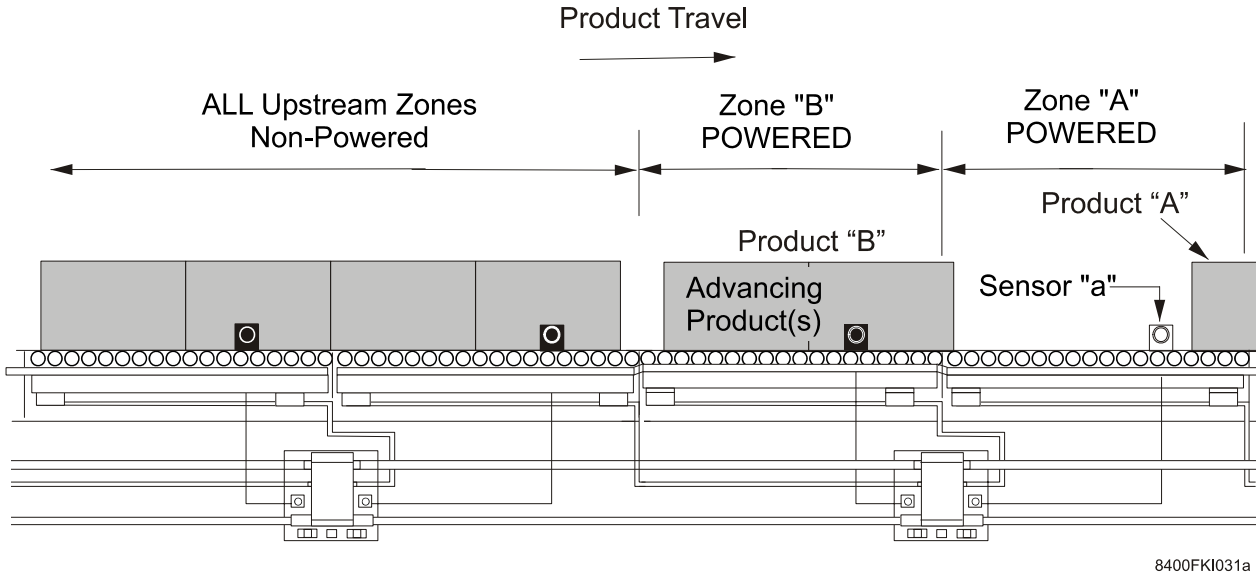


Figure G - 88 Singulation Release

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:

a. its associated photo-eye sensor (in next downstream zone); and

b. 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”

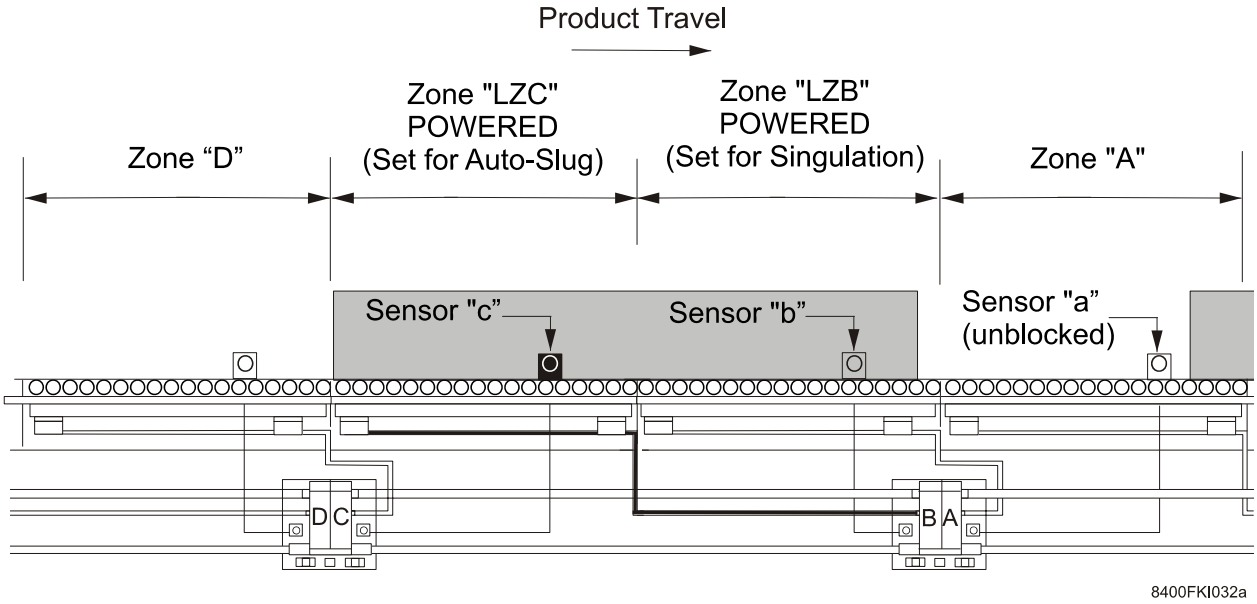


Figure G - 89 Auto-Slug Operational Mode

Step 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).

Step 2. Product Release: Provide a “release” signal to the first operational-zone and confirm that:

1. the first accumulated product in the downstream “singulation” zone advances; and
2. 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.

This process repeats upstream until all product advances as a group with a gap (approx. 3’ lg.) between groupings.

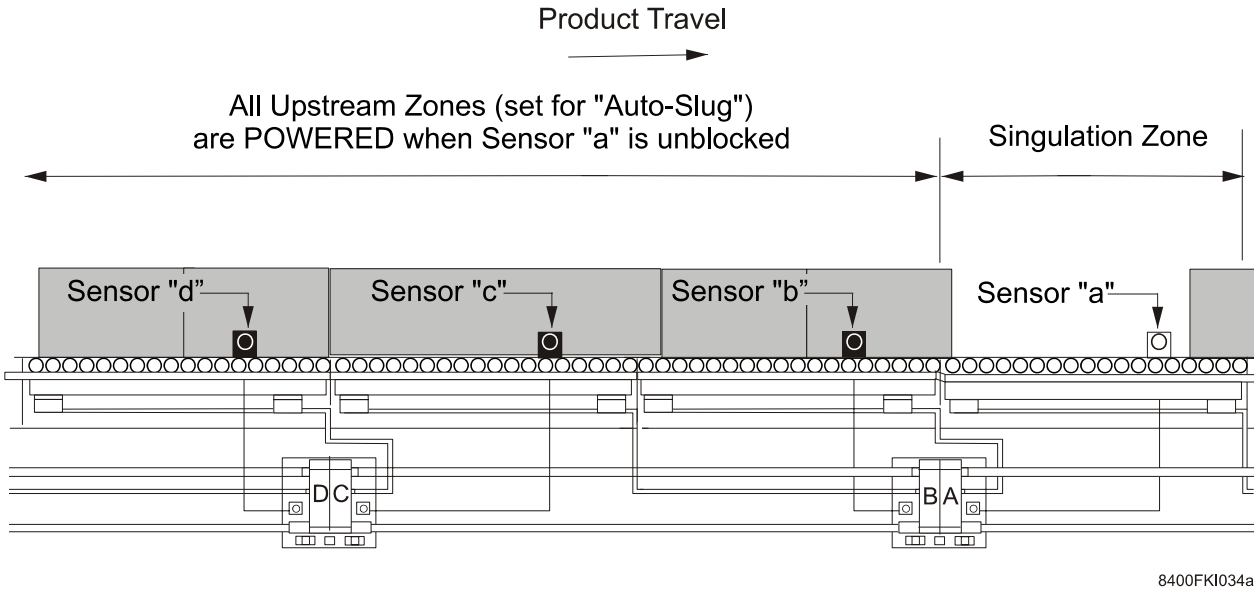


Figure G - 90 Auto-Slug Operational Mode

Checking Operational Mode - Dual-Zone

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

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”.

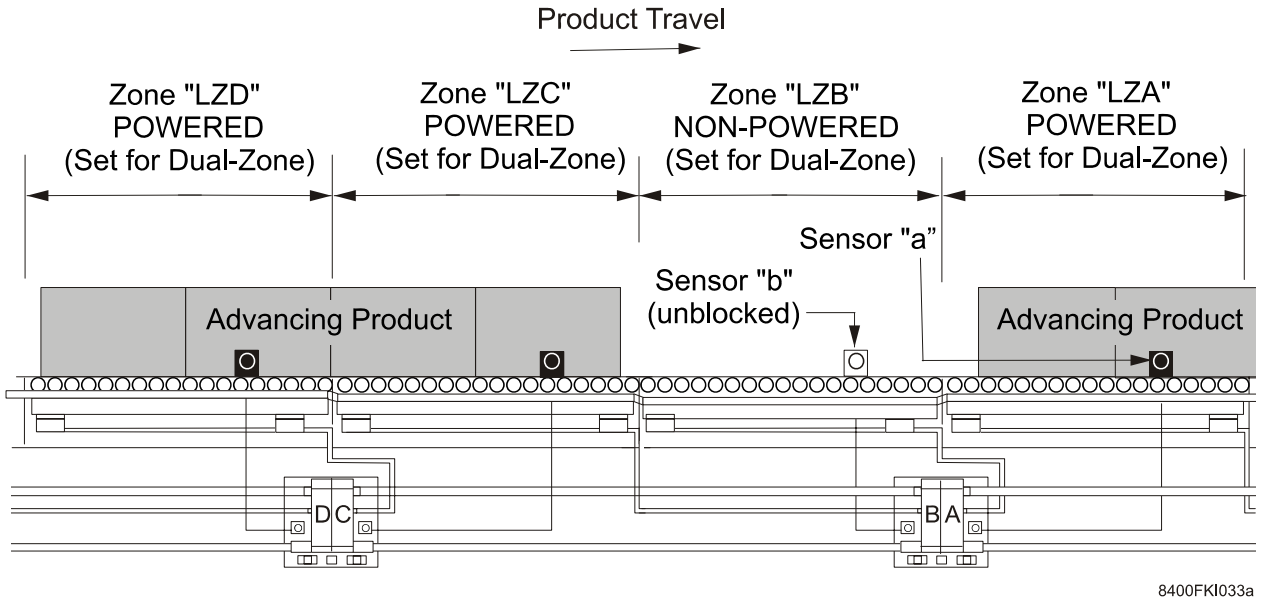


Figure G - 91 Dual-Zone Release

Step 1. Product Acceptance: Check that the volume of product being fed onto the conveyor properly advances on the conveyor in groups (approx. 6’ lg.) with gaps (approx. 3’ long) between each group.

Step 2. Product Release: Provide a “Zone-Release” signal to the first operational-zone and confirm that:

1. a group of accumulated product (6’ lg.) advances from the first and second down-stream operational zones; and
2. trailing product in zones 3 & 4 advance as a 6’ lg. 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.

This process repeats upstream until all product advances as a group with a gap (approx. 3’ lg.) between 6’ lg. groups.

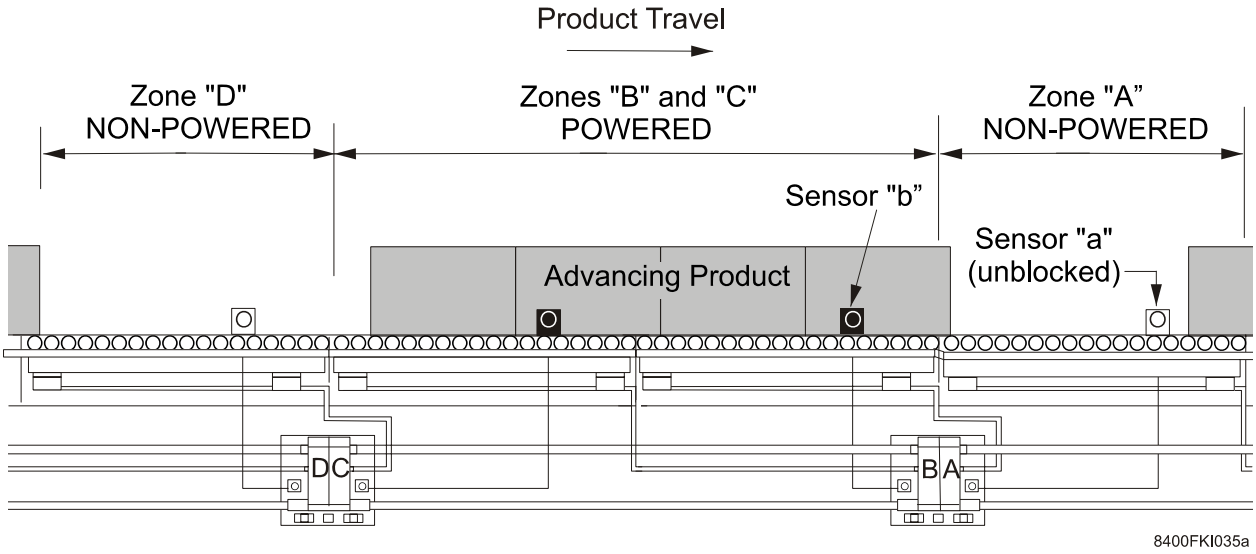


Figure G - 92 Releasing Product in Dual-Zone Operational-Mode

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.

Step 1. 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.

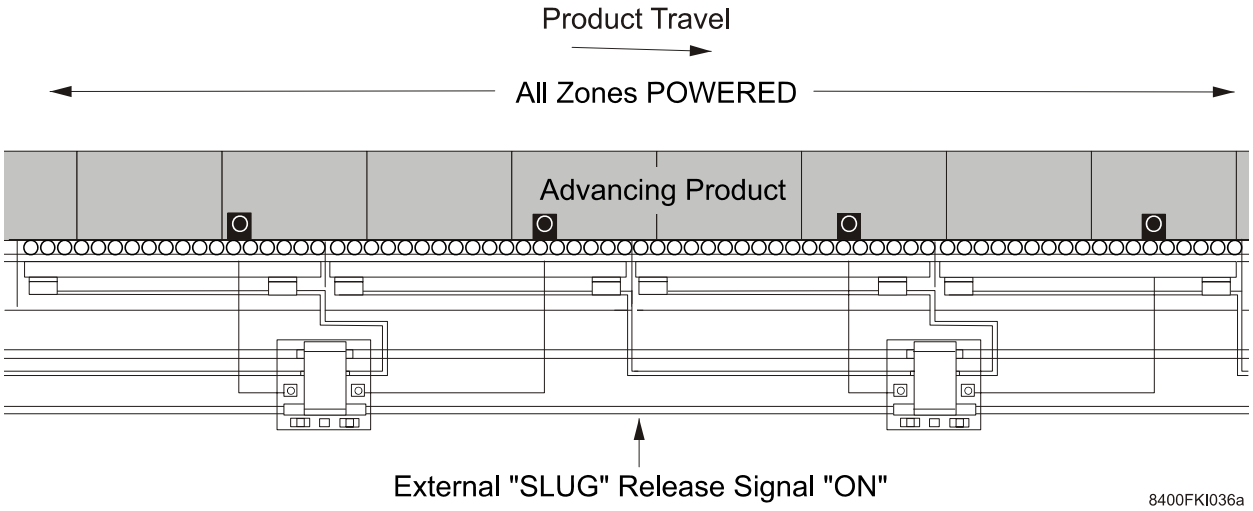


Figure G - 93 Releasing Product in “Slug” Operational-Mode

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.

A single-zone, AGPE Retrofit Kit will provide the required control.

Step 1. Position and install the photo-eye/reflector components approx. 12” from the discharge end of the downstream conveyor’s Drive Section.

Step 2. Position and mount the Solenoid Control Module (w/bracket) approx. 18” upstream of the photo-eye.

Step 3. Remove the air-line (yellow, 1/4” O.D.) that connects the air-actuators and solenoid-valve in the Idler Section.

Step 4. Connect the air-actuators to the Solenoid Control Module using the new tubing (yellow, 1/4” O.D., approx. 6’ lg.).

Step 5. Install the main air supply line tubing (red, 1/2” O.D.).

Step 6. Connect the Solenoid control Module’s Power/Communication Cord to the cord of the downstream module.

Step 7. Connect the Solenoid Control Module to the upstream module using a 3’-0” lg. P/C Cord Extension.

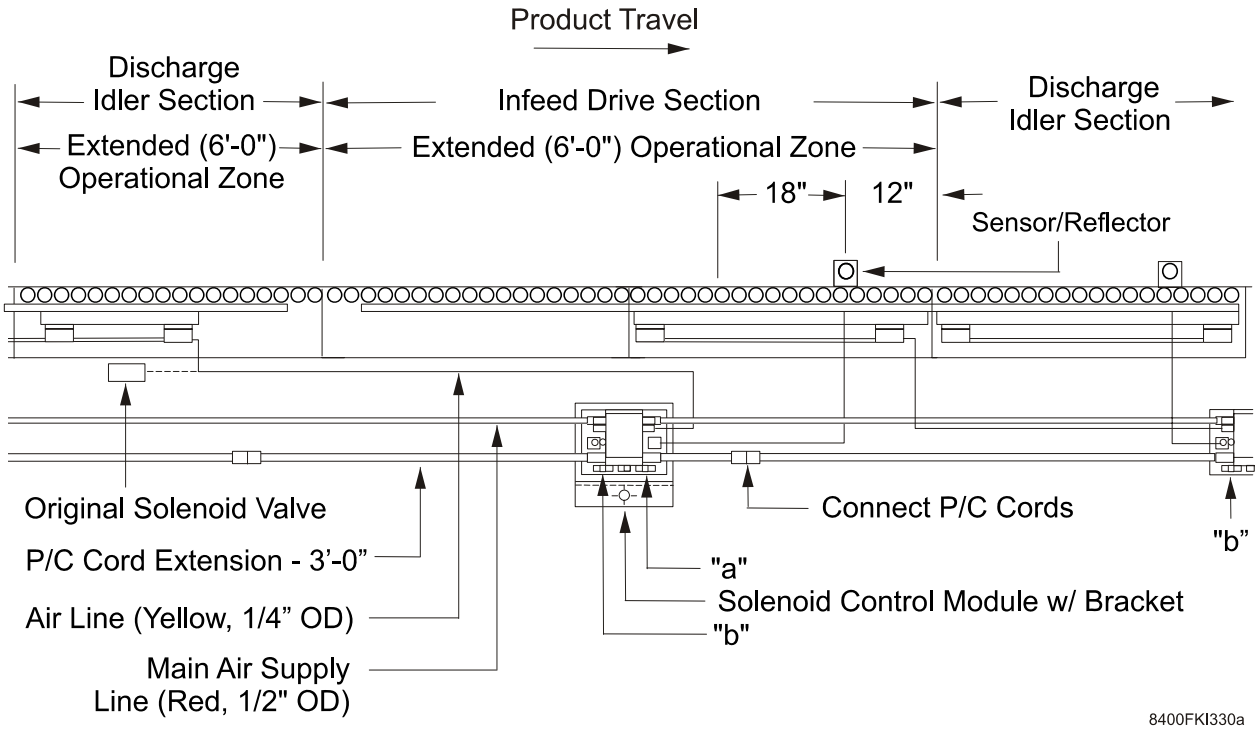


Figure G - 94 Connecting Two (2) Inline Conveyors

Time-Delay Photo-Eye - Adjustment (Optional)

For AGPE Accuglide Conveyors provided with the optional “time-delay” sensors, it will be necessary to “set” the length of delay that a zone remains “powered” after a photo-eye is blocked.

A button on the back of the photo-eye allows for the “setting/checking” of the delay setting. The button is accessible from the side of the conveyor.

To Program Time-Delay Setting

Step 1. PRESS / HOLD the button for three (3) seconds to enter the “programming” mode.

The “red” LED will turn “ON” indicating the eye is in “programming” mode.

Note: Entering the “programming” mode sets the time-dealy to “0” seconds.
The “programming” mode will terminate after 10 seconds of inactivity.

Step 2. PRESS / RELEASE the button once for each 1/10th second of delay required (2 seconds max).

The “red” and “green” LEDs will flash when sensor is set at maximum delay (2 seconds).

Step 3. PRESS / HOLD the button for three (3) seconds to leave the “programming” mode.

The “green” LED will flash one (1) time for each 1/10th second of delay set.

Note: The programmed setting takes effect immediately upon leaving the “programming” mode.

To Check Time-Delay Setting

Step 1. PRESS / RELEASE the button.

The “green” LED will flash one (1) time for each 1/10th second of delay set.

The “red” LED will flash four (4) times if there is not delay set.

LED Indicators (Conveyor in “Running” Mode)

The “green” LED “ON” indicates that the sensor is in run mode (properly connected to the Solenoid Control Module and receiving 24VDC power).

“Red and Green” LED(s) “FLASHING” indicates output short circuit.

“Red” LED “ON” indicates output to SCM (properly aligned with the reflector).

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 lubricator”s “ON/OFF” state is controlled by:

Initial Programming

Step 1. Programming the lubricator’s controller software, timer’s, etc. to cycle (turn on and off) the lubricator every eight (8) hours of operation.

Step 2. Set the lubricator’s “ON” time to allow the entire drive chain to make three (3) complete cycles.

Step 3. Example: 100 ft. lg. Accuglide Conveyor running 180 fpm.

Length of Chain: 2 x 100 ft. = 200 ft.

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 wgt. 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

Step 1. After an eight (8) hour cycle, stop the conveyor* and observe the condition of the chain and track.

Step 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.

Step 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.

Retrofitting AG Accuglide^{PLUS} Conveyor

AG Accuglide^{PLUS} Conveyors can be upgraded by replacing the existing pivoting sensor roller assemblies, air-valves, and piping with the AGPE zone-control components.

The basic retrofit kit provides the photo-eyes, reflectors, Solenoid-Control Modules (solenoid-valves), mounting component, and tubing required for (2) operational zones. A single-zone kit is available for a conveyor with an odd number of zones.

In addition to the basic kit(s), some or all of the following components may be required for the conveyor upgrade: (a) power supply(s); (b) air-filter and regulator(s); (c) power/ communication cords, etc.

Installation Considerations

It is recommended that a conveyor be shut down and taken out of operation when changing over to the new components.

If taking a conveyor out-of-service is not practical the new components (photo-eyes, Solenoid Control Modules, air-supply, electrical-supply, etc.) can be installed while the conveyor remains operational. Then, when the conveyor can be shut down for a short time, the new components can be tied-in and the conveyor put back into service.

Removal of the existing sensor rollers is optional. They can be converted to function as Carrier Rollers by disconnecting their tension springs and allow the small 3/4” dia. roller to drop.

Pre-Installation Preparation

Step 1. If the Carrier Rollers are to replace the Sensor Rollers, mark the location of the sensors before removal.

Step 2. Assemble and secure the photo-eye to its mounting-bracket using the 18mm nut provided. Orient the LED indicators to suite the application.

Step 3. Assemble the photo-eye mounting bracket to the riser bracket using 1/4” x 1/2” Carriage Head bolt.

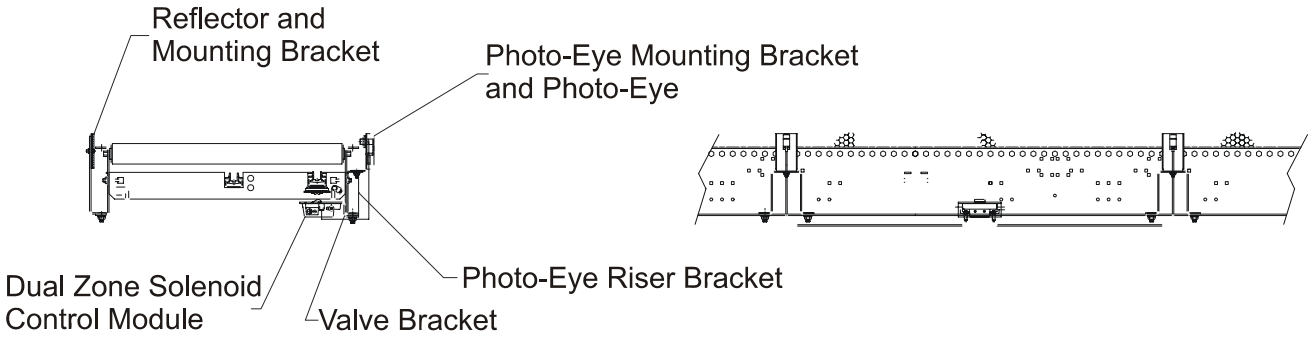


Figure G - 95 Assemble Photo-Eye Components

Step 4. Assemble the Solenoid Control Module to its mounting bracket, shown in Figure G - 96.

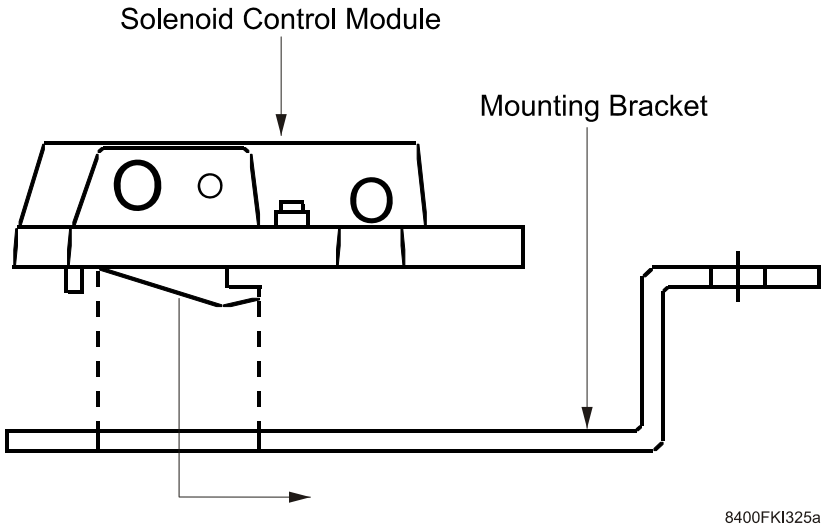


Figure G - 96 Solenoid Control Module / Mounting Bracket Assembly

Mounting of Retrofit Kit Components

Step 1. Mount the photo-eye and bracket asembly(s) to the bottom flange of the frame rail inline with the existing sensor-roller using two (2) 3/8” x 3/4” bolts/nuts. Mount the photo-eye assembly(s) on the side that the original sensor valves were mounted.

Step 2. Mount the reflector and bracket assembly(s) to the bottom flange of the frame rail on the opposite side of the conveyor using one (1) 3/8” x 3/4” bolt/nut. Each reflector should be mounted 2” forward (towards the downstream end) of the photo-eye assembly (6” forward of the photo-eye assembly if replacing “dual” sensors.

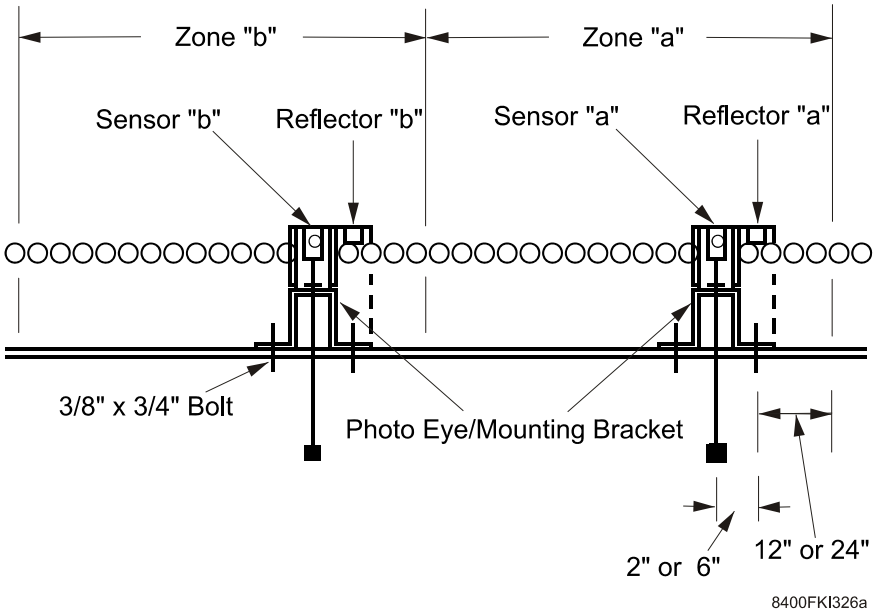


Figure G - 97 Mount the Photo-Eye/Bracket Assembly

Mounting of Kit Components - continued

Step 1. Starting at the discharge-end of the conveyor, mount the Solenoid Control Module between the first (a) and second (b) photo-eye sensors using one (1) 3/8” x 3/4” bolt/nut.

Step 2. Connect each photo-eye Sensor “a’s” and Sensor “b’s” Pico Connector to the Solenoid Control Module’s corresponding connector.

Step 3. Connect the air-actuators of Zone “B” and Zone “C” to the Solenoid Control Module using the kit’s 1/4” O.D. “yellow” tubing.

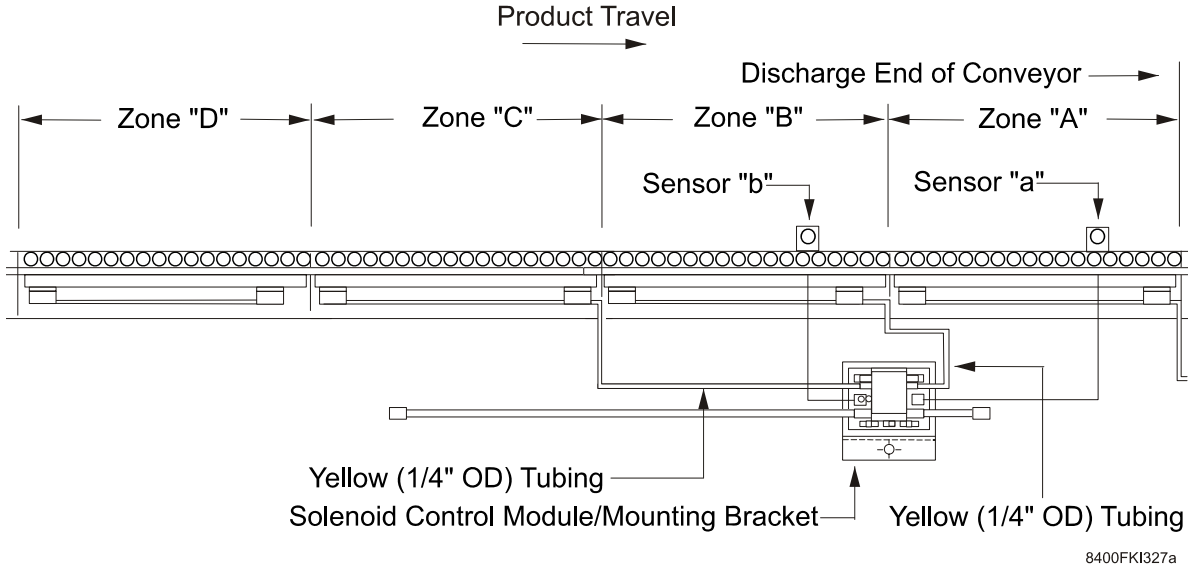


Figure G - 98 Connect Solenoid Control Module to Air-Actuators and Photo-Eyes

Step 4. Repeat Steps 3-5 for the next two (2) operational zones “C” and “D”.

Step 5. Connect the Solenoid Control Modules using the 1/2” O.D. “red” tubing.

Step 6. Connect Power/Communication Cord(s).

Step 7. Repeat Steps 4-6 (working to the rear of the conveyor).

Step 8. Install a single zone kit in the conveyor’s last zone if it has an odd number of zones.

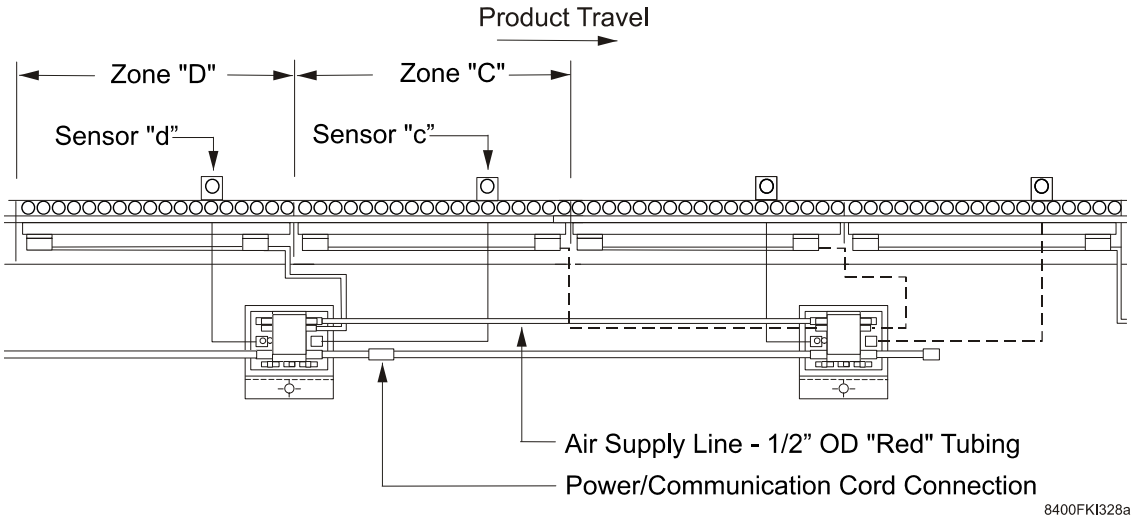


Figure G - 99 Connecting Solenoid Control Modules to Operational Zone Air Actuators

Mounting of Kit Components - continued

Step 1. Connect the air supply line “ports” of the “first” and “last” solenoid Control Modules to the 1/4” O.D. air lines in the drive/idler sections using the 1/2” O.D. “red” tubing and 1/2” x 1/4” reduction fittings.

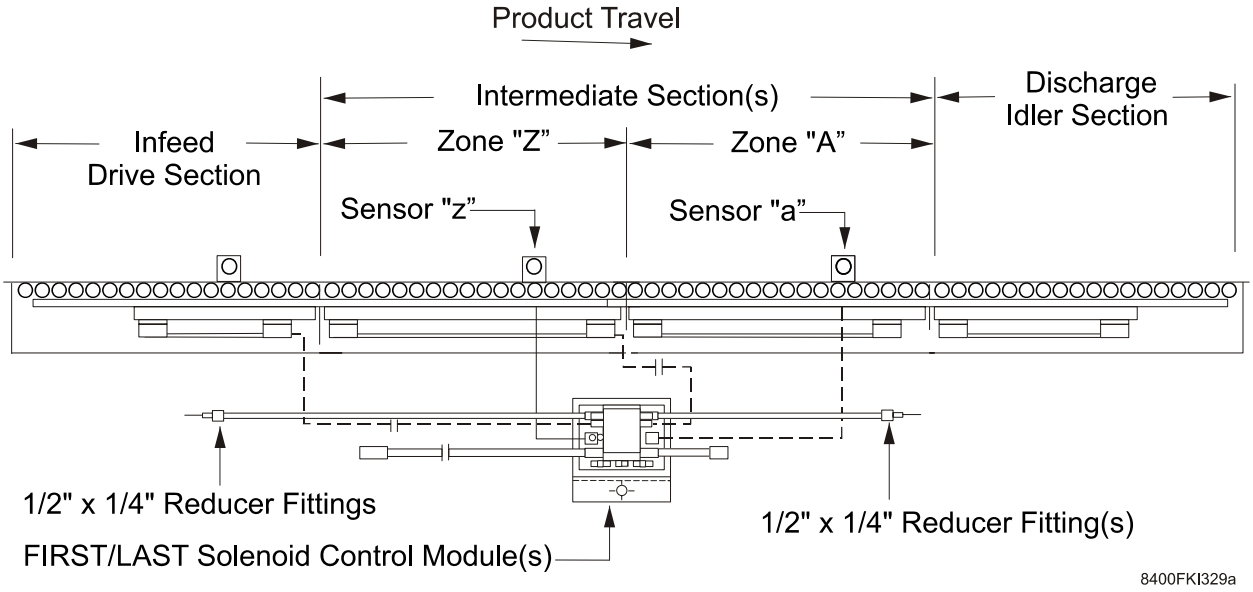


Figure G - 100 First/Last Solenoid Control Module Connections (Air) to Terminal End Sections

Step 2. Install Power Supply(s) - see topic Power Supply Installation of this section.

Step 3. Install Air Filter/Regulator(s), see topic Filter/Regulator Installation of this section.

Step 4. Program Operational Zones, see topic Primary Operation Mode Switch Settings of this section.

SECTION H:MAINTENANCE

Introduction

The recommended inspection and maintenance functions in this section apply to intermittent-duty conveyor applications. Additional inspections may be required for continuous-duty operation or extreme environmental conditions.

Maintenance Safety

WARNING: Maintenance must be performed only by qualified personnel who are trained in normal and emergency operations of the conveyor and who are knowledgeable of all safety devices, their locations, and functions.

Before performing maintenance on a conveyor, make certain that the conveyor's power disconnect is locked in the OPEN 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 a conveyor that has been shut down for maintenance:

- Remove all foreign objects from the conveyor.
- Be sure that all guards and safety devices are properly installed and working.
- Make sure that all persons are clear of the conveyor and aware that the conveyor is about to be restarted.

New installations

All newly installed equipment should be inspected frequently and serviced as needed during the first forty (40) hours of operation. See topics "Initial Start-up and Run-in Period", and Table H - 1.

Maintenance Logs

Maintenance logs should be kept for all of a system's conveyors. Each log sheet should show:

- The date when an Inspection or Maintenance function was performed.
- Details of the inspection or maintenance function.
- Names of personnel performing the inspection or maintenance function.

Scheduled Maintenance

Intervals indicated in Table H - 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 H - 1 Scheduled Maintenance

Interval	Components	Item Check							
		Lubrication	Tension	Wear	Position	Condition	Alignment	Fasteners	Operation
Daily (8 Hours)	Overall System					X			X
	Transportation / Accumulation								X
Weekly (40 Hours)	Rollers - Carrier				X	X			X
	Rollers - AG Sensor				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
Monthly (160 Hours)	Chain	X				X	X		
	Chain Lubricator								X
	Filter/Regulator	X				X			
	Sprockets			X			X	X	
	Tensioner		X		X	X			X
Semi-Annual (1000 Hours)	Drive Pad					X			X
	Power Unit - Motor					X		X	
Annual (2000 Hours)	Chain			X					
	Electrical Wiring / Voltages					X			X

WARNING: Before performing maintenance on a conveyor, make certain that the conveyor's power disconnect is locked in the open position and tagged to prevent accidental or unexpected application of power.

Do not perform maintenance while the conveyor is operational (exception - belt tracking).

Maintenance must be performed only by qualified personnel who are trained in normal and emergency operations of the conveyor and who are knowledgeable of all safety devices, their locations and functions.

Initial Startup and Run-In

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 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.

Chain Track Lubricators

Observe oil consumption during the first four (4) weeks of operation. This will set a benchmark for future oil consumption needs.

- Check the chain for insufficient or over lubrication.

Sensors

Observe operation of zones controlled by the sensors.

For AGPE:

- Ensure photo-eye and reflector are properly aligned.

For AG:

- Ensure sensor roller assemblies are properly seated and move up and down freely.
- Ensure the valves are operating properly and the springs are in place.

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; indicating 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.

Sensor Rollers / AG

- Observe operation of zones controlled by the sensors.
- Ensure sensor roller assemblies are properly seated and move up and down freely.
- Ensure the valves are operating properly and the springs are in place.

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. All standard reducers (Grove and Reliance) 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.

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 Inspection

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.
  - If cleaning, use suitable non-flammable cleaning solvent.
  - 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

- Check that the chain tensioner is operating properly.
- Adjust the tensioner when the indicator arrow moves into the yellow zone.
- Remove chain links when indicator moves into the red zone.
- For air-type tensioners - Check that the air pressure is set at 80 psi.
- Listen for leaks around pneumatic connections.

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(s), photo-eyes, solenoid-valves).
- Inspect the wiring for cuts, bare wires, etc.
- Ensure all connectors and screw connections are tight.

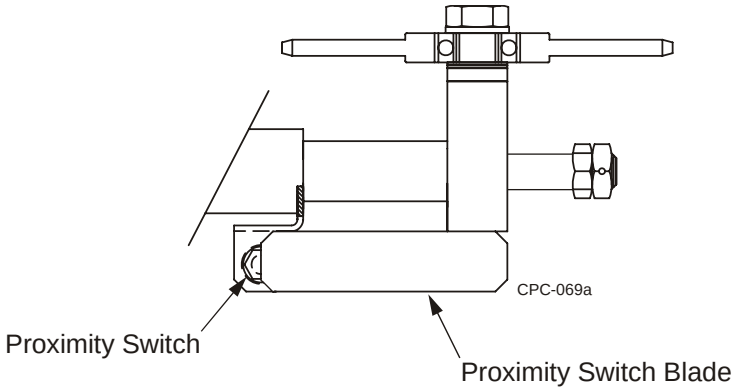
Drive Chain / Driver Pad Maintenance

Drive chain and driver pad maintenance involves checking the chain tensioner's proximity switch blade to determine if it is necessary to adjust or remove chain links. Figure H - 1 shows the proximity switch blade for a spring type chain tensioner; a similar proximity switch blade is used on the air tensioner. As part of the monthly inspection period, check the position of the proximity switch blade to determine if it is necessary to remove chain links.

When the proximity switch blade is approaching the red zone, it is time to reset the chain tensioner or remove chain links. The conveyor system will shut down when the blade is within the red zone.

Exposed Moving Parts

WARNING: Checking the chain tensioner's proximity switch blade positon 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.



Proximity Switch Blade Color Coding:
Green = Safe Operating Band
Yellow = Preliminary Warning Band
Red = Take-up Readjustment Band

Figure H - 1 Proximity Switch Blade Color Coding

Drive Chain and Driver Pad Maintenance

WARNING: 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

Chain links must be removed each time the chain tensioner reaches the end of its stroke.

The chain tensioner travel strokes are:

- 153mm (6.0”) for heavy duty spring tensioner, 254mm (10.0”) for air tensioner

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”) 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. Disengage the chain tensioner, see Figure H - 2.

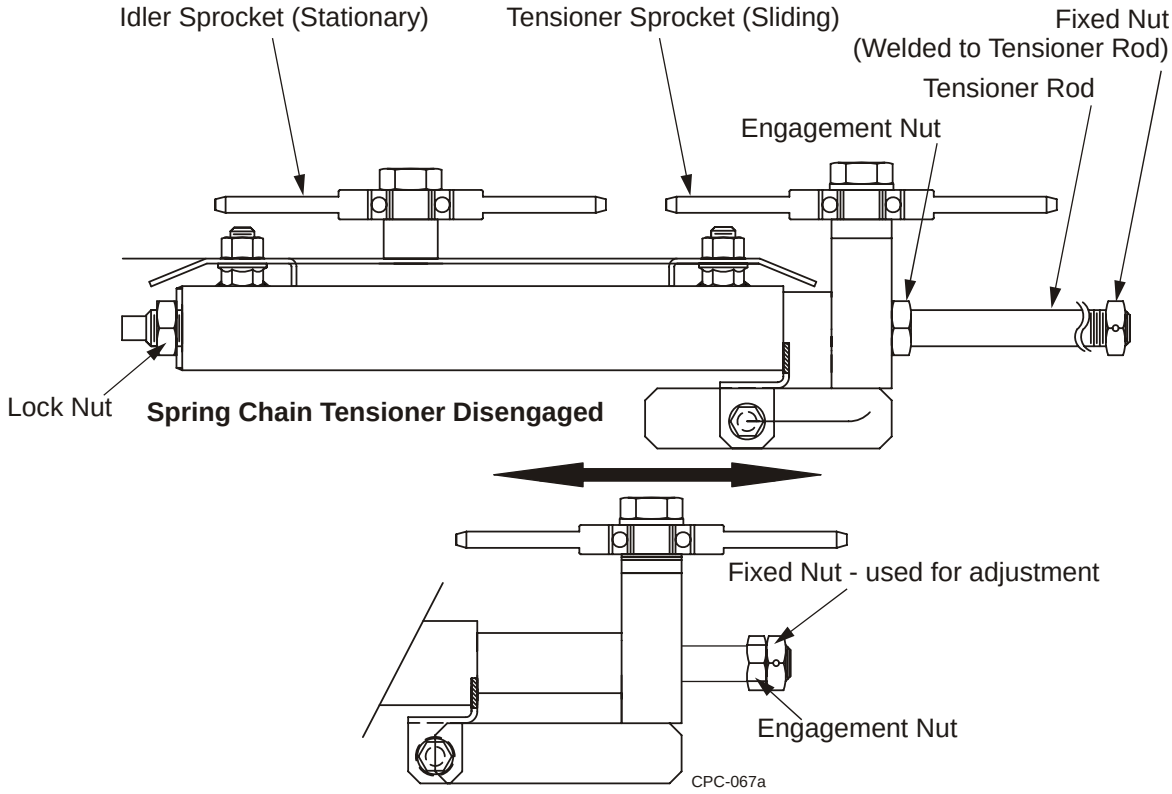


Figure H - 2 Spring Tensioner Engagement

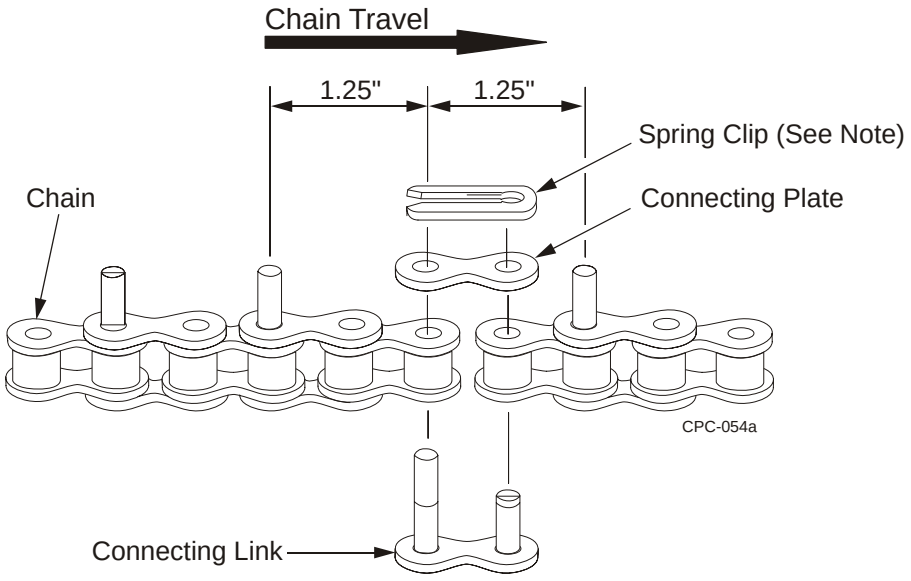
For spring tensioners:

a. Turn the engagement nut in the clockwise direction to position the tensioner sprocket all the way in to its minimum travel distance.

For air tensioners:

a. Turn off the air supply at the filter / regulator and disconnect the air line to the air tensioner. The internal spring in the air tensioner will collapse 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 H - 3.
6. Using a chain break tool, remove the necessary links. One link is defined as being the center distance (1.25") between two extended pins.



Note:
Install the connecting link spring clip with the clip's closed end in the same as the direction of chain travel. This will prevent the clip from being pulled off the connector.
For best results, pre-tension the chain using a chain holder tool (not provided)

Figure H - 3 Removing the Connector Link

For spring tensioners, if the tensioner is at or near the end of its stroke:

- remove a maximum of eight (8) links for a heavy duty spring tensioner.

For air tensioners, if the tensioner is at or near the end of its stroke:

- remove a maximum of sixteen (16) links.

7. Orient and install the connecting link with the extended pin matching the chain's 1.25" extended pin centers.
8. Install the connecting plate.
9. Orient and install the spring clip with its "closed" end facing the chain's direction of travel, see Figure A-9.
10. Install the chain on the chain tensioner sprocket. Ensure the chain teeth are properly aligned in all sprockets.

11. Engage the chain tensioner:

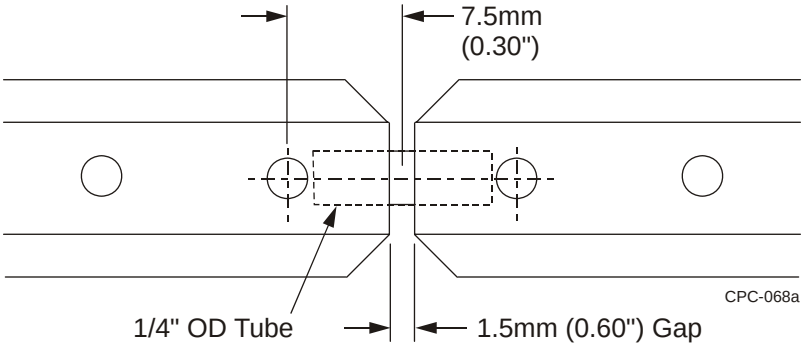
    For spring tensioners:

    a. Turn the engagement nut in the counterclockwise direction until the tensioner sprocket has removed all slack from the chain. Continue turning the engagement nut counterclockwise until it is tight against the fixed nut, see Figure H - 2.

    For air tensioners:

    a. Connect the air line to the air tensioner and turn on the air supply at the filter / regulator. Confirm the regulator is set to 0.5MPa (80psi).
    b. The air tensioner is equipped with a air flow control valve, confirm that the valve is set to two full turns open from the closed positon.

12. Break the driver pad splice.
13. Cut and shorten the pad as required and re-splice.
    a. Mark the position where the pad must be cut.
    b. Make a square cut at the mark
    c. Trim the edges at a 45° angle, see Figure H - 4.
    d. Make a splice connection by inserting a 7/8” long piece of 1/4” OD tubing into both ends of the pad.
    e. Firmly push the pad (and splice connection) onto the chain pins.



Splice Cut

Figure H - 4 Drive Pad End Cuts and Trimming

14. Install the carrier rollers.

15. Apply power and start the conveyor and observe the operation of the chain.

Note:

Chain Maintenance Tip

- Record the number of links removed each time the tensioner reaches the end of stroke.
- Removing links means that the chain is becoming elongated.
- To prevent sprocket wear, do not allow the chain to exceed 2% elongation.

Example Calculation:

For a 100’ conveyor, the chain is approximately 200’ long.

Multiply 200 × 12 = 2400”

Multiply 2400 × 2% = 48”

Divide 48 × 1.25 = 38 (links)

In this example, after removing approximately 30 chain links, its’ time to check chain elongation.

Chain Elongation

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

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

To measure Chain Elongation:

- Remove sufficient rollers and pad to provide 30 work zones.
- Remove the drive pad from the extended pins.
- Measure the "center" distance between twenty (20) extended pins, see Figure H - 5.

The center distance between twenty (20) links of "new" chain is 25". When "center distance" measures 25-1/2", the chain's elongation is 2% and should be replaced, refer to Chain Replacement topic in this section.

Note: Replace the drive pad whenever replacing the driver chain.

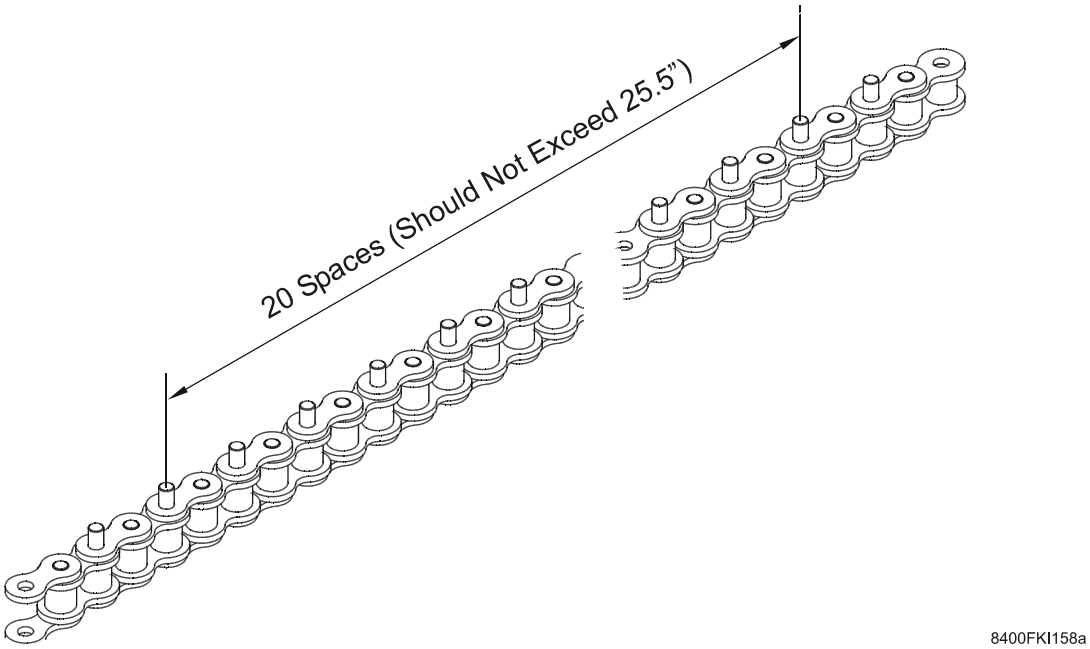


Figure H - 5 Measuring Chain Length

Drive Chain / Driver Pad / Sprocket Replacement

If the Drive Chain / Driver Pad replacement is required:

- Install the new Drive Chain and Driver Pad, refer to Section G - Installation Procedures, topic Drive Chain Installation and Driver Pad Installation.
- Inspect all sprockets in the drive, curve, and idler sections for signs of wear.
- Replace any sprocket showing signs of excessive wear, see Reducer Maintenance in this section.

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.

Chain Tensioner Maintenance

To compensate for Drive Chain Elongation that occurs because of the wear between a chain's pins and bushings, a Chain-Tensioner causes the Idler Sprocket to extend and increase the length of the chain's travel path as well as to provide constant, uniform tension.

Spring Tensioner

The Spring Tensioners consist of three (3) telescoping tubes:

1. a fixed "outer" tube that mounts to the Drive Section's frame and houses the other tubes;
2. a screw-adjusted "middle" tube that includes an Indicator Arrow, proximity switch mounting bracket and houses a compression spring; and
3. a spring-loaded "inner" tube to which the Idler Sprocket and Visual Indicator Band are mounted.

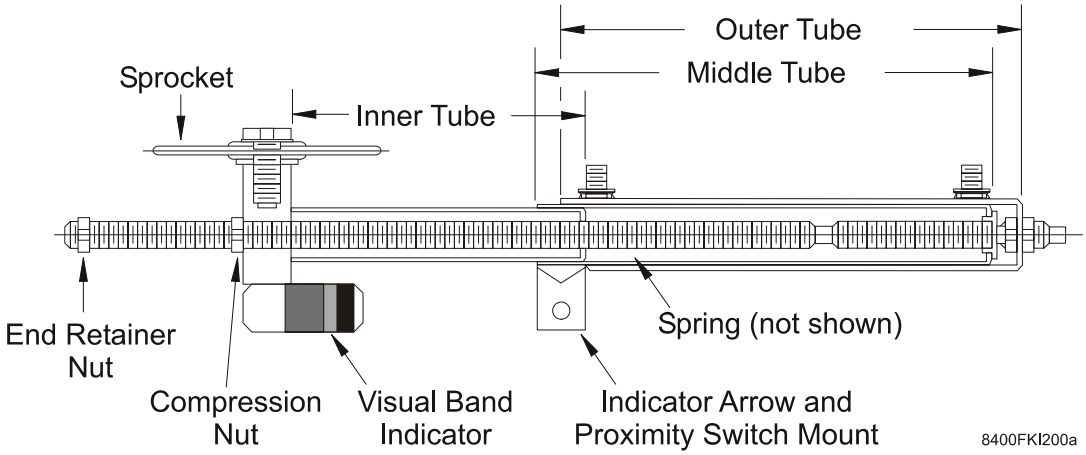


Figure H - 6

Spring Tensioner Inspection

CAUTION: Exposed Moving Parts
The following procedure requires operating the conveyor with exposed moving parts. While the conveyor is running, keep clear of the conveyor.

When making the monthly “Chain Tensioner” inspection:

With the Conveyor Running - Check the “position” of the “white” indicator in the visual indicator band (green, yellow, or red zones).

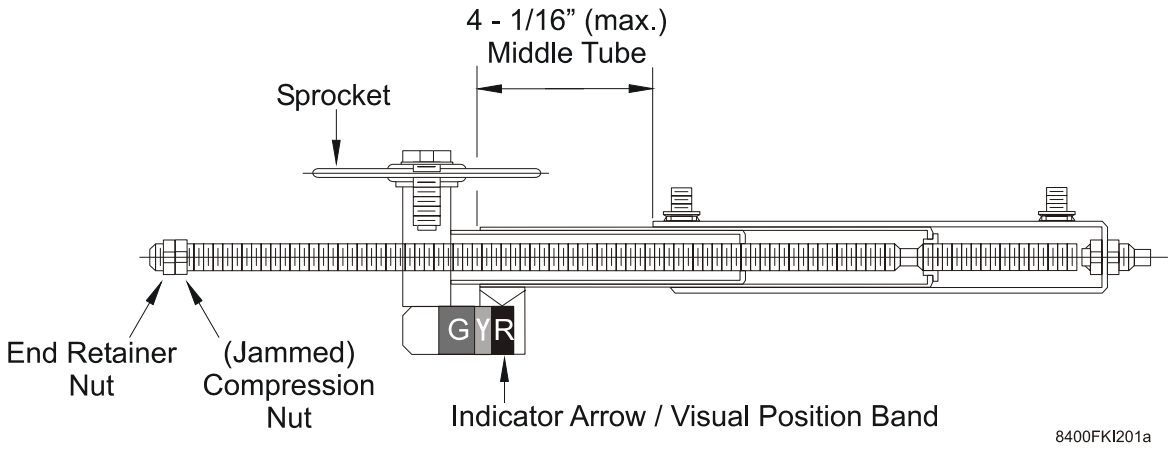


Figure H - 7 Spring Tensioner Inspection

Spring Tensioner Adjustment

Based on:

1. the position of the Indicator Arrow in the Visual Indicator Band; and
2. the amount of Middle Tube extension, make the appropriate adjustments.

The Accuglide Plus drive section uses several different reducers. Before adding, or changing lubrication make certain the same type of lubrication is used, see Table H - 2.

Table H - 2 Spring Tensioner Adjustment

Indicator Arrow Position	**Middle Tube Extension Dim. "A"**	
	Less than 4-1/16"	**4-1/16"**
Green Zone	No Action Required	Tighten Chain Tensioner
Yellow Zone	Adjust Chain Tensioner	Remove Chain Links[(a)]
Red Zone	Adjust Chain Tensioner[(b,d)]	Remove Chain Links[(c,d)]

f. Remove approx. 8 chain links.

g. Adjust Chain Tensioner per Step 1, then re-inspect (see topic Spring Tensioner Inspection this section).

h. Remove approx. 16 chain links.

i. When the Indicator Arrow is in the "red" zone, the Proximity Switch Flag is about to move past the Proximity Switch and cause the conveyor to shut down.

To ADJUST the Chain Tensioner:

Step 1. Turn the End Retainer Nut clockwise to further "extend" the "Middle Tube", and compress the internal compression spring, until the indicator arrow is near the "left" end of the "green" zone. DO NOT allow the extension to exceed 4-1/16".

Note: Keep the "Compression Nut" jammed tight against the "End Retainer Nut".

Step 2. Turn the Compression Nut "clockwise" to move the Inner Tube toward the Middle Tube, and compress the internal compression spring, until the indicator arrow is near the "left" end of the "green zone".

Step 3. Remove the appropriate number of chain links.

Step 4. Make the Drive Chain and Driver Pad connections, refer to Section G - Installation Procedures, topic Chain Installation and Driver Pad Installation

Step 5. Re-tension the Drive Chain, refer to Section G - Installation Procedures, topic Standard Spring-Tension Enagagement and Optional Air Tensioner Engagement.

Air Tensioner

An Air Tensioner consists of two (2) telescoping tubes:

1. a frame-mounted, fixed, “outer” tube that houses a single-acting, spring-return, air-cylinder and includes a proximity-switch mounting bracket with “position indicator”; and
2. an “inner” tube to which the Idler Sprocket and Visual Indicator Band are mounted. The air-cylinder has a Flow-Control Valve.

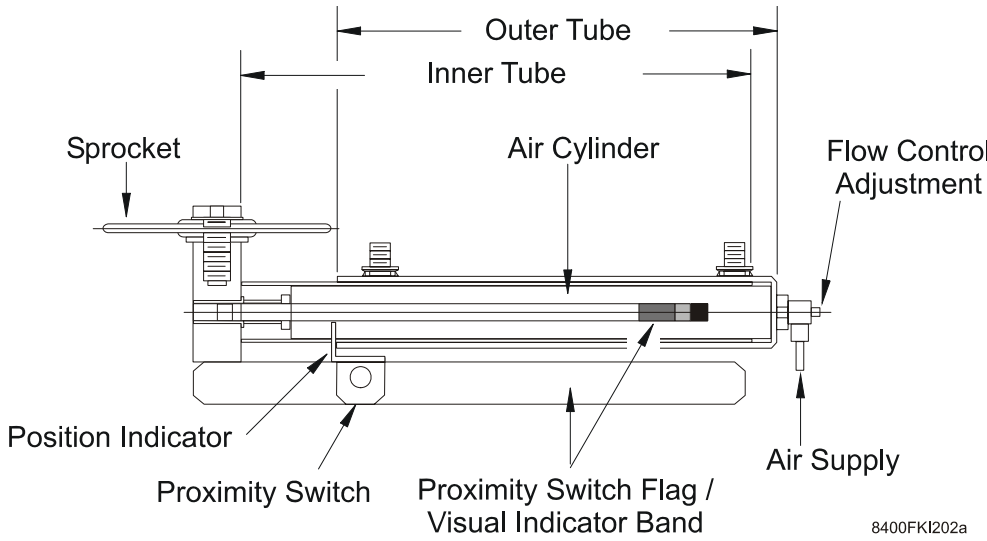


Figure H - 8 Air Tensioner

Air Tensioner Inspection

CAUTION: Exposed Moving Parts
The following procedure requires operating the conveyor with exposed moving parts. While the conveyor is running, keep clear of the conveyor.

When making the monthly Air Tensioner inspection:

With the Conveyor Running - Check which zone (green, yellow, or red) the Position Indicator is located.

After completing this procedure, stop the conveyor and perform the normal “lock-out/tag-out” procedure at the power source.

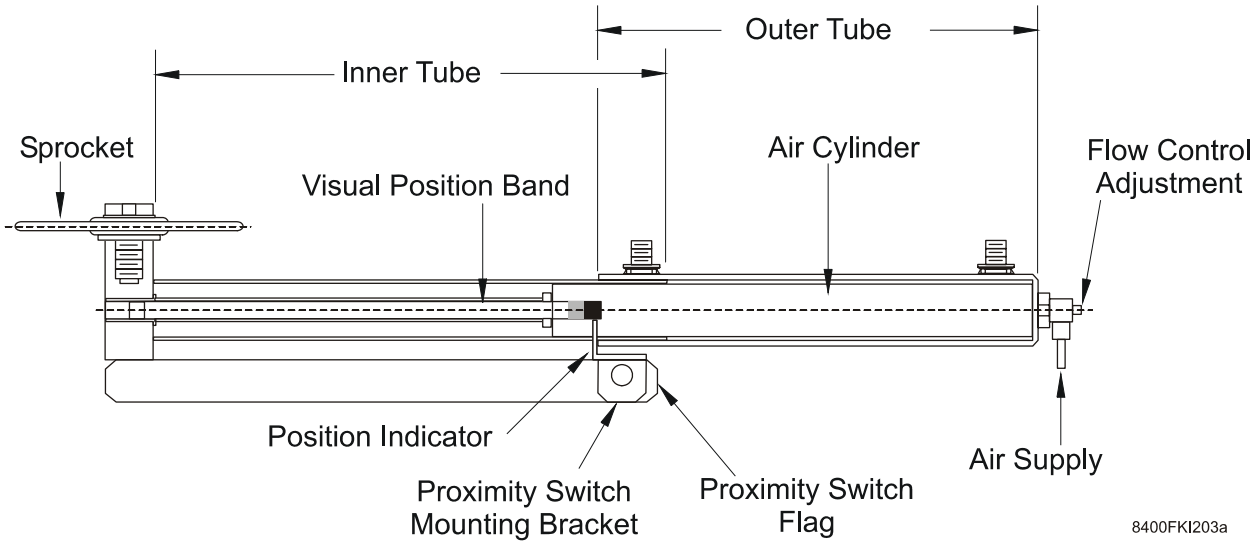


Figure H - 9 Checking the Air Tensioner’s Position Indicator

Air Tensioner Adjustments

Based on which zone the position indicator is located, take the appropriate action required in Table H - 3.

.

Table H - 3 Air Tensioner Adjustments

Position Indicator Color Code Key
Green Zone - Normal Take-Up Operating Band
Yellow Zone - Preliminary Warning Band
Red Zone - Take-Up Re-adjustment Band[(a)]

a. When the Position Indicator is in the “red” zone, the Proximity Switch Flag is about to move past the Proximity Switch and cause the conveyor to shut down. Remove chain links to re-adjust the tensioner to the normal operating zone (Green Zone).

To REMOVE Chain Links:

Step 1. Turn OFF the tensioner’s air supply.

Step 2. Retract the air-tension to its “home” position.

Step 3. Remove the appropriate number of chain links, see topic Removing Chain Links in this section.

Step 4. Make the Drive Chain and Driver Pad connections, refer to Section G - Installation Procedures, topic Drive Chain and Drive Pad Installation.

Step 5. Re-tension the Drive Chain, refer to Section G - Installation Procedures, topic Tensioner Engagement.

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.

Step 6. Check that the valve’s adjustment-screw is opened two (2) full turns from the full-closed position.

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.

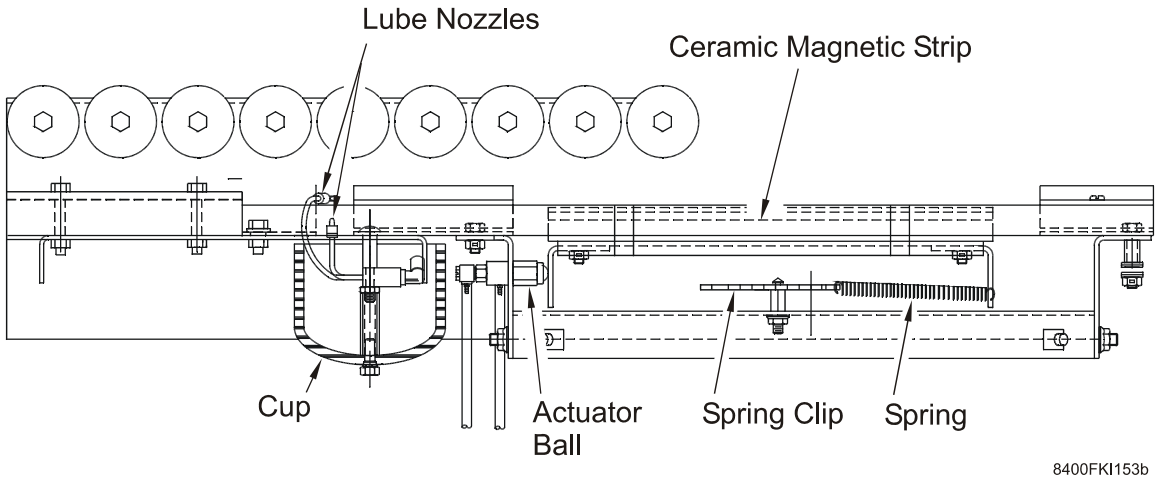


Figure H - 10 Magnetic-Type Chain Track Lubricator

Magnetic Type Lubricator Inspection

When making the monthly Chain Track Lubricator inspection:

Step 1. Check the level of lubricant in the oil reservoir.

Step 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.

Step 3. Check surrounding area for indications of excessive lubrication.

Step 4. Check that lubricant is being applied evenly to the bottom and side surfaces of the chain.

Magnetic Type Lubricator Adjustment

Step 1. If required, add lubricant to the oil reservoir (10W SAE non-detergent).

Step 2. If the chain/track requires “additional” lubricant, reset the spring-adjustment clip one (1) notch to increase the tension on the spring.

Step 3. If the chain/track requires “less” lubricant, reset the spring-adjustment clip one (1) notch to decrease the tension on the spring.

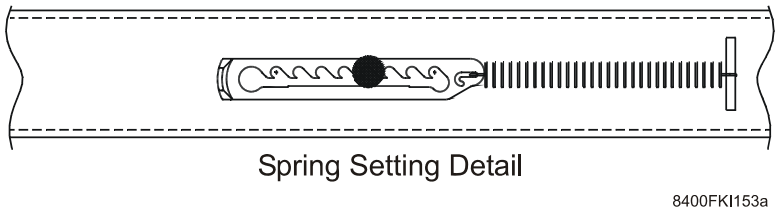


Figure H - 11 Adjustment Spring Clip

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.

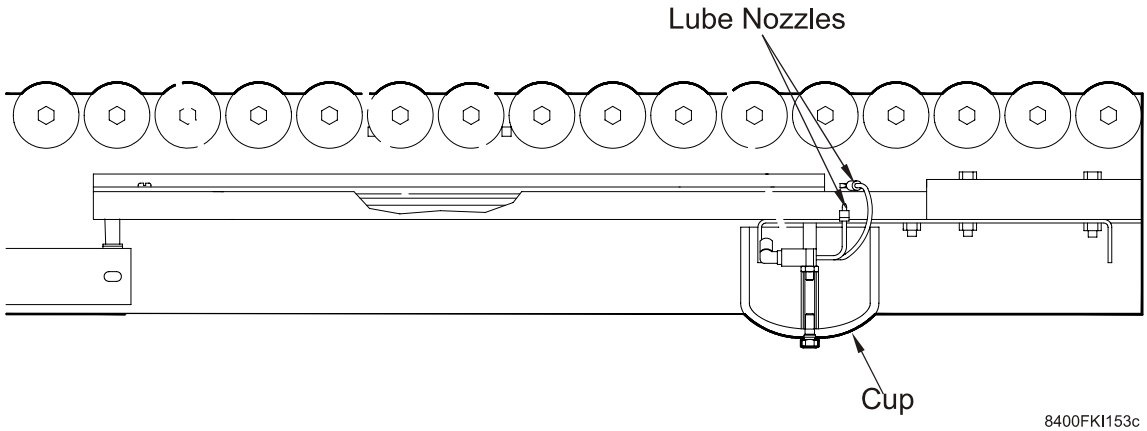


Figure H - 12 Solenoid Type Chain Track Lubricator

Solenoid Type Lubricator Inspection

When making the monthly “Chain Track Lubricator” inspection:

Step 1. Check the level of lubricant in the oil reservoir.

Step 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.

Step 3. Check surrounding area for indications of excessive liberation.

Step 4. Check that lubricant is being applied evenly to the bottom and side surfaces of the chain.

Solenoid Type Lubricator Adjustment

Step 1. If required, add lubricant to the oil reservoir (10W SAE non-detergent).

Note: Operation of the lubricator's solenoid-valve is controlled by the conveyor's system software. Contact person(s) who are authorized to make changes to the software programming.

Step 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.

Step 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.

Drive Sprocket Removal / Replacement

A Drive Sprocket may need to be removed to allow for reducer access, or for replacement when worn.

Step 1. Turn off conveyor and perform lockout/tagout at the power source.

Step 2. Remove a sufficient number of Carrier Rollers in the Infeed Drive Section to access the chain tensioner, drive sprocket, and/or reducer.

Step 3. Disengage the chain tensioner.

Step 4. Remove the Drive Chain/Pad from the Drive Sprocket.

Step 5. Remove the “old” Drive Sprocket.

Step 6. At the drive-side frame rail:

1. loosen the Support Angle Mounting Bolts;
2. loosen the Jack Bolts
3. allow the Support Angle and Power Unit Mounting Plate to drop; and
4. re-tighten the Support Angle Mounting Bolts, see Figure H - 13.

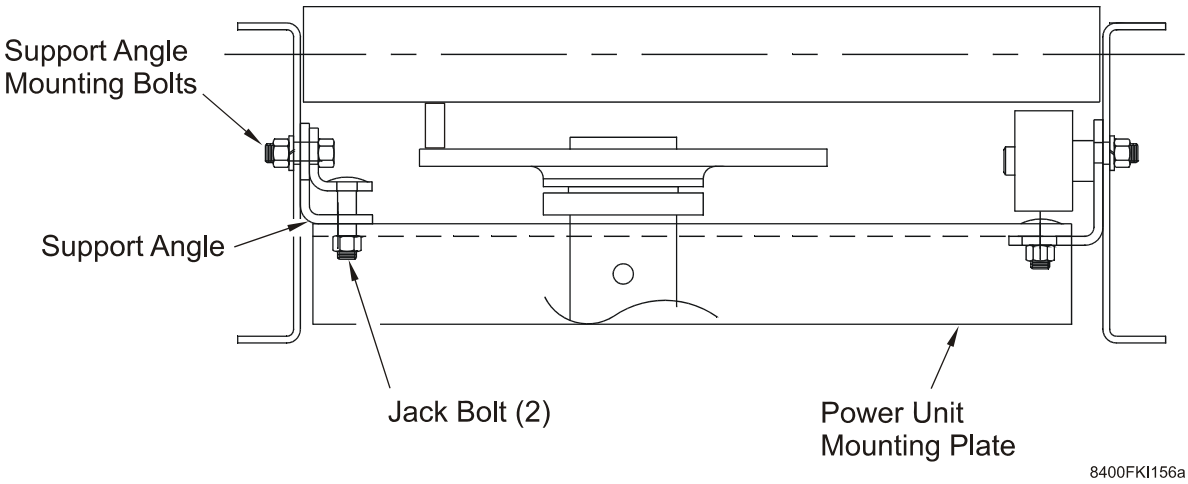


Figure H - 13 Drive Sprocket Removal / Replacement

Step 7. Install the “new” sprocket (bushing-face down) onto the reducer’s output shaft.

Step 8. Install one (1) Carrier Roller above the center of the Drive Sprocket.

Step 9. Position the Drive Sprocket on the reducer shaft so that its top surface is approx. 2-11/16” below the top of the Carrier Roller; tighten the bolts to hold in position.

Step 10. Tighten (evenly) mounting bolts in the Tapered-Bushing Hub.

Step 11. Install Drive Chain onto the Drive Sprocket and engage the Chain Tensioner.

Step 12. 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” of the Carrier Roller.

Step 13. Tighten the Support Angle Mounting Bolts.

Step 14. Remove all tools and foreign objects from the conveyor and install the Carrier Rollers.

Step 15. Remove the lock and restore power to the conveyor.

Step 16. Jog the conveyor to verify proper operation.

Carrier Roller Flat Belt Maintenance

The first/last Carrier Rollers in the conveyor's drive/idler sections are driven by an endless 3/4" wide flat-belt that transfers power from powered Carrier Rollers.

Flat-Belt Inspection

Step 1. With the conveyor running, check that sufficient power is transmitted to the end rollers.

Step 2. Check that the belt is tracking properly.

Step 3. Check that the belt is clean and not damaged or worn.

Flat-Belt Tension Adjustment

Step 1. Turn the conveyor OFF and perform the lockout/tagout procedure at the power source.

Step 2. Remove the Carrier Roller located above the adjustable take-up sheave.

Step 3. Loosen the 3/8" 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" apart) on the bottom side of the belt.

Step 4. Apply pressure to the adjustable sheave to tension the belt, see Figure H - 14.

- Apply pressure until the gauge reads 0.75%, OR apply pressure until the belt marks measure 10.075" (slightly more than 1/16").

Step 5. Securely tighten the sheave's mounting bolt/nut and prepare the conveyor for startup.

CAUTION: **Belt Tensioning**
Over-tensioning the drive belt may result in premature sheave bearing failure.

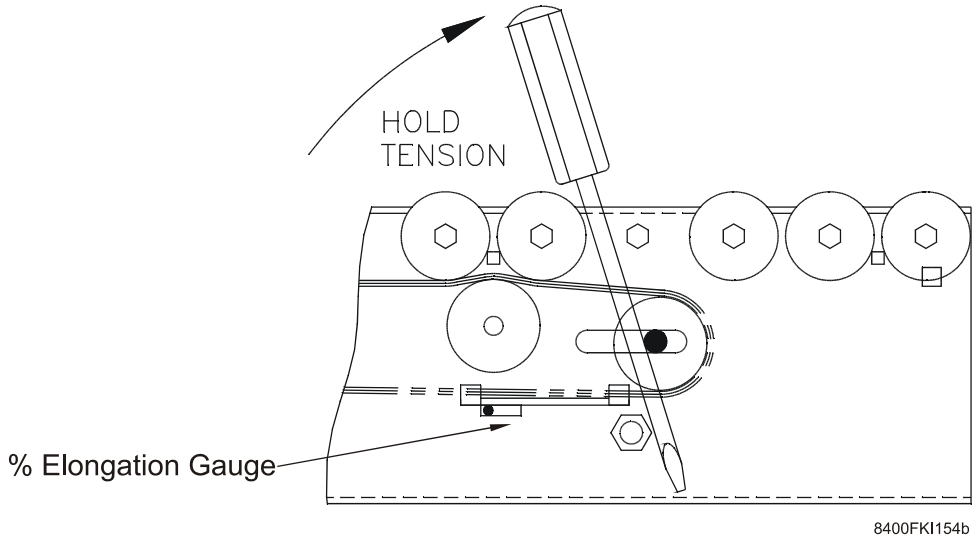


Figure H - 14 Carrier Roller Flat Belt Drive Adjustment

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

Step 1. With the conveyor running, check that sufficient braking action is transmitted to the Carrier Rollers.

Step 2. Check that the O-rings are taut.

Step 3. Check that 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:

Step 1. Turn the conveyor OFF and perform the lockout/tagout at the power source.

Step 2. Remove the Carrier Rollers above the Brake Module.

Step 3. Snip the old O-rings and remove.

Step 4. Install the new O-rings (P/N 000818 - 1/4 x 13.531 83A)

Step 5. Install the Carrier Rollers

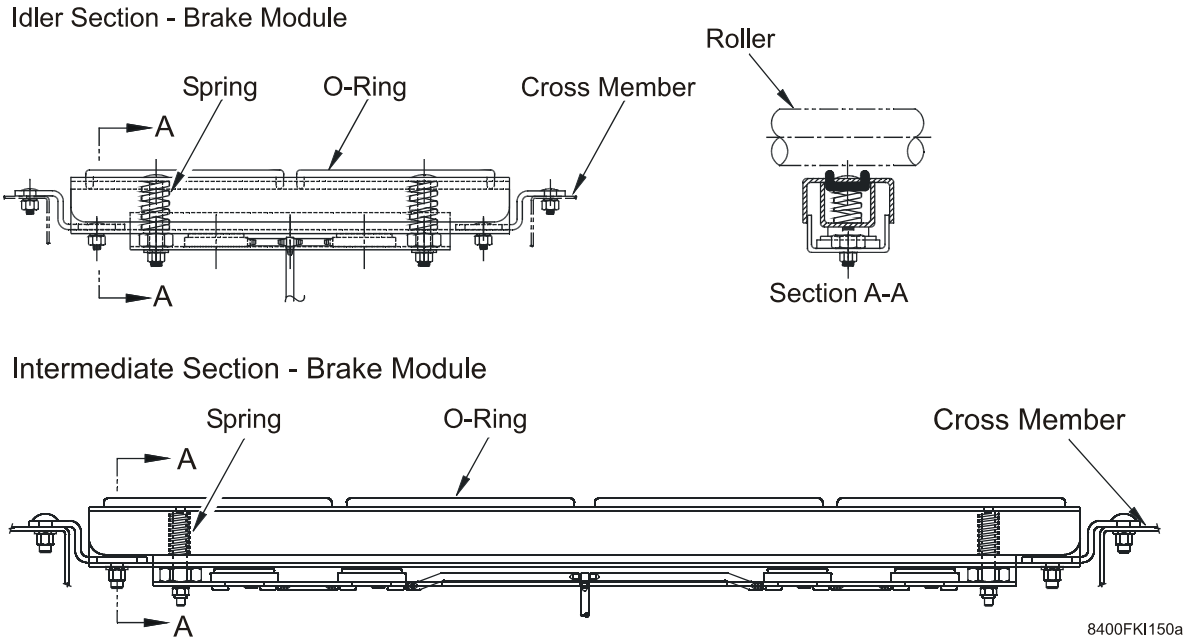


Figure H - 15 Brake Module O-Ring Replacement

Troubleshooting

Basic troubleshooting provisions are outlined below. For troubleshooting the specific conveyor system installed, always check the maintenance information. Basic troubleshooting is outlined in Table H - 4.

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.

Table H - 4 Basic Troubleshooting - Problems, Causes, and Solutions

Problem	Cause	Solution
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.
	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.

Table H - 4 Basic Troubleshooting - Problems, Causes, and Solutions (Continued)

Problem	Cause	Solution
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.
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.
AG - Operational Zone's control components not functioning to raise the zone's Drive chain / Pad and drive the Carrier Rollers	Sensor valve not actuated by pivoting Sensor roller frame.	• Increase tension setting of sensor spring.
	Sensor valve not receiving sufficient air pressure (12-12 psi).	• Turn ON air source. • Set pressure regulator. • Secure air-line connection(s).
Excessive product line pressure	AGPE - Photo-eye Sensor(s) not blocked.	• 6" photo-eye/reflector offset.
	AG - Sensor(s) not actuated.	• Dual sensors.
	Drive Pad not dropping away from Carrier Rollers.	• Clear obstruction. • Clean Carrier Rollers. • Clean Drive Pad.

SECTION I: PARTS IDENTIFICATION

General Information

This section covers repair and replacement parts most likely to be needed in the maintenance program of an Accuglide Powered Roller Conveyor.

The purpose of this section is to identify the critical replacement parts required for a preventative maintenance program and to minimize the chances for extended downtime. It is not possible to cover all details of the equipment, nor to provide for every contingency to be met in connection with maintaining the equipment.

In the following pages, the conveyor's major sections are illustrated and the recommended spare parts are listed.

Drive Section

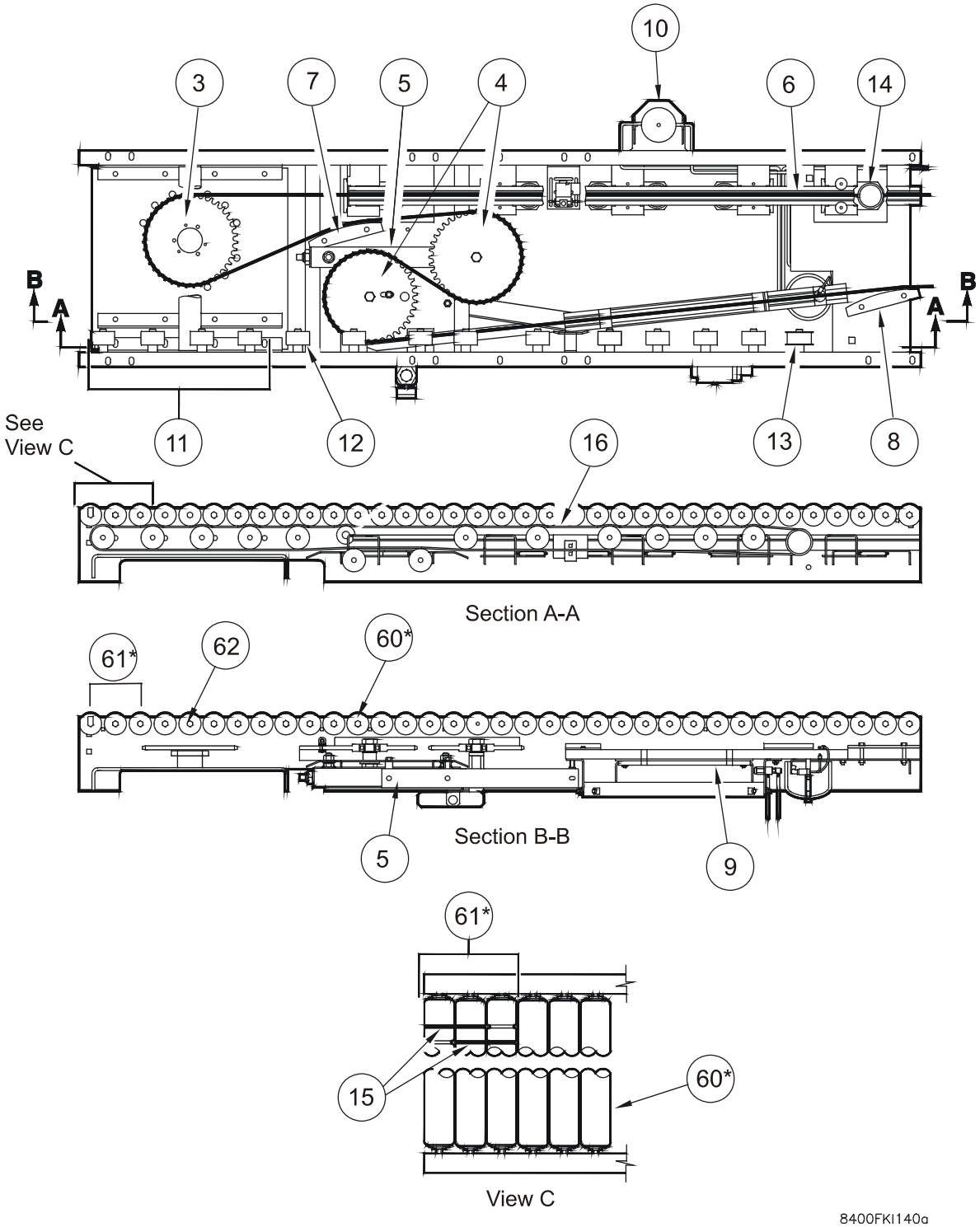


Figure I - 1 Accuglide Drive Section (LH Drive Assembly Shown)

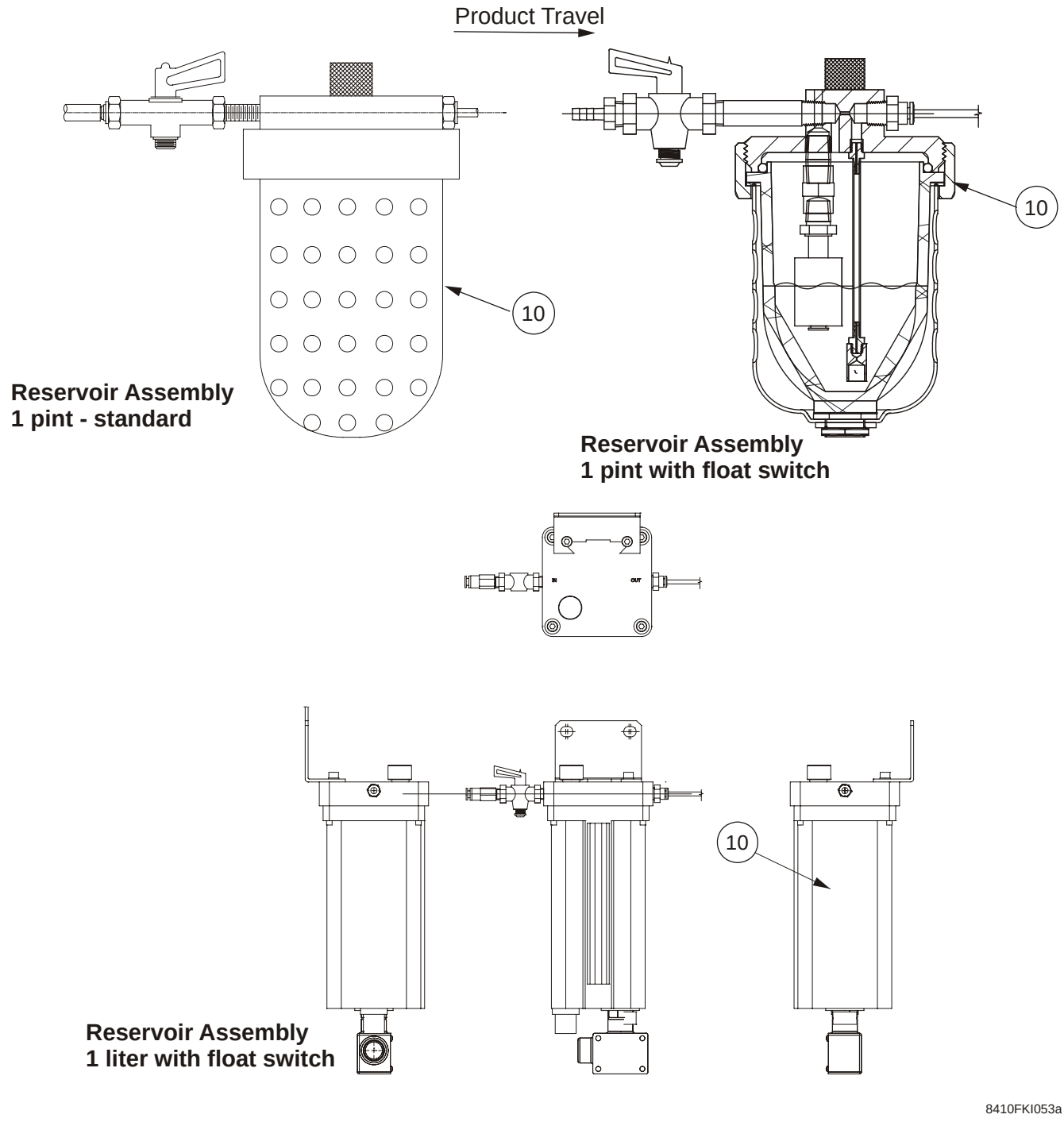


Figure I - 2 Reservoir Assemblies

Table I - 1 Accuglide Drive Section

Key No.	Part Description	Part Number
1	REDUCER, C-Face, right-angle (Not illustrated)	See Table I-2, I-6*
2	MOTOR, C-Face (Not Illustrated)	See Table I-5, I-6*
3	SPROCKET, Drive (H50SD39)	1218072
	BUSHING SDS - 1”	2155064
	BUSHING SDS - 1-1/8”	230854
	BUSHING SDS - 1-1/4”	230855
	BUSHING SDS - 1-3/8”	230846
	BUSHING SDS - 1-1/2”	230847
	BUSHING SDS - 1-5/8”	230848
	BUSHING SDS - 1-3/4”	230849
	BUSHING SDS - 1-7/8”	230850
4	SPROCKET, Idler (RC50 - 39 Tooth)	5300170
5	TENSIONER, Chain - Spring-type (shown)	732498
	TENSIONER, Chain - Air-type	732359
	SWITCH, Proximity 115VAC 18mm	270271
6	TRACK, Chain Extruded (Green UHMW)	See Table I-20
7	GUIDE, Drive Chain (1.281”)	730289
8	GUIDE, Drive Chain (1.156”)	732496
9	OILER, Assembly - Solenoid-type with Reservoir 115VAC	731122
	OILER, Assembly - Solenoid-type with Reservoir 24VDC	732999
	OILER, Assembly - Solenoid-type without Reservoir	737734
	OILER, Assembly - Magnetic-type with Reservoir	737749
	OILER Assembly - Magnetic-type without Reservoir	737745
	OILER, Parts - Magnetic and Solenoid-type(s)	See Table I-7
10	RESERVOIR, Assembly includes bowl, valve, etc.	270016
	RESERVOIR, Assembly, 1 pint (standard)	17043591
	RESERVOIR, Assembly, 1 pint with float switch	17043318
	RESERVOIR, Assembly, 1 liter with float switch	10003756
11	SHEAVE, Idler, 2.0” O.D., Short Shoulder	540010
12	SHEAVE, Idler, 2.0” O.D.	7035180
13	SHEAVE, Idler, 2.3” O.D. with Flange	7001182
14	ACTUATOR (Single Barb Fitting)	See Table I-20
	ACTUATOR (Double Barb Fitting)	See Table I-20
15	O-Ring (3/16” x 8-1/2” 83A)	7035182
16	BELT, Flat (3/4” x 126”)	190061
60	ROLLERS, Carrier - 1.9” O.D.	See Table I-17
61	ROLLERS, Carrier - 1.9” O.D. with 2 Grooves	See Table I-17
62	ROLLER, Carrier - (NO AXLE)	See Table I-17

(*) Table I-6 (Reducer/Motor ADAPTOR) Required only if it is necessary to replace connector that connects Tigear2 Reducer’s input shaft and a motor’s output shaft (Grove or Reliance)

Table I - 2 Reducer Model/Ratio (For Part Numbers see Tables I-3 (Dodge) or Table I-4 (Grove)

Conveyor Speed - FPM	Horsepowerr					
	.75	1.0	1.5	2.0	3.0	5.0
DODGE TIGEAR-2 REDUCER						
60	262 / 60	262 / 60	300 / 60	350 / 60	--	--
70	262 / 50	262 / 50	300 / 50	350 / 50	--	--
90	260 / 40	262 / 40	262 / 40	300 / 40	350 / 40	--
120	202 / 30	262 / 30	262 / 30	262 / 30	350 / 30	--
140	202 / 25	202 / 25	262 / 25	262 / 25	300 / 25	400 / 25
180	202 / 20	202 / 20	262 / 20	262 / 20	300 / 20	350 / 20
200	--	202 / 18	262 / 18	262 / 18	C262 / 18	C262 / 18
240	--	202 / 15	200 / 15	262 / 15	300 / 15	300 / 15
GROVE GOLD REDUCER						
60	262 / 60	232 / 60	232 / 60	242 / 60	--	--
70	262 / 50	226 / 50	232 / 50	242 / 50	--	--
90	260 / 40	226 / 40	232 / 40	232 / 40	242 / 40	--
120	220 / 30	226 / 30	226 / 30	232 / 30	242 / 30	--
140	220 / 25	220 / 25	226 / 25	232 / 25	232 / 25	242 / 25
180	220 / 20	220 / 20	226 / 20	226 / 20	232 / 20	242 / 20
200	--	220 / 18	226 / 18	226 / 15	n.q.	n.q.
240	--	220 / 15	220 / 15	226 / 15	232 / 15	232 / 15

Table I - 3 Dodge Tigear-2 Reducer Part Numbers / Output Shaft Diameter (OSD)

Ratio	Reducer Size / Assembly(*)					
	Size 202		Size 26		Size 30	
	Assembly "L"	Assembly "R"	Assembly "L"	Assembly "R"	Assembly "L"	Assembly "R"
15:1	7015753	7015754	7034296	7034297	7017529	7017527
18:1	7034271	7015751	7034298	7034299	--	--
20:1	7034272	7015849	7034300	7034301	7017573	7034627
25:1	7034275	7034276	7034302	7034303	7019677	7019676
30:1	7034277	7034278	7034304	7034305	--	--
40:1	7015752	7034279	7034306	7034307	7017467	7015955
50:1	--	--	7034312	7034313	7036473	7036474
60:1	--	--	7034312	7034313	7019711	7019710
OSD	1.000" Shaft O.D.		1.125" Shaft O.D.		1.375" Shaft O.D.	
Ratio	**Reducer Size / Assembly(*)**					
	Size 35		**G-262**		**Size 40**	
	Assembly "L"	**Assembly "R"**	**Assembly "L"**	**Assembly "R"**	**Assembly "L"**	**Assembly "R"**
56C Frame						
18:1	--	--	812285AG	812015AG	--	--
20:1	7034322	7034323	--	--	--	--
25:1	--	--	--	--	7036475	7036476
30:1	7034326	7034327	--	--	--	--
40:1	7015340	7015341	--	--	--	--
50:1	7034330	7034331	--	--	--	--
60:1	7034332	7034333	--	--	--	--
ODS	1.499" Shaft O.D.		1.499" Shaft O.D.		1.875" Shaft O.D.	

See Table I-2 for Dodge Tigear-2 Reducer Size and Ratio requirement.

(*) Assembly "L" required for Left-Hand (LH) Accuglide Conveyor assembly.

(*) Assembly "R" required for Right-Hand (RH) Accuglide Conveyor assembly.

Refer to Table I - 6 for Dodge Tigear-2 Motor/Reducer Adaptors.

(*) Refer to Table I-**6** for Dodge Tigear-2 Reducer/Motor Adaptors. (Required ONLY when replacing the original shaft coupler that connects motor's output shaft and reducer's input shaft.)

Table I - 4 Grove Gold Reducer Part Numbers / Output Shaft Diameter (OD)

Motor Frame	Reducer Size / Assembly(*)							
	Size 220		Size 226		Size 232		Size 242	
	Ass'y 2	Ass'y 3	Ass'y 2	Ass'y 3	Ass'y 2	Ass'y 3	Ass'y 6	Ass'y 5
15:1 Reducer Ratio								
56C	7030323	7030324	--	--	--	--	--	--
140TC	7030321	7030322	7005030	7005086	--	--	--	--
180TC	--	--	--	--	7005091	7005092	--	--
17.5:1 Reducer Ratio								
56C	7030325	7030326	--	--	--	--	--	--
18:1 Reducer Ratio								
140TC	--	--	7030351	7030352	--	--	--	--
20:1 Reducer Ratio								
56C	7030327	7030328	--	--	--	--	--	--
140TC	--	--	7005080	7005081	--	--	--	--
180TC	--	--	--	--	7005089	7005090	**7030363**	**7030364**
25:1 Reducer Ratio								
56C	7030329	7030330	--	--	--	--	**--**	**--**
140TC	--	--	7005078	7005079	7005084	7005085	**--**	**--**
180TC	--	--	--	--	7005087	7005088	**7030361**	**7030362**
30:1 Reducer Ratio								
56C	7030331	7030332	7005068	7005069	--	--	**--**	**--**
140TC	--	--	7005076	7005077	7005082	7005083	**--**	**--**
180TC	--	--	--	--	--	--	**7030359**	**7030360**
40:1 Reducer Ratio								
56C	--	--	7005064	7005065	--	--	**--**	**--**
140TC	--	--	--	--	7005074	7005075	**7030355**	**7030356**
180TC	--	--	--	--	--	--	**7030357**	**7030358**
50:1 Reducer Ratio								
56C	--	--	7005062	7005063	--	--	**--**	**--**
140TC	--	--	--	--	7005072	7005073	**--**	**--**
60:1 Reducer Ratio								
56C	--	--	705060	7005061	7005066	7005067	**--**	**--**
140TC	--	--	--	--	7005070	7005071	**7030353**	**7030354**
	1.000" Shaft O.D.		1.250" Shaft O.D.		1.500" Shaft O.D.		1.875" Shaft O.D.	

See Table I-2 for Grove Gold Reducer requirements

Assembly "2" required for Left-Hand (LH) Accuglide Conveyor assembly

Assembly "3" required for Right-Hand (RH) Accuglide Conveyor assembly

See Table I-5 for Motor Frame requirements.

Table I - 5 Motor Part Numbers

Description		Power			
		230/460 VAC		575 VAC	
		Brand			
		Baldor	Reliance	Baldor	Reliance
Standard Efficiency Motor	0.5 HP, 56C V_	7155562	7001600	7717583	7002088
	0.75 HP, 56C V_	7150592	7001601	7717584	7002089
	1.0 HP, 56C V_	7742139	7001602	7717598	n.a.
	1.5 HP, 56C V_	7778225	7001604	7331614	n.a.
	2.0 HP, 56C V_	7274611	n.a.	7763322	n.a.
	2.0 HP, 145TC V_	n.a.	7001606	n.a.	n.a.
	3.0 HP, 182TC V_	7747525	7001607	7362599	n.a.
	5.0 HP, 182TC V_	7747294	7001608	7866559	n.a.
Premium Efficiency Motor	0.50 HP, 56C V_, PE	7002040	7830000	7002060	7002092
	0.75 HP, 56C V_, PE	7002041	7001615	7002061	7002093
	1.0 HP, 56C V_, PE	7002042	7888099	7002062	7002094
	1.5 HP, 145TC V_, PE	7002043	7001632	7002063	7002095
	2.0 HP, 145TC V_, PE	7002044	7001617	7002064	7002096
	3.0 HP, 182TC V_, PE	7002045	7001633	7002065	7002097
	5.0 HP, 182TC V_, PE	7002046	7001618	7002066	7002098

Table I - 6 Power Train Component

Key No.	Part Description	Part Number
2,3[(a)]	ADAPTOR - Reducer/Motor (Dodge Tigear 2 ONLY) Not Required for Grove Reducers)	
	#56C Frame Motor / #17, #20 Reducer	7034217
	#56C Frame Motor / #23 Reducer	7034218
	#56C Frame Motor / #26 Reducer	7034218
	#56C Frame Motor / #30 Reducer	7034218
	#140C Frame Motor / #17 & 20 Reducer	7034220
	#140C Frame Motor / #23 Reducer	7034221
	#140C Frame Motor / #26 Reducer	7034221
	#140C Frame Motor / #30 Reducer	7034221
	#180C Frame Motor / #23 Reducer	7034223
	#180C Frame Motor / #26 Reducer	7034223
	#180C Frame Motor / #30 Reducer	7034223

(a) Required for Dodge TIGEAR-2 Reducers ONLY

(*) Refer to Table I-**6** for Dodge Tigear-2 Reducer/Motor Adaptors. (Required ONLY when replacing the original shaft coupler that connects motor's output shaft and reducer's input shaft.)

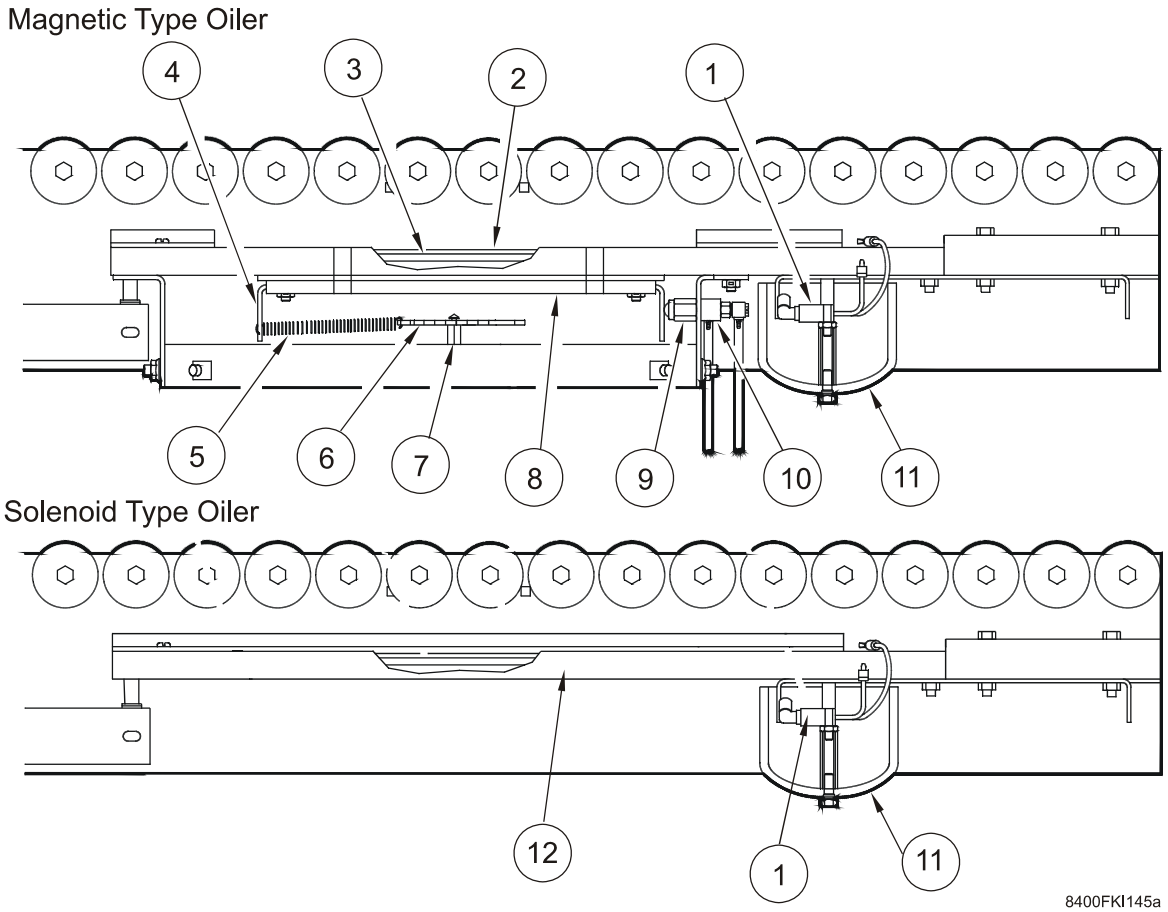


Figure I - 3 Accuglide Track Oiler Parts - Magnetic-type (top); Solenoid-type (bottom)

Table I - 7 Accuglide Track Oiler (Magnetic-type)

Key No.	Part Description	Part Number
1	Unimist Spray Head	270017
	Mist Nozzle (Rubber Tip Only)	270019
2	UHMW Track, 12” lg.	730221
3	CHANNEL, Ceramic Magnetic	050401
4	CLIP	730223
5	SPRING	310891
6	CLIP, Spring Mounting (W 15-40)	7029646
7	PIN, Spring Mounting (3/8” Hex x 1” lg.	7862930
8	CHANNEL, Aluminum 11.5” lg.	730222
9	ACTUATOR, Ball (#MBA-1)	270014
10	VALVE, 2-Way (#MAV-2)	270013
11	CAP, PVC Pipe x 3” SCH40DRILL	737747
	O-RING (3/8” OD X 1/4” ID)	224248
12	STRUT, Galvanized, (24-1/4” lg.)	737746

Idler Section

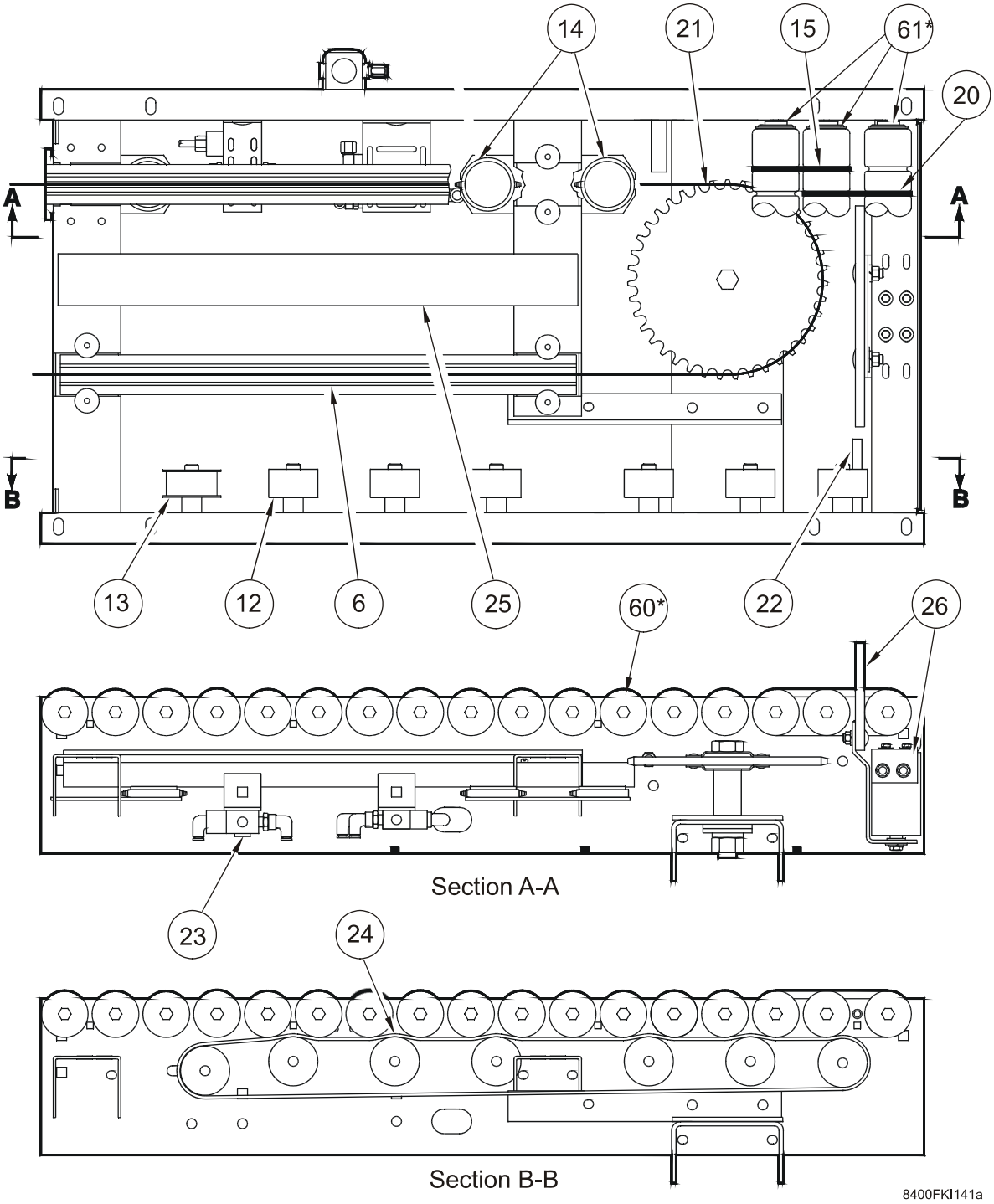


Figure I - 4 Accuglide Idler Section (LH Assembly Shown)

Table I - 8 Accuglide Idler Section

Key No.	Part Description	Part Number
6	TRACK, Chain, Extruded (Green UHMW)	See Table I-20
12	SHEAVE, Idler, 2.0” O.D.	See Table I-1
13	SHEAVE, Idler, 2.3” O.D. w/Flange	See Table I-1
14	ACTUATOR (Single Barb Fitting)	See Table I-20
	ACTUATOR (Double Barb Fitting)	See Table I-20
15	O-Ring - (3/16” x 8-1/2”, 83A)	See Table I-1
20	O-Ring - (3/16” x 9-5/8”, 83A)	000027
21	SPROCKET, Idler Assembly (#50 - 39T)	5300170
22	GUARD, Finger, 3-1/8”	737440
23	VALVE, Solenoid - 24VDC	7270410
	VALVE, Solenoid - 115VAC	271778
24	BELT, Flat (3/4” x 58-3/4” LG)	190060
25	BRAKE MODULE	See Table I-9
26	BLADE STOP	See Table I-10
60	ROLLERS, Carrier - 1.9” O.D.	See Table I-17
61	ROLLERS, Carrier - 1.9” O.D. with 2 Grooves	See Table I-17

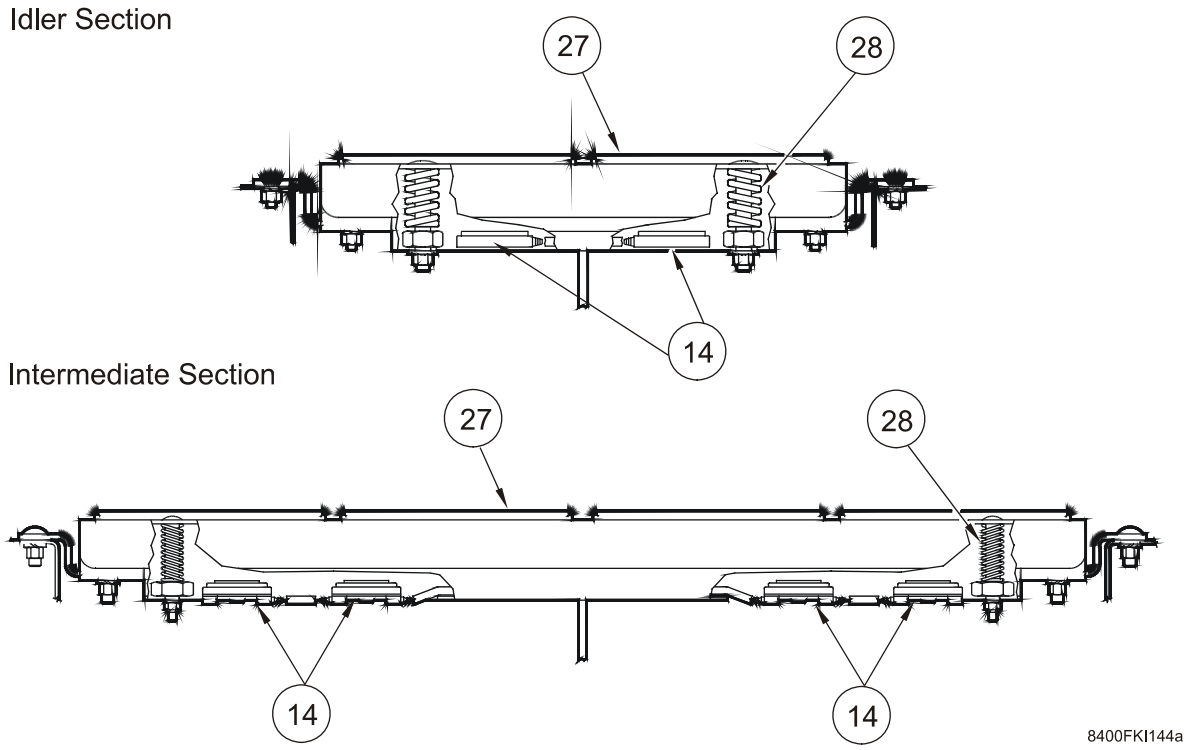


Figure I - 5 Accuglide Brake Module / Idler Section

Table I - 9 Accuglide Brake Module

Key No.	Part Description	Part Number
14	ACTUATOR (Single Barb Fitting)	See Table I-20
27	O-Rings - (2 per Module - 1/4” x 13.531” 83A)	7026646
28	SPRING (.720” O.D. x 2”)	310085

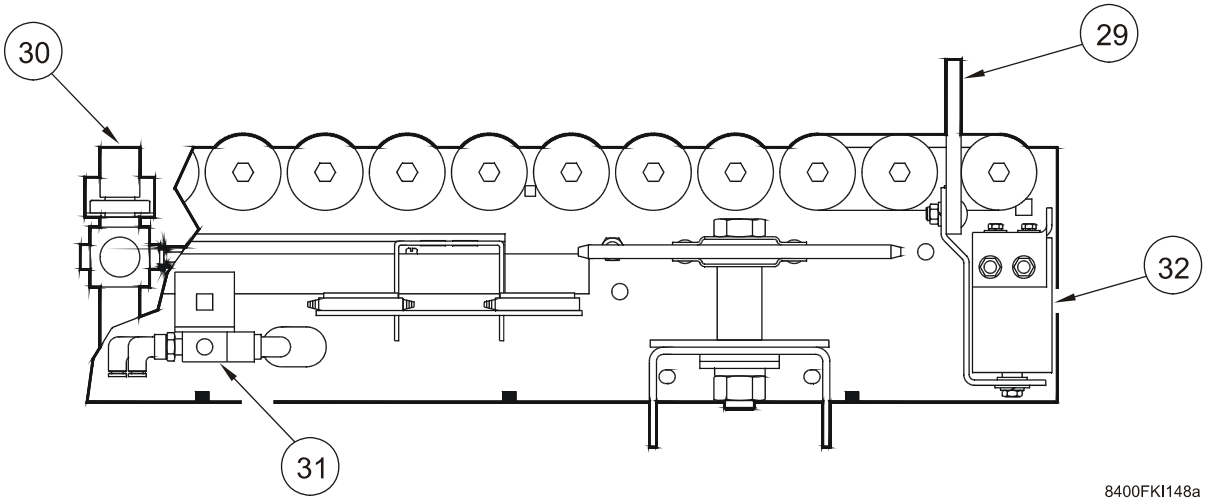


Figure I - 6 Accuglide Blade Stop / Idler Section

Table I - 10 Accuglide Blade Stop

Key	Description	Part Number
29	STOP, Blade, 16”W	382640
	STOP, Blade, 22”W	382641
	STOP, Blade, 28”W	382642
	STOP, Blade, 34”W	382643
	STOP, Blade, 40”W	382644
30	FILTER/REGULATOR Assembly (0-100 psi)	7060502
31	VALVE, Solenoid, 4-Way, 115VAC	271785
	VALVE, Solenoid, 4-Way, 24VDC	272822
32	CYLINDER, Double Acting (1.06” Bore x 2” Stroke	270008

Intermediate (Straight) Section

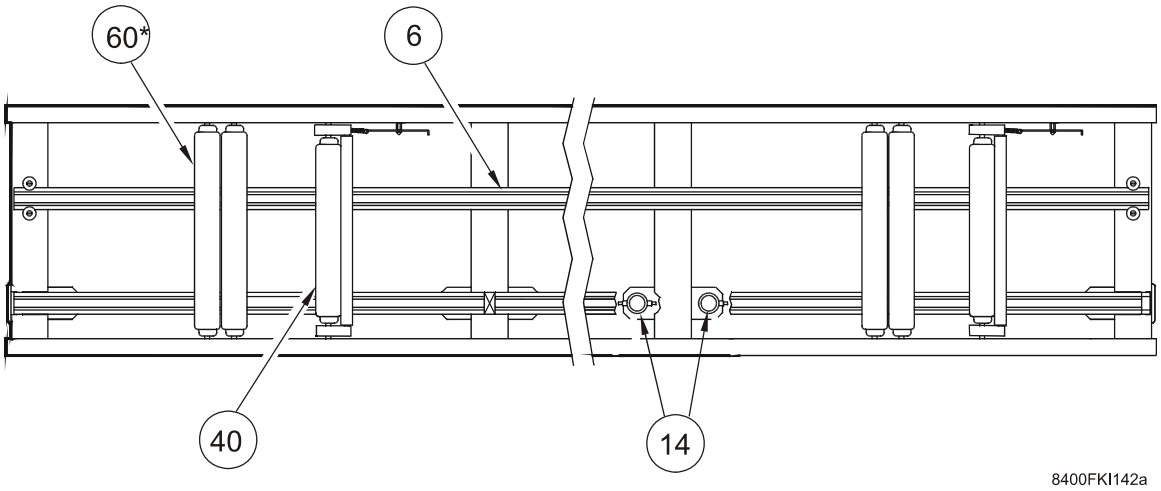


Figure I - 7 Accuglide Intermediate Section (with AG Sensor Rollers shown)

Table I - 11 Intermediate Straight Section - Common Components

Key No.	Part Description	Part Number
6	TRACK, Chain, Extruded (Green UHMW)	See Table I-20
14	ACTUATOR (Single Barb Fitting)	See Table I-20
	ACTUATOR (Double Barb Fitting)	See Table I-20
40	SENSOR Roller Assembly	See Table I-13
60	ROLLERS, Carrier - 1.9” O.D.	See Table I-17

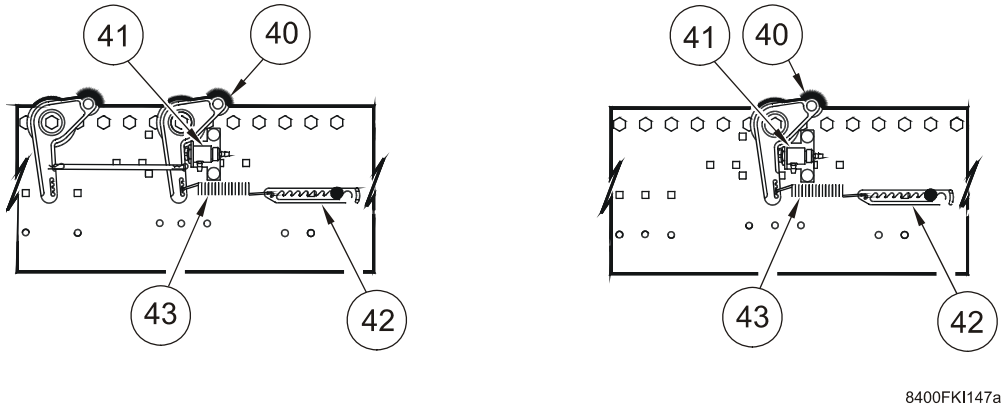


Figure I - 8 AG Sensor / Valve Components

Table I - 12 AG (Roller Sensor) Intermediate Section

Key No.	Part Description	Part Number
40	SENSOR ROLLER ASSEMBLY - __W	See Table I-13
41	VALVE - Singulation	272801
	VALVE - Slug / Auto-Slug	7029648
	VALVE - Slow-Release	271616
42	SPRING CLIP - Black	7029646
43	SPRING - Yellow (Single Sensor)	7756906
	SPRING - Stainless Steel (Dual Sensor)	2500506

Table I - 13 Accuglide Sensor Rollers

Part Description	16”W	22”W	28”W	34”W	40”W
SENSOR ROLLER ASSEMBLY G196GH	575250	575251	575252	575253	575254
SENSOR ROLLER ASSEMBLY G196AB	572871	572883	572895	572907	572919
SENSOR ROLLER ASSEMBLY G196GH CR	589100	589106	589112	n.a.	n.a.

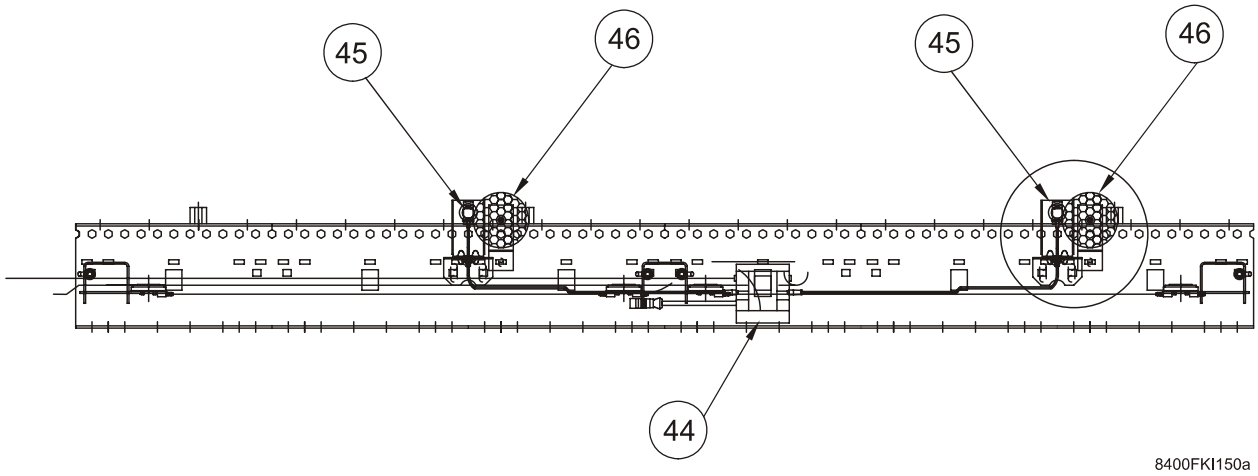


Figure I - 9 AGPE Intermediate Section

Table I - 14 AGP1 (Photo-Eye) Intermediate Section

Key No.	Part Description	Part Number
44	SOLENOID CONTROL MODULE, 24VDC (3'-0" Zones)	7035260
45	SENSOR, Photo-Eye (3'-0" Zone)	7043326
	SENSOR, Photo-Eye / Time-Delay (3'-0" Zone)	7043327
46	REFLECTOR, 3" dia. / 9.000" RAIL	7043324
	REFLECTOR, 3" dia. / 6.387" RAIL	7043325

Intermediate Curve Section - Transportation-Type

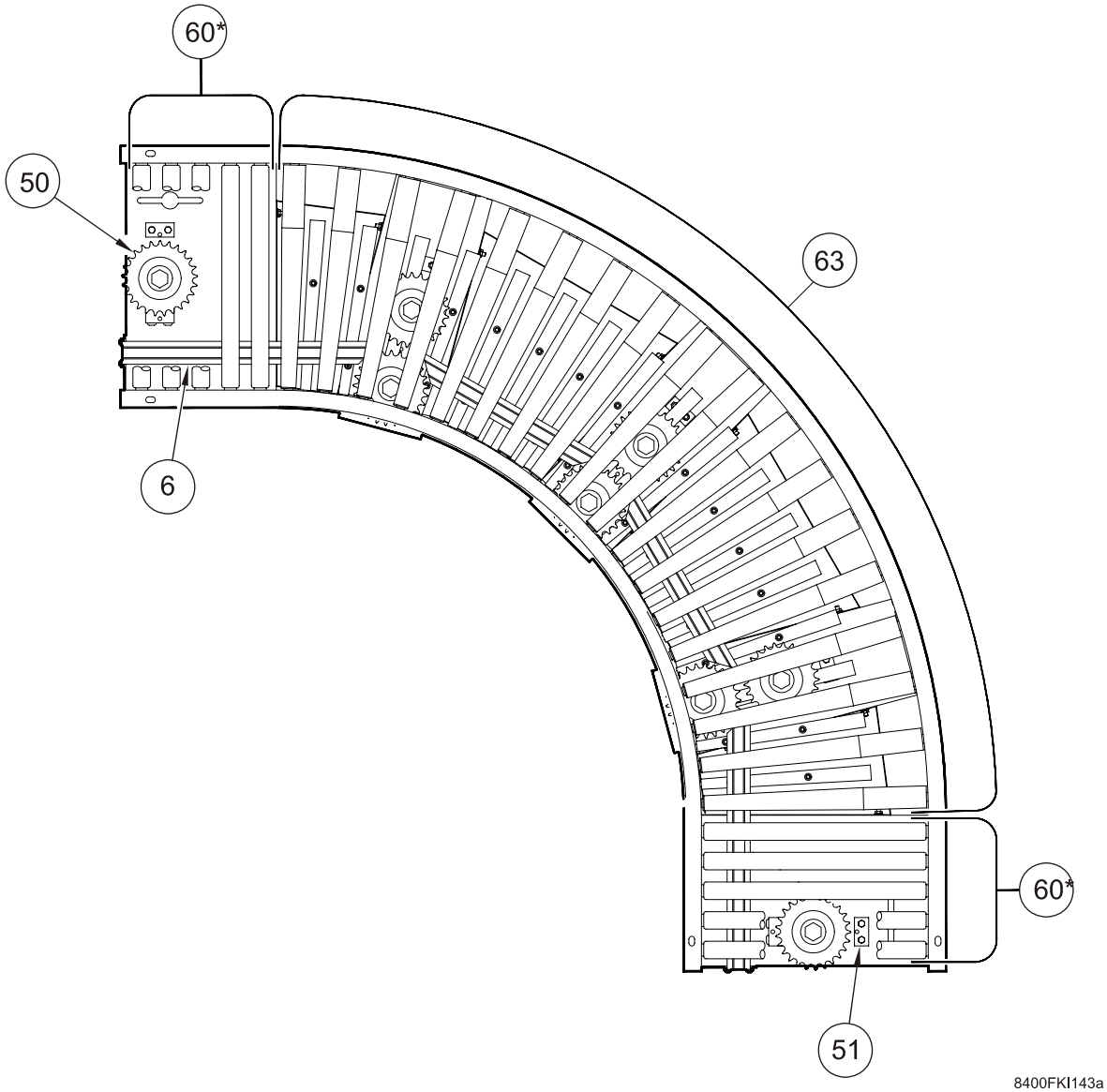


Figure I - 10 Intermediate Curve Section - Transportation Type (90 Degree Shown)

Table I - 15 Accuglide Intermediate Section - Curve

Key No.	Part Description	Part Number
6	TRACK, Chain, Extruded (Green UHMW)	See Table I-20
50	IDLER SPROCKET #50 - 25T Assembly	7001748
51	AG Curve Chain Retainer (1” lg.)	2921405
60	CARRIER ROLLER, Straight - 1.9” O.D.	See Table I-17
63	CARRIER ROLLER, Tapered - 2.5” / 1.63” O.D.	See Table I-17

Intermediate Curve Section - Accumulation-Type

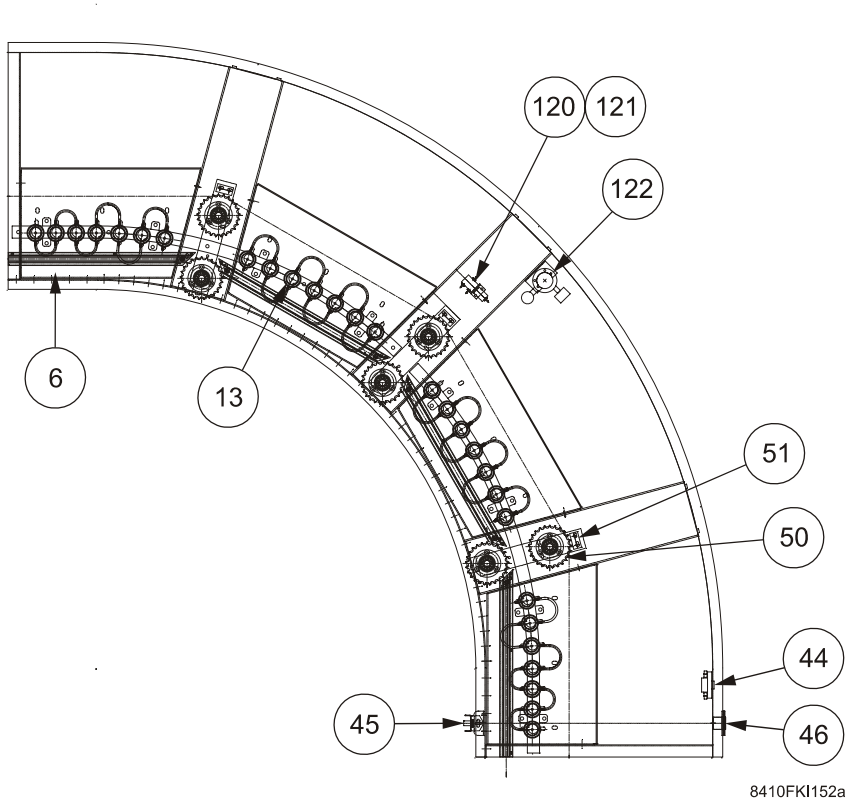


Figure I - 11 Intermediate Curve Section - Accumulation-Type (90 deg. Shown)

Table I - 16 Accuglide Intermediate Section - Curve

Key No.	Part Description	Part Number
6	TRACK, Chain, Extruded (Green UHMW)	See Table I-20
13	ACTUATOR (Single Barb Fitting)	See Table I-20
	ACTUATOR (Double Barb Fitting)	See Table I-20
44	SOLENOID CONTROL MODULE, 24 VDC	7035260
45	SENSOR, Photo-Eye	7043326
46	REFLECTOR, 3” DIA. / 9.00” rAIL	7043324
	REFLECTOR, 3” DIA. / 6.38” rAIL	7043325
50	Idler Sprocket #50 - 25T Assembly	See Table I-15
51	AG Curve Chain Retainer (1” lg.)	See Table I-15
60	Carrier Roller, Straight - 1.9” O.D.	See Table I-17
63	Carrier Roller, Tapered - 2.5” / 1.63” O.D.	See Table I-17
120	VALVE - MJVO-3 3-way	270409
121	ACTUATOR, PILOT MPA-7	271490
122	FILTER/REGULATOR/GAGE Med. Pressure 30PSI	271799MA

Intermediate (Sawtooth) Merge Section

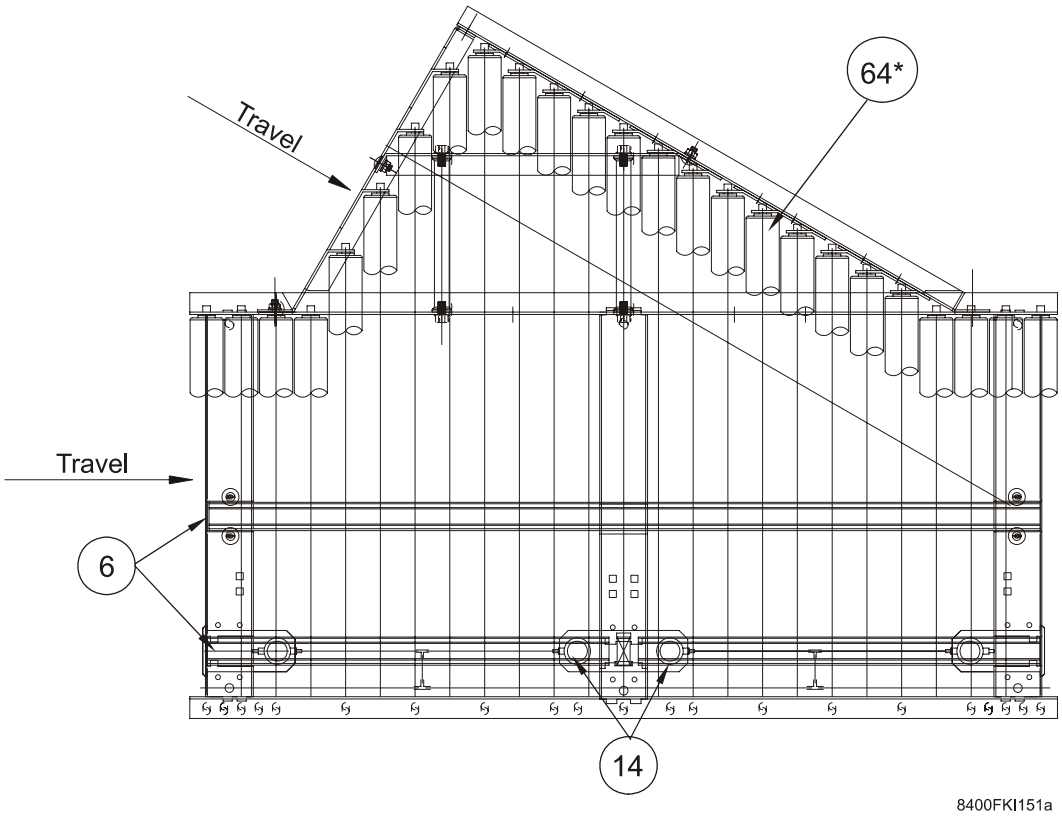


Figure I - 12 Intermediate (Sawtooth) Merge Section

Table I - 17 Intermediate (Sawtooth) Merge Section

Key No.	Part Description	Part Number
6	TRACK, Chain, Extruded (Green UHMW)	See Table I-20
14	ACTUATOR (Single Barb Fitting)	See Table I-20
	ACTUATOR (Double Barb Fitting)	See Table I-20
64	ROLLERS, Carrier - 1.9” O.D.	See Table I-18

Table I - 18 Carrier Rollers

Key No.	Part Description	Part Number				
		16” W	22” W	28” W	34” W	40” W
60*	**ROLLER, CARRIER / NO GROOVES - (1.9 x .065)**					
	Fixed Mount / Pop-Out Mount (Slotted Rail - AG) - with Spring-Loaded Axle					
	RLR G196 G P 01 __.__ NC	7017540	7017541	7017542	7017543	7017544
	RLR G196 GH Z 01 __.__ NC	7040112	7040113	7040114	NA	NA
	RLR G196 A1 P 01 __.__ NC	7015687	7015688	7015689	701590	7015691
	RLR G196 A1 Z 01 __.__ NC	704l0118	7040119	7040120	NA	NA
	RLR G196 C1 N 01 __.__ NC	7012584	7012585	7004180	7012586	7012587
	Pop-Out Mount (Pop-Out Clip - AGPE) - with Fixed Axle					
	RLR G196 GH P 02 __.__ NC	7005488	7005489	7005490	7005491	7005492
	RLR G196 GH Z 02 __.__ NC	7040321	7040322	7040323	NA	NA
	RLR G196 A1 P 02 __.__ NC	7005501	7005502	7005503	7005504	7005505
	RLR G196 A1 Z 02 __.__ NC	7040234	7040235	7040236	NA	NA
61*	**ROLLER, CARRIER / 2-GROOVEs - (1.9” x .065)**					
	Fixed Mount / Pop-Out Mount (Slotted Rail - AG) - with Spring-Loaded Axle					
	RLR G196 GH P 11 __.__ NC G2	7017545	7017546	7017547	7017548	7017549
	RLR G196 GH Z 11 __.__ NC G2	7040086	7040087	7040088	NA	NA
	RLR G196 A1 P 11 __.__ NC G2	7026848	7026849	7026850	7026851	7026852
	RLR G196 A1 Z 11 __.__ NC G2	7040089	7040090	7040091	NA	NA
	RLR G196 C1 N 11 __.__ NC G2	7034366	7034368	7034370	7034372	7034374
	Pop-Out Mount (Pop-Out Clip - AGPE) - with Fixed Axle					
	RLR G196 GH P 12 __.__ NC G2	7017550	7017551	7017552	7017553	7017554
	RLR G196 GH Z 12 __.__ NC G2	7040171	7040172	7040173	NA	NA
	RLR G196 A1 P 12 __.__ NC G2	7040095	7040096	7040097	7040098	7040099
	RLR G196 A1 Z 12 __.__ NC G2	7040092	7040093	7040094	NA	NA
62*	**ROLLER, CARRIER / NO AXLE - (1.9 x .065)**					
	RLR G196 GH N 03 __.__ NC	7040065	7040066	7040067	7040068	7040069
	RLR G196 A1 N 03 __.__ NC	7040070	7027723	7040072	7040073	7040074
	AXLE - 7/16” Hex	7040081	7040082	7040083	7040084	7040085
	AXLE - 7/16” Hex - CR (Plated)	7040078	7040079	7040080	NA	NA
63	**ROLLER, CARRIER / TAPERED - No. G254 (2.50 x 1.63)**					
	ROLR G254 - Spring Loaded Axle	502060	502061	502062	502063	702064
	ROLR G254 - Spring-Loaded Axle - CR	502077	502078	502079	N.A.	N.A.
	ROLLER, CARRIER / TAPERED / No Axle - No. G254 (2.50” x 1.63”)					
	ROLR G254 - ABEC	502060	502061	502062	502063	702064
	AXLE - 7/16” Hex - Tapped Eng	7040081	7040082	7001179	7040084	7040085
	AXLE - 7/16” Hex - Tapped eng - CR	7040078	7040079	7040080	NA	NA

Key No.	Part Description	Part Number				
		16” W	22” W	28” W	34” W	40” W
64	**ROLLER, CARRIER / TAPERED / No Axle - No. G254 (2.50 x 1.63**					
	S7A - 6203 ABEC	503535	503536	503537	503538	503539
	AXLE - 7/16” Hex					

*See Roller Description Explanation on page I-25

Table I - 19 Carrier Rollers - Intermediate (Sawtooth) Merge Section

Key No.	Width (in)	45 Degree MERGE				30 Degree MERGE				Bearing	
		22”W	28”W	34”W	40”W	22”W	28”W	34”W	40”W	AB	GH
64*	**ROLLER, CARRIER - Spring-Loaded Axle (Fixed Mount)**										
	22.00	X				X				7015688	7017541
	23.21	X				X				7496920	7496921
	23.94	X								7496896	7496897
	24.38	X				X				7504796	7496467
	25.53	X				X				7496918	7496919
	25.59					X				7496922	7496923
	25.94	X								7496898	7496899
	26.69	X				X				7501550	7496917
	27.84	X				X				7496914	7496915
	27.93	X								7496900	7496901
	28.00		X				X			7015689	7017542
	29.00	X				X				7501552	7496543
	29.06					X				7496924	7496925
	29.22		X				X			7496965	7496966
	29.75						X			7504916	7496546
	29.94	X								7496902	7496903
	30.00		X							7504843	7496549
	30.16	X				X				7496912	7496913
	30.38		X				X			7496963	7496964
	31.31	X				X				7501556	7496563
	31.53		X				X			7496961	7496962
	31.59						X			7496967	7496968
	31.94	X								7496904	7496905
	32.00		X							7504846	7496574
	32.47	X				X				7496910	7496911
	32.53					X				7496926	7496927
	32.69		X				X			7496959	7496960
	33.63	X				X				7501560	7496598
	33.84		X				X			7496957	7496958
	33.94	X								7496906	7496907
	34.00		X	X				X		7015690	7017543
	34.78	X				X				7496908	7496909
	35.00		X				X			7496955	7496956
	35.06						X			7502110	7496616
	35.22			X				X		7498451	7498452
	35.94						X			7502219	7496617
	35.97						X			7496928	7496929

Key No.	Width (in)	45 Degree MERGE				30 Degree MERGE				Bearing	
		22”W	28”W	34”W	40”W	22”W	28”W	34”W	40”W	AB	GH
64*	36.00		X	X				X		7504852	7496618
	36.16		X				X			7496953	7496954
	36.38			X				X		7498449	7498450
	37.09					X				7496930	7496931
	37.31		X				X			7496951	7496952
	37.53			X				X		7498447	7498448
	37.59							X		7498453	7498454
	38.00		X	X						7504854	7496635
	38.47		X				X			7496949	7496950
	38.53						X			7496969	7496970
	38.69			X				X		7498445	7498446
	39.31			X						7504857	7496652
	39.63		X				X			7496947	7496948
	39.84			X				X		7498443	7498444
	40.00		X		X				X	7015691	7017544
	40.78		X				X			7496945	7496946
	41.00			X				X		7498441	7498442
	41.06							X		7498455	7498456
	41.22				X				X	7498537	7498538
	41.94		X				X			7496943	7496944
	41.97						X			7496971	7496972
	42.00		X	X	X					7496933	7496934
	42.16			X				X		7498439	7498440
	42.38				X				X	7498535	7498536
	43.09		X				X			7496941	7496942
	43.31			X				X		7498437	7498438
	43.53				X				X	7498533	7498534
	43.59								X	7498539	7498540
	44.00		X	X	X					7496935	7496936
	44.25		X				X			7496939	7496940
	44.47			X				X		7498435	7498436
	44.53							X		7498457	7498458
	44.69				X				X	7498531	7498532
	45.41		X				X			7496937	7496938
	45.44						X			7496973	7496974
	45.63			X				X		7498433	7498434
	45.84				X				X	7498529	7498530

Key No.	Width (in)	45 Degree MERGE				30 Degree MERGE				Bearing	
		22”W	28”W	34”W	40”W	22”W	28”W	34”W	40”W	AB	GH
	46.00			X	X					7496981	7496982
	46.56						X			7496979	7496980
	46.75							X		7498483	7498484
	46.78			X						7498431	7984327
	47.00				X				X	7498527	7498528
	47.06								X	7498541	7498542
	47.72						X			7496977	7496978
	47.91							X		7498481	7498482
	47.94			X						7498429	7498430
	47.97							X		7498459	7498460
	48.00			X	X					7496983	7496984
	48.16				X				X	7498525	7498526
	48.88						X			7496975	7496976
	49.06							X		7498479	7498480
	49.09			X						7498427	7498428
	49.31				X				X	7498523	7498524
	50.00			X	X					7496985	7496986
	50.22							X		7498425	7498426
	50.25			X						7498425	7498426
64*	50.47				X				X	7498521	7498522
	50.53								X	7498543	7498544
	51.38							X		7498475	7498476
	51.41			X						7496997	7496998
	51.44						X			7498461	7498462
	51.63				X				X	7498519	7498520
	52.00			X	X					7561931	7496678
	52.53							X		498473	498474
	52.56			X						496995	496996
	53.69			X				X		496993	496994
	52.78				X				X	498517	498518
	53.94				X				X	498515	498516
	53.97								X	498545	498546
	54.00			X	X					496987	496988
	54.84			X				X		496991	496992
	54.91							X		498463	498464
	55.09				X				X	498513	498514
	56.00			X	X			X		496989	496990
	56.25				X				X	498511	498512
	57.16							X		498471	498472

Key No.	Width (in)	45 Degree MERGE				30 Degree MERGE				Bearing	
		22”W	28”W	34”W	40”W	22”W	28”W	34”W	40”W	AB	GH
64*	57.41				X				X	498509	498510
	57.44								X	498547	498548
	58.00				X					498485	498486
	58.31							X		498469	498470
	58.38							X		498465	498466
	58.56				X				X	498507	498508
	59.59							X		498467	498468
	59.72				X				X	498505	498506
	60.00				X					498487	498488
	60.91								X	498549	498550
	60.88				X				X	498503	498504
	62.00				X				X	498501	498502
	63.19				X				X	498499	498500
	64.00				X					498491	498492
	64.34				X				X	498497	498498
	64.38								X	498551	498552
	65.50				X				X	498495	498496
	66.00				X					498493	498494
	66.63								X	498563	498564
	67.78								X	498561	498562
	67.84								X	498553	498554
	68.94								X	498559	498560
	70.09								X	498557	498558
	71.25								X	498555	498556

(*)See Roller Description Explanation on page I-25

(*) Roller Description Explanation (Up Through 52” W)

(Example) RLR G196 GH P 01 16.00 NC G2

- G2 = Two (2) Grooves (A=3”, B=2”) VB & AG
- NC = No Cover
- 16.00 = Conveyor Width “W” (rounded to closest second digit)
- 01 = Spring-Loaded Axle; Fixed Roller w/o Grooves
- 02 = Non Spring-Loaded Axle; Pop-out Roller w/o Grooves
- 03 = NO Axle, Roller w/o Grooves
- 05 = Non Spring-Loaded Axle, Threaded End, Roller w/o Grooves
- 11 = Spring-Loaded Axle; Roller w/2 Grooves
- 12 = Non Spring-Loaded Axle; Pop-out Roller w/2 Grooves
- 13 = NO Axle, Roller w/2 Grooves
- 14 = Non Spring-Loaded Axle; Threaded End, Roller w/2 Grooves
- P = Plain Steel Axle
- N = NO Axle
- Z = Zinc-Plated Steel Axle (Cold Room)
- A1 = (Bearing Type) ABEC Precision Bearing
- GH = (Bearing type) Greased, Commercial Bearing
- C1 = (Bearing Type) ABEC Cartridge Tapered Hex
- 196 = (Roller Tube) 1.90” dia x 16 gage (.065” wall)
- G = (Roller Tube Material/Finish) Galvanized Steel
- RLR = Roller

(*) Roller Description Explanation (Over 52” W)

(Example) RLR G196 AB 71.250 BU-AX SUPT

- BU-AX SUPT = ABEC Brg. W/7/16” Hex Axle and Axle Support
- FZ = GH Brg. W/7/16” Hex Axle and Axle Support
- 71.250 = Conveyor Width “W”
- AB = (ABEC Type Bearing) Precision
- GH = (Commercial Type Bearing) Greased
- 196 = (Roller Tube) 1.90” dia x 16 gage (.065” wall)
- G = (Roller Tube Material/Finish) Galvanized Steel
- RLR = Roller

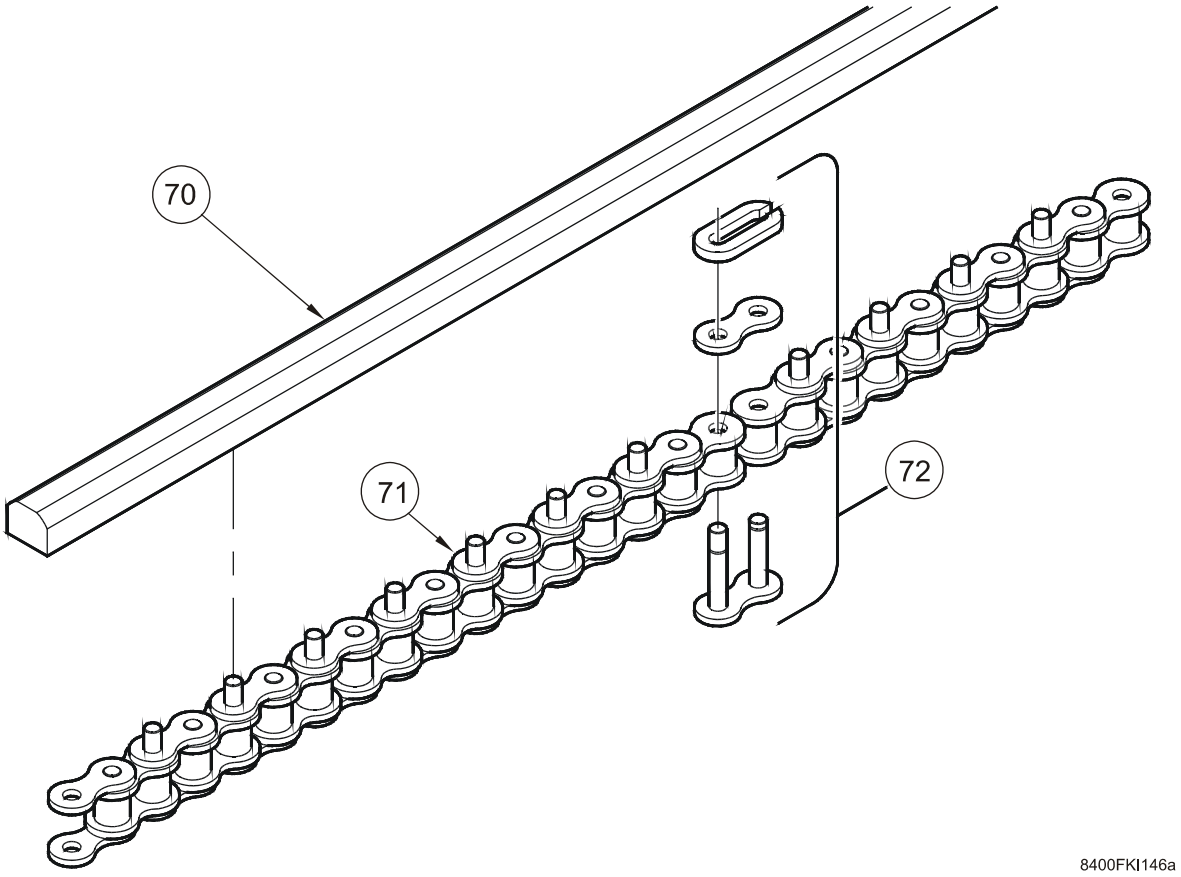


Figure I - 13 Accuglide Drive Chain and Pad

Table I - 20 Accuglide Drive Chain/Pad

Key No.	Part Description	Part Number
70	DRIVE PAD - (Specify Length - 100' Minimum)	957041183
71	DRIVE CHAIN - RC50 w/Extended Pins - Standard	200981
	DRIVE CHAIN - RC50 w/Extended Pins - Domestic	200993
72	CONNECTOR LINK Assembly RC50 w/Extended Pin	7017265

Table I - 21 Miscellaneous Parts

Key No.	Part Description	Part Number
AG Components		
6	TRACK, Chain, Extruded (Green UHMW)	2921405
14	ACTUATOR (Single Barb Fitting)	2980028
	ACTUATOR (Dual Barb Fitting)	2980029
AGP1 Components		
80	POWER SUPPLY	7035512
81	AGP1 T-CORD - POWER	7035992
82	AGP1 EXTENSION CORD 1’-0” (Male to Female)	7035543
	AGP1 EXTENSION CORD 2’-0” (Male to Female)	7035544
	AGP1 EXTENSION CORD 3’-0” (Male to Female)	7035545
	AGP1 EXTENSION CORD 4’-0” (Male to Female)	7035996
	AGP1 EXTENSION CORD 6’-0” (Male to Female)	7035546
	AGP1 EXTENSION CORD 9’-0” (Male to Female)	7035547
	AGP1 EXTENSION CORD 12’-0” (Male to Female)	7035548
83	AGP1 CABLE - POWER ISOLATION	7035993
85	CAP-PLUG, .156” ID x .50” Lg.	7036104
Tubing and Hoses		
90	TUBING, Yellow, Urethane, 5/32” ID	7036232
91	TUBING, Red, Urethane, 3/8” OD x 1/4” ID (AG)	7585175
92	TUBING, Red, Urethane, 1/2” OD x 3/8” ID (AGP1)	7036231
93	TUBING, Blue, Urethane, 1/4” OD x .16” ID	271438
94	TUBING, Green, Urethane, 5/32” ID	271432
95	TUBING, Hi-Press Flexible - 3/8” OD	7060509
96	TUBING, Nylon, Flex, 1/4” OD	8402925
97	HOSE, 1/8” ID x 1/4” Od, 3814-6	8978025
Fittings		
100	CONNECTOR, 1/8” MPT x 1/4” Tube	271500
101	CONNECTOR, 1/4” OD to 5/32” ID	271584
102	CONNECTOR, 1/4” ID to 5/32” ID	271585
103	CONNECTOR, Male, 1/4” Tube x 1/8” Pipe	8978250
104	CONNECTOR, Male, 3/8” OD x 1/4” ID, Brass	8978265
105	CONNECTOR, Male, 3/8” Tube x 1/8” NPT	8903479
106	CONNECTOR, Straight, 10-32 x 1/8” Hose	8978221
107	TEE Connector, 1/4” MPT x 1/4” Tee, Brass	7035536

Key No.	Part Description	Part Number
108	TEE Connector, 1/4” MPT 3/8” Tee	7060508
109	TEE Connector, 1/4” OD x 5/32” ID	271522
110	TEE Connector, 1/4” OD x 1/8” ID	271608
111	TEE Connector, 3/8” OD x 3/8” OD x 1/4” OD (5/32” ID)	271441
112	TEE Connector, 3/8” OD x 3/*” OD x 1/4” ID, Tube, Brass	8978282
113	CLAMP, Hose 1/4” UMP 3173-132	220068

Table I - 22 Drives

AK	BALDOR,3/4,56C,1725,V1
AM	BALDOR,3/4,56C,1750,V1,PE
AP	BALDOR,3/4,56C,1750,V2,PE
AU	BALDOR,1.0,56C,1725,V1
AW	BALDOR,1.0,56C,1750,V1,PE
AY	BALDOR,1.0,56C,1750,V2,PE
BD	BALDOR,1.5 145TC 460-60-3
BF	BALDOR,1.5,145TC,1750,V1,PE
BH	BALDOR,1.5,145TC,1750,V2,PE
BN	BALDOR,2.0 145TC 460-60-3
BQ	BALDOR,2.0,145TC,1750,V1,PE
BS	BALDOR,2.0,145TC,1750,V2,PE
BX	BALDOR,3.0,182TC,1725,V1
BZ	BALDOR,3.0 PE 182TC 460-60-3
CB	BALDOR,3.0 182TC,1760,V2,PE
CG	BALDOR,5.0,184TC,1725,V1
CJ	BALDOR,5.0,184TC,1750,V1,PE
CL	BALDOR,5.0,184TC,1750,V2,PE
FR	RELIANCE,3/4 56C 460-60-3
FT	RELIANCE,3/4 EM 56C 460-60-3
FV	RELIANCE,3/4,1800,56C,V1,PE
FX	RELIANCE,3/4 EM 56C 575-60-3
FZ	RELIANCE,3/4,1750,56C,V2,PE
GG	RELIANCE,1.0 56C 460-60-3
GJ	RELIANCE,1.0 EM 56C 460-60-3
GL	RELIANCE,1.0,1800,56C,V1,PE
GN	RELIANCE,1.0 EM 56C 575-60-3
GQ	RELIANCE,1.0,1750,56C,V2,PE
GX	RELIANCE,1.5 145TC 460-60-3
GZ	RELIANCE,1.5 EM 145TC 460-60-3
HB	RELIANCE,1.5,1800,145TC,V1,PE
HD	RELIANCE,1.5 EM 145TC 575-60-3
HF	RELIANCE,1.5,1750,145TC,V2,PE
HN	RELIANCE,2.0 145TC 460-60-3
HQ	RELIANCE,2.0 EM 145TC 460-60-3
HS	RELIANCE,2.0,1800,145TC,V1,PE
HU	RELIANCE,2.0 EM 145TC 575-60-3
HW	RELIANCE,2.0,1730,145TC,V2,PE
JD	RELIANCE,3.0 182TC 460-60-3
JF	RELIANCE,3.0 EM 182TC 460-60-3
JH	RELIANCE,3.0,1800,182TC,V1,PE

JK	RELIANCE,3.0 EM 182TC 575-60-3
JM	RELIANCE,3.0,1755,182TC,V2,PE
JU	RELIANCE,5.0 184TC 460-60-3
JW	RELIANCE,5.0 EM 184TC 460-60-3
JY	RELIANCE,5.0,1800,184TC,V1,PE
KA	RELIANCE,5.0 EM 184TC 575-60-3
KC	RELIANCE,5.0,1750,184TC,V2,PE
MK	US,3/4 56C 460-60-3
MP	US,3/4 PR 56C 575-60-3
MU	US,1.0 56C 460-60-3
MY	UC,1.0 PE 56C 575-60-3
ND	US,1.5 145TC 460-60-3
NF	US,1.5 PE 145TC 460-60-3
NH	US,1.5 PE 145TC 575-60-3
NN	US,2.0 145TC 460-60-3
NQ	US,2.0 PE 145TC 460-60-3
NS	US,2.0 PE 145TC 575-60-3
NX	US,3.0 182TC 460-60-3
NZ	US,3.0 PE 182TC 460-60-3
PB	US,3.0 PE 182TC 575-60-3
PG	US,5.0 184TC 460-60-3
PJ	US,5.0 PE 184TC 460-60-3
PL	US,5.0 PE 184TC 575-60-3
Z9	NO MOTOR REQUIRED

SECTION J: PRODUCT INDEX

Drive Section

ITEM CLASS B 1 1 1

- Component
- Style
- Family
- Product Line

(F1) SIDE RAILS
(F2) ROLLERS
(F3) OPERATING MODE
(F4) POWER UNIT REDUCER/SPEED
(F5) MOTOR
(F6) DRV MTG ASSY
(F7) TAKE-UP TENSIONER
(F8) OILER

Description	Dwg. No.	16” W	22” W	28” W	34” W	40” W
AG INFDRV W/TU 6-0/ __RH	18937 D	827406	827407	827408	827409	827410
AG INFDRV W/TU 6-0/__LH	18937 D	827411	827412	827413	827414	827415

PART NUMBER - S#(F1)(F2)(F3)(F4)(F5)(F6)(F7)(F8)

See Drive Section Index

SIDE RAILS (F1)
01 - 6.375” Channel Style Rails
02 - 7.750” Integral Style Rails
03 - 6.375” Pick Style Rails
04 - 9” Channel Style Rails

ROLLERS (F2)
Z9 - Note: No Rollers Required
02 - G196AB - ABEC Bearing
05 - G196GH - Commercial Bearing
15 - G196GH - Commercial Bearing Cold Room
40 - L7G - Cartridge Bearing (No Foam)
41 - L7G - Cartridge Bearing (Foam)

OPERATING MODE (F3)
01 - Accumulation Mode
02 - Transportation Mode
11 - Accumulation Mode Cold Room
12 - Transportation Mode Cold Room

OILER (F8)
01 - Magnetic Oiler with Reservoir
02 - Solenoid Operated Oiler with Reservoir AC115V
03 - Solenoid Operated Oiler with Reservoir DC24V

TAKE-UP TENSIONER (F7)
01 - Standard Spring Tensioner AC115V
02 - Standard Spring Tensioner DC24V
05 - Air Take-Up AC115V Without Pressure Switch
06 - Air Take-Up DC24V Without Pressure Switch
07 - Air Take-Up AC115V With Filter/Regulator and Pressure Switch
08 - Air Take-Up DC24V With Filter/Regulator and Pressure Switch
09 - Air Take-Up AC115V With Filter/Regulator Without Pressure Switch
10 - Air Take-Up DC24V With Filter/Regulator Without Pressure Switch

DRIVE MOUNTING ASSEMBLY (F6)
01 - INT TU Drive Mounting Assembly

MOTOR (F5)
Refer to Table J-2

POWER UNIT REDUCER SPEED (F4)
Refer to Table J-1

8400FKI152a

Figure J - 1 Drive Section

Table J - 1 Power Unit Reducer Speed (F4)

AY	RH 3/4-60 26S RELIANCE		N	RH 3/4-60 726 BOSTON
BB	RH 3/4-70 26S RELIANCE		NX	RH 3/4-70 726 BOSTON
BD	RH 3/4-90 202 RELIANCE		NZ	RH 3/4-90 726 BOSTON
BF	RH 3/4-120 202 RELIANCE		PB	RH 3/4-120 721 BOSTON
BH	RH 3/4-140 202 RELIANCE		PD	RH 3/4-140 721 BOSTON
BJ	RH 3/4-180 202 RELIANCE		PE	RH 3/4-180 721 BOSTON
BU	RH 1-60 26S RELIANCE		PQ	RH 1-60 732 BOSTON
BX	RH 1-70 26S RELIANCE		PT	RH 1-70 732 BOSTON
BZ	RH 1-90 26S RELIANCE		PV	RH 1-90 726 BOSTON
CB	RH 1-120 26S RELIANCE		PX	RH 1-120 726 BOSTON
CD	RH 1-140 202 RELIANCE		PZ	RH 1-140 726 BOSTON
CE	RH 1-180 202 RELIANCE		QA	RH 1-180 721 BOSTON
CF	RH 1-200 202 RELIANCE		QC	RH 1-240 726 BOSTON
CG	RH 1-240 202 RELIANCE		QL	RH 1.5-60 738 BOSTON
CQ	RH 1.5-60 30S RELIANCE		QP	RH 1.5-70 732 BOSTON
CT	RH 1.5-70 30S RELIANCE		QR	RH 1.5-90 732 BOSTON
CV	RH 1.5-90 26S RELIANCE		QT	RH 1.5-120 732 BOSTON
CX	RH 1.5-120 26S RELIANCE		QV	RH 1.5-140 726 BOSTON
CZ	RH 1.5-140 26S RELIANCE		QW	RH 1.5-180 726 BOSTON
DA	RH 1.5-180 26S RELIANCE		QY	RH 1.5-240 726 BOSTON
DB	RH 1.5-200 26S RELIANCE		RF	RH 2-60 738 BOSTON
DC	RH 1.5-240 202 RELIANCE		RI	RH 2-70 738 BOSTON
DJ	RH 2-60 35S RELIANCE		RK	RH 2-90 732 BOSTON
DM	RH 2-70 35S RELIANCE		RM	RH 2-120 732 BOSTON
DP	RH 2-90 30S RELIANCE		RP	RH 2-140 732 BOSTON
DR	RH 2-120 26S RELIANCE		RQ	RH 2-180 732 BOSTON
DT	RH 2-140 26S RELIANCE		RS	RH 2-240 726 BOSTON
DU	RH 2-180 26S RELIANCE		SD	RH 3-90 738 BOSTON
DV	RH 2-200 26S RELIANCE		SF	RH 3-120 738 BOSTON
DW	RH 2-240 26S RELIANCE		SJ	RH 3-180 738 BOSTON
EH	RH 3-90 35S RELIANCE		SL	RH 3-240 732 BOSTON
EK	RH 3-120 35S RELIANCE		SX	RH 5-180 738 BOSTON
EM	RH 3-140 30S RELIANCE		SZ	RH 5-240 738 BOSTON
EN	RH 3-180 30S RELIANCE		2Q	RH 3/4-60 226 GROVE
EP	RH 3-200 C262 RELIANCE		2T	RH 3/4-70 226 GROVE
EQ	RH 3-240 30S RELIANCE		2V	RH 3/4-90 226 GROVE
FA	RH 5-140 40S RELIANCE		2X	RH 3/4-120 220 GROVE
FB	RH 5-180 35S RELIANCE		2Z	RH 3/4-140 220 GROVE
FC	RH 5-200 C262 RELIANCE		3A	RH 3/4-180 220 GROVE
FD	RH 5-240 30S RELIANCE		3L	RH 1-60 232 GROVE
GW	RH 3/4-60 926 WINSMITH		3P	RH 1-70 226 GROVE

GZ	RH 3/4-70 926 WINSMITH
HB	RH 3/4-90 926 WINSMITH
HD	RH 3/4-120 920 WINSMITH
HF	RH 3/4-140 920 WINSMITH
HG	RH 3/4-180 920 WINSMITH
HS	RH 1-60 935 WINSMITH
HV	RH 1-70 935 WINSMITH
HX	RH 1-90 926 WINSMITH
HZ	RH 1-120 926 WINSMITH
JB	RH 1-140 926 WINSMITH
JC	RH 1-180 920 WINSMITH
JE	RH 1-240 926 WINSMITH
JN	RH 1.5-60 943 WINSMITH
JR	RH 1.5-70 935 WINSMITH
JT	RH 1.5-90 935 WINSMITH
JV	RH 1.5-120 935 WINSMITH
JX	RH 1.5-140 926 WINSMITH
JY	RH 1.5-180 926 WINSMITH
KA	RH 1.5-240 926 WINSMITH
KH	RH 2-60 943 WINSMITH
KK	RH 2-70 943 WINSMITH
KM	RH 2-90 935 WINSMITH
KP	RH 2-120 935 WINSMITH
KR	RH 2-140 935 WINSMITH
KS	RH 2-180 935 WINSMITH
KU	RH 2-240 926 WINSMITH
LF	RH 3-90 943 WINSMITH
LH	RH 3-120 943 WINSMITH
LK	RH 3-140 943 WINSMITH
LL	RH 3-180 943 WINSMITH
LN	RH 3-240 935 WINSMITH
LY	RH 5-140 943 WINSMITH
LZ	RH 5-180 943 WINSMITH
MB	RH 5-240 943 WINSMITH

3R	RH 1-90 226 GROVE
3T	RH 1-120 226 GROVE
3V	RH 1-140 220 GROVE
3W	RH 1-180 220 GROVE
3X	RH 1-200 220 GROVE
3Y	RH 1-240 220 GROVE
4G	RH 1.5-60 232 GROVE
4K	RH 1.5-70 232 GROVE
4M	RH 1.5-90 232 GROVE
4P	RH 1.5-120 226 GROVE
4R	RH 1.5-140 226 GROVE
4S	RH 1.5-180 226 GROVE
4T	RH 1.5-200 226 GROVE
4U	RH 1.5-240 220 GROVE
5B	RH 2-60 242 GROVE
5E	RH 2-70 242 GROVE
5G	RH 2-90 232 GROVE
5I	RH 2-120 232 GROVE
5K	RH 2-140 232 GROVE
5L	RH 2-180 226 GROVE
5M	RH 2-200 226 GROVE
5N	RH 2-240 226 GROVE
5Z	RH 3-90 242GROVE
6B	RH 3-120 242 GROVE
6D	RH 3-140 232 GROVE
6E	RH 3-180 232 GROVE
6G	RH 3-240 30S RELIANCE
6S	RH 5-140 242 GROVE
6T	RH 5-180 242 GROVE
6V	RH 5-240 232 GROVE

Table J - 2 Motors (F5)

AK	BALDOR,3/4,56C,1725,V1
AM	BALDOR,3/4,56C,1750,V1,PE
AP	BALDOR,3/4,56C,1750,V2,PE
AU	BALDOR,1.0,56C,1725,V1
AW	BALDOR,1.0,56C,1750,V1,PE
AY	BALDOR,1.0,56C,1750,V2,PE
BD	BALDOR,1.5 145TC 460-60-3
BF	BALDOR,1.5,145TC,1750,V1,PE
BH	BALDOR,1.5,145TC,1750,V2,PE
BN	BALDOR,2.0 145TC 460-60-3
BQ	BALDOR,2.0,145TC,1750,V1,PE
BS	BALDOR,2.0,145TC,1750,V2,PE
BX	BALDOR,3.0,182TC,1725,V1
BZ	BALDOR,3.0 PE 182TC 460-60-3
CB	BALDOR,3.0 182TC,1760,V2,PE
CG	BALDOR,5.0,184TC,1725,V1
CJ	BALDOR,5.0,184TC,1750,V1,PE
CL	BALDOR,5.0,184TC,1750,V2,PE
FR	RELIANCE,3/4 56C 460-60-3
FT	RELIANCE,3/4 EM 56C 460-60-3
FV	RELIANCE,3/4,1800,56C,V1,PE
FX	RELIANCE,3/4 EM 56C 575-60-3
FZ	RELIANCE,3/4,1750,56C,V2,PE
GG	RELIANCE,1.0 56C 460-60-3
GJ	RELIANCE,1.0 EM 56C 460-60-3
GL	RELIANCE,1.0,1800,56C,V1,PE
GN	RELIANCE,1.0 EM 56C 575-60-3
GQ	RELIANCE,1.0,1750,56C,V2,PE
GX	RELIANCE,1.5 145TC 460-60-3
GZ	RELIANCE,1.5 EM 145TC 460-60-3
HB	RELIANCE,1.5,1800,145TC,V1,PE
HD	RELIANCE,1.5 EM 145TC 575-60-3
HF	RELIANCE,1.5,1750,145TC,V2,PE
HN	RELIANCE,2.0 145TC 460-60-3
HQ	RELIANCE,2.0 EM 145TC 460-60-3
HS	RELIANCE,2.0,1800,145TC,V1,PE
HU	RELIANCE,2.0 EM 145TC 575-60-3
HW	RELIANCE,2.0,1730,145TC,V2,PE
JD	RELIANCE,3.0 182TC 460-60-3
JF	RELIANCE,3.0 EM 182TC 460-60-3
JH	RELIANCE,3.0,1800,182TC,V1,PE

JK	RELIANCE,3.0 EM 182TC 575-60-3
JM	RELIANCE,3.0,1755,182TC,V2,PE
JU	RELIANCE,5.0 184TC 460-60-3
JW	RELIANCE,5.0 EM 184TC 460-60-3
JY	RELIANCE,5.0,1800,184TC,V1,PE
KA	RELIANCE,5.0 EM 184TC 575-60-3
KC	RELIANCE,5.0,1750,184TC,V2,PE
MK	US,3/4 56C 460-60-3
MP	US,3/4 PR 56C 575-60-3
MU	US,1.0 56C 460-60-3
MY	UC,1.0 PE 56C 575-60-3
ND	US,1.5 145TC 460-60-3
NF	US,1.5 PE 145TC 460-60-3
NH	US,1.5 PE 145TC 575-60-3
NN	US,2.0 145TC 460-60-3
NQ	US,2.0 PE 145TC 460-60-3
NS	US,2.0 PE 145TC 575-60-3
NX	US,3.0 182TC 460-60-3
NZ	US,3.0 PE 182TC 460-60-3
PB	US,3.0 PE 182TC 575-60-3
PG	US,5.0 184TC 460-60-3
PJ	US,5.0 PE 184TC 460-60-3
PL	US,5.0 PE 184TC 575-60-3
Z9	NO MOTOR REQUIRED

Idler Section

ITEM CLASS B 1 1 2

(F1) SIDE RAILS
(F2) ROLLERS
(F3) OPERATING MODE
(F4) BLADE STOP
(F5) BRAKE MODULE
(F6) IDLER ASSY

Description	Dwg. No.	16” W	22” W	28” W	34” W	40” W
AG DIS-IDLER 3-0/__RH	18938 D	825450	825451	825452	825453	825454
AG DIS-IDLER 3-0/__LH	18938 D	825455	825456	825457	825458	825459

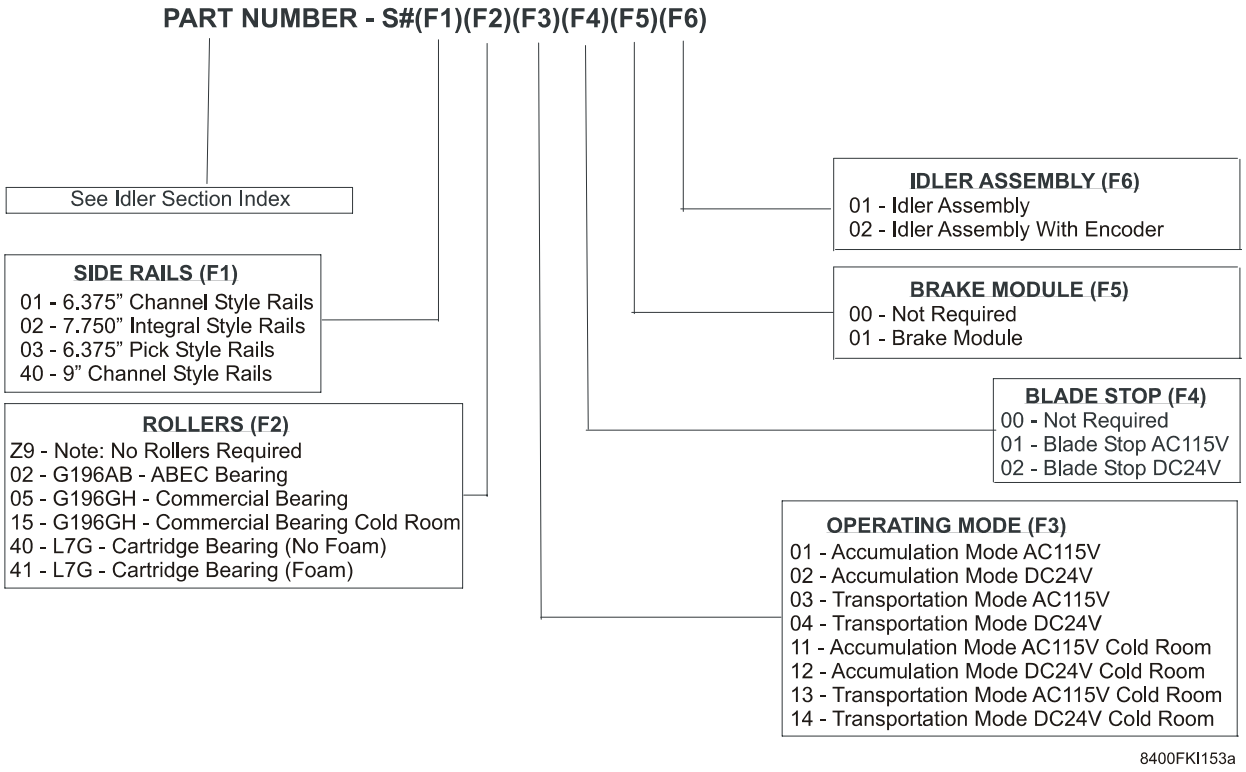


Figure J - 2 Idler Section

AG Intermediate Section - Straight (Accumulation / Transportation)

ITEM CLASS B 1 1 3

(F1) HAND ASSY
(F2) SIDE RAILS
(F3) SENSOR ASSY
(F4) SENSOR POSITION
(F5) RELEASE MODE FIXED
(F6) RELEASE MODE POP-OUT
(F7) SENSOR SPRINGS

Description	Dwg. No.	16" W	22" W	28" W	34" W	40" W
2"/4" Roller Centers (Standard Lengths)						
AG IS 3-0 2"C ACCUM/TRANS W__	19740 D	826150	826151	826152	826153	826154
AG IS 6-0 2"C ACCUM/TRANS W__	18933 D	825405	825406	825407	825408	825409
AG IS 9-0 2"C ACCUM/TRANS W__	18934 D	825410	825411	825412	825413	825414
AG IS 12-0 2"C ACCUM/TRANS W_	18935 D	825415	825416	825417	825418	825419
2"/4" Roller Centers (Non-Standard Lengths)						
AG IS 1"INC 3-2 TO 3-10 2C W_	19741 D	826210	826211	826212	826213	826214
AG IS 1"INC 4-0 TO 4-10 2C W_	19741 D	826220	826221	826222	826223	826224
AG IS 1"INCH 5-0 TO 5-10 2C W_	19741 D	826230	826231	826232	826233	826234
3" Roller Centers (Standard Lengths)						
AG IS 3-0 3"C ACCUM/TRANS W__	19740D	826155	826156	826157	826158	826159
AG IS 6-0 3C ACCUM/TRANS W__	18933 D	825420	825421	825422	825423	825424
AG IS 9-0 3"C ACCUM/TRANS W__	18934 D	825425	825426	825427	825428	825429
AG IS 12-0 3"C ACCUM/TRANS W__	18935 D	825430	825431	825432	825433	825434
3" Roller Center (Non-Standard Lengths)						
AG IS 1"INC 3-1 TO 3-11 3C W_	19741 D	826215	826216	826217	826218	826219
AG IS 1"INC 4-1 TO 4-11 3C W_	19741 D	826225	826226	826227	826228	826229
AG IS 1"INC 5-1 TO 5-11 3C W_	19741 D	826235	826236	826237	826238	826239

For Carrier Rollers - Refer to Cover Sheet Components

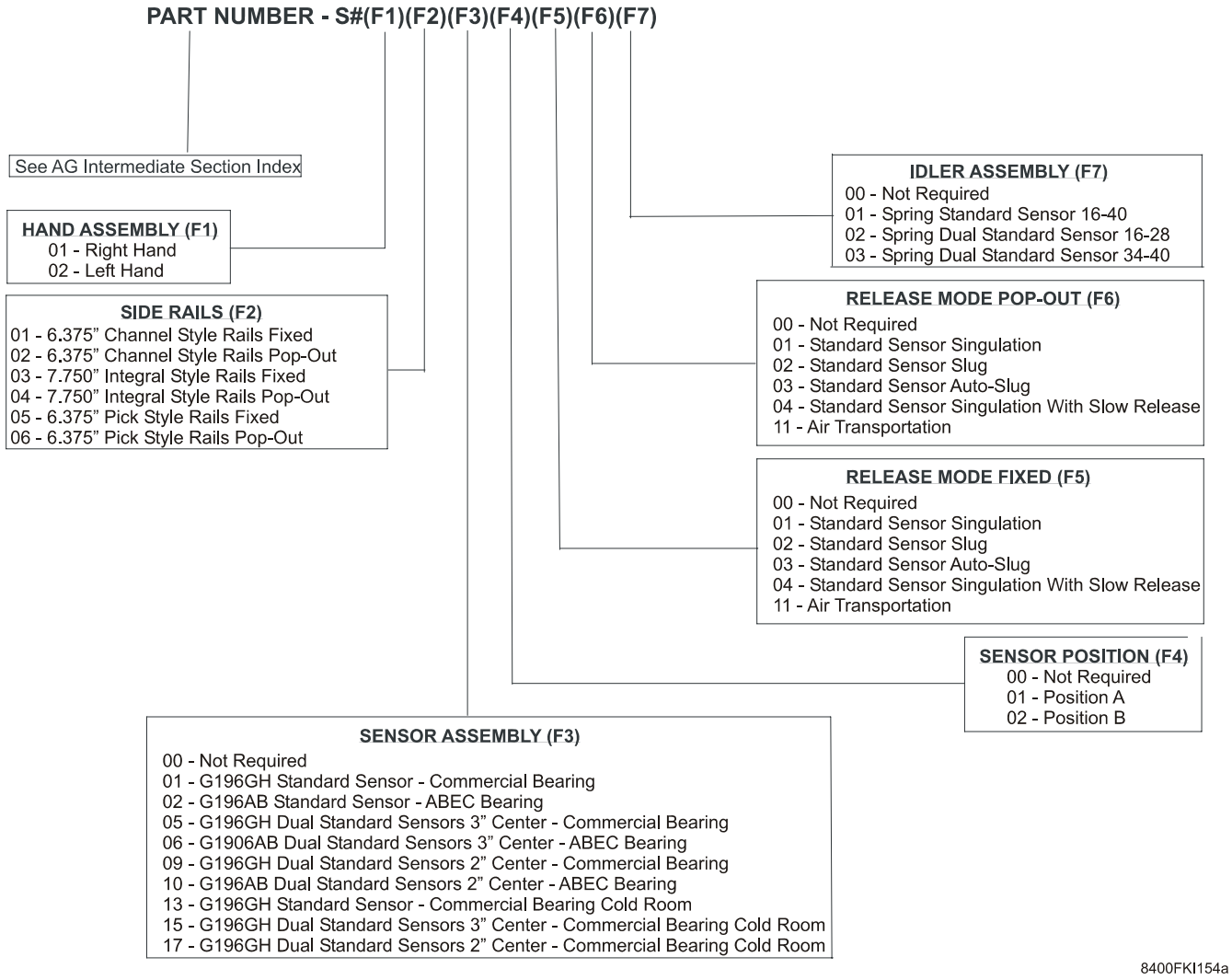


Figure J - 3 AG Intermediate Section - Straight (Accumulation / Transportation)

AGPE Intermediate Section - Straight

ITEM CLASS B 1 1 3

(F1) HAND ASSY
(F2) SIDE RAILS
(F3) VALVE, PE and REFLECTOR
(F4) SENSOR POSITION

Description	Dwg. No.	16” W	22” W	28” W	34” W	40” W
Standard Sections (3’-0” Incremental Zone Lengths)						
AGP1 IS-3 3-0 ACCUM W_	27323	829051	829052	829053	829054	829055
AGP1 IS-3 6-0 ACCUM W_	27322	829056	829057	829058	829059	829060
AGP1 IS-3 9-0 ACCUM W_	27321	829061	829062	829063	829064	829065
AGP1 IS-3 12-0 ACCUM W_	27320	829066	829067	829068	829069	829070
Standard Sections (1” Incremental Lengths)						
AGP1 IS 1”INC 3-1 - 3-11 W_	27324	829036	829037	829038	829039	829040
AGP1 IS 1”INC 4-0 - 4-11 W_	27324	829041	829042	829043	829044	829045
AGP1 IS 1”INC 5-0 - 5-11 W_	27324	829046	829047	829048	829049	829050

For Carrier Rollers - Refer to Cover Sheet Components.

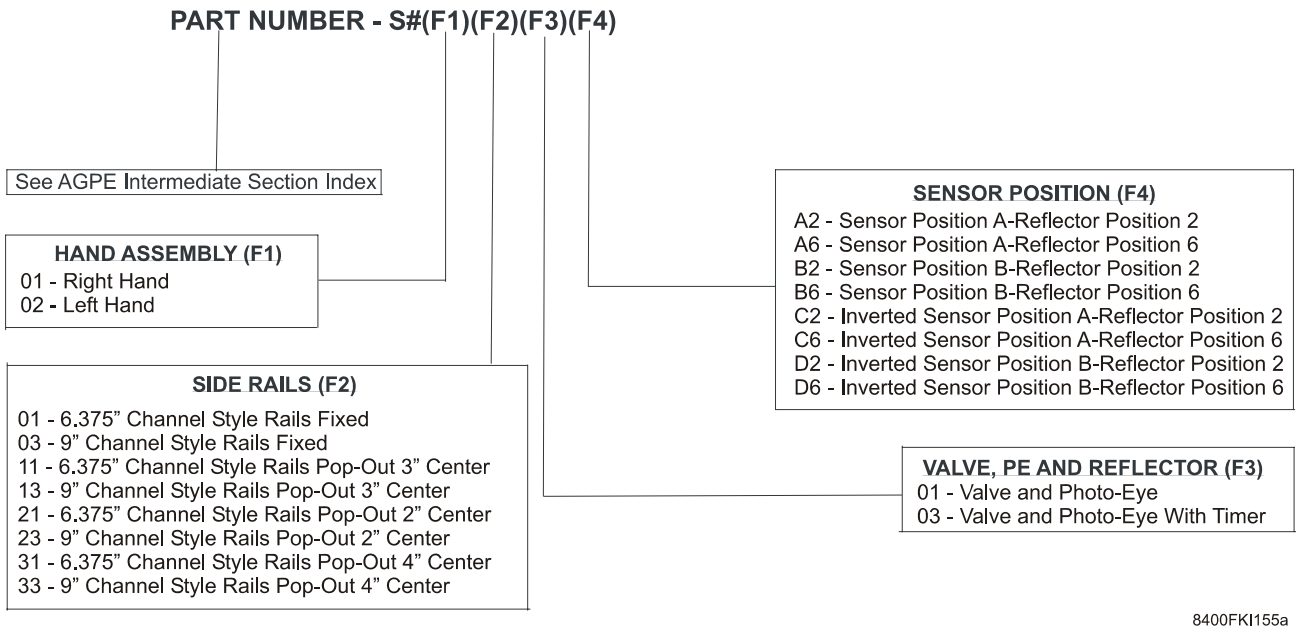


Figure J - 4 AGPE Intermediate Section - Straight

AG / AGPE Intermediate Curve Section - Transportation-Type

ITEM CLASS B 2 1 4

(F1) DRIP PAN	N	R = REQUIRED
(F2) ROLLERS	N	N = NOT REQUIRED
(F3) OPERATING MODE	R	

26IR - 2'6" IR Curves (3" nom. Roller Centers at Inner Rail)

Description	Dwg. No.	Conveyor Width / Inside Radius				
		16"W 2'6"	22"W 2'6"	28"W 2'6"	34"W 2'6"	40"W 2'6"
AG 30CRV 2-6IR W__	19237 D	*	825612	825613	825614	825615
AG 45CRV 2-6IR W__	19236 D	*	825621	825622	825623	825624
AG 60CRV 2-6IR W__	19235 D	*	825630	825631	825632	825633
AG 90CRV 2-6IR W__	19234 D	*	825639	825640	825641	825642
AG 180CRV 2-6IR W__	19239 D	*	825601	825602	825603	825604
		*	825590	825591	825592	825593

(*) Refer to TTF Curves

TTF - True-Taper Frame Curves (2" nom. Roller Centers at Inner Rail)

Description	Dwg. No.	Conveyor Width / Inside Radius				
		16"W 2'-6" IR	22"W 3'-4" IR	28"W 4'-0" IR	34"W 5'-0" IR	40"W 5'-0" IR
AG 30 2C _-_IR W__	19242 D	827416	827417	827418	827419	827420
AG 45 2C _-_IR W__	19243 D	827421	827422	827423	827424	827425
AG 60 2C _-_IR W__	19244 D	827426	827427	827428	827429	827430
AG 90 2C _-_IR W__	19245 D	827431	827432	827433	827434	827435
AG 180 2C 2-6 IR W16	19397D	827436	--	--	--	--
		825597	--	--	--	--
AG 180 2C 3-4 IR W22	19397 D	--	827437	--	--	--
		--	825598	--	--	--
AG 180 2C _-_ IR W_	19397D	--	--	827438	--	--
		--	--	825599	--	--
AG 180 2C 5-0 IR W34	19398 D	--	--	--	827439	--
		--	--	--	827440	--
AG 180 2C 5-0 IR W40	19398 D	--	--	--	--	827441
		--	--	--	--	827442

Note: 180^{o} curves come in two parts. When ordering, be sure to order both part numbers indicated by the same description and drawing number.
Intermediate Curve Sections listed above are piped for use with AG Intermediate Straight Sections.
When using with AGPE Intermediate Straight Sections, refer to "Accessories - Photo Eye Accumulation" / AGPE Curve Section Connection Kit.

AG / AGPE Intermediate Curve Section - Transportation-Type (continued)

TTF - True-Taper Frame Curves (3” nom. Roller Centers at Inner Rail)

Description	Dwg. No.	Conveyor Width / Inside Radius				
		16”W 2’-6” IR	22"W 3'-4"IR	28"W 4'-0"IR	34"W 5'-0"IR	40"W 5'-0"IR
AG 30CRV _-_IR W__	19237 D	825611	825616	825617	825618	825619
AG 45CRV _-_IR W__	19236 D	825620	825625	825626	825627	825628
AG 60CRV _-_IR W__	19235 D	825629	825634	825635	825636	825637
AG 90CRV _-_IR W__	19234 D	825638	825643	825644	825645	825646
AG 180CRV 2-6 IR W16	19240 D	825600	--	--	--	--
		825594	--	--	--	--
AG 180CRV 3-4 IR W22	19240 D	--	825605	--	--	--
		--	825595	--	--	--
AG 180CRV 4-0 IR W28	19240 D	--	--	825606	--	--
		--	--	825596	--	--
AG 180CRV 5-0 IR W34	19241 D	--	--	--	825607	--
		--	--	--	825608	--
AG 180CRV 5-0 IR W40	19241 D	--	--	--	--	825609
		--	--	--	--	825610

Note: 180^{o} curves come in two parts. When ordering, be sure to order both part numbers indicated by the same description and drawing number.
Intermediate Curve Sections listed above are piped for use with AG Intermediate Straight Sections.
When using with AGPE Intermediate Straight Sections, refer to “Accessories - Photo Eye Accumulation” / AGPE Curve Section Connection Kit.

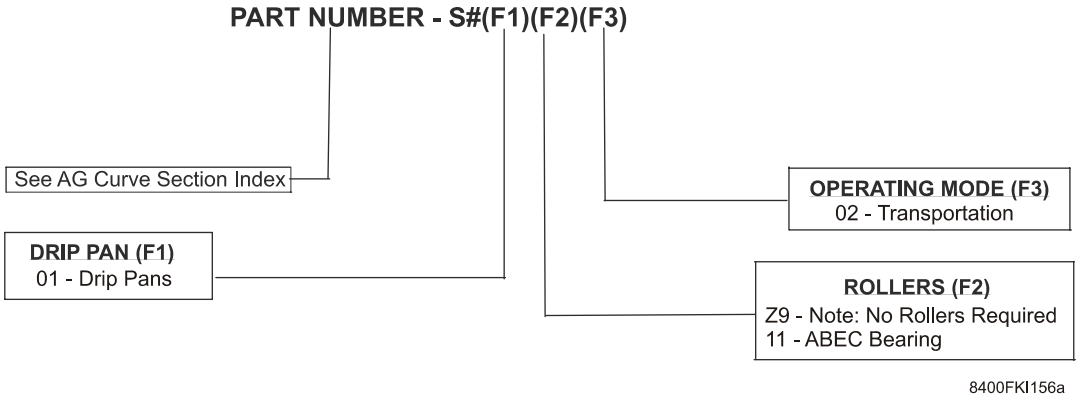


Figure J - 5 AG Curve Section - Transportation Type

AGPE Curve Section - Accumulation-Type

TEM CLASS B 2 1 4

(F1) HAND	R	R = REQUIRED
(F2) ROLLERS	N	N = NOT REQUIRED
(F3) RAILS	R	

26IR - 2'6" IR Curves (2" nom. Roller Centers at Inner Rail)

Description	Dwg. No.	Conveyor Width / Inside Radius				
		16"W	22"W	28"W	34"W	40"W
90 Degree Curve - 90 Degree Operational Zone						
AGPE 90CRV 1Z 26IR W_	--	*	**	**	NA	NA
180 Degree Curve - 90 Degree Operational Zone						
AGPE 180CRV 2Z 2-6IR W16		*	--	--	NA	NA
		*	--	--		
AGPE 180CRV 2Z 2-6IR W22	27511 D	--	827964	--	NA	NA
		--	827965	--		
AGPE 180CRV 2Z 2-6IR W28	--	--	--	**	NA	NA
		--	--	**		

(*) Refer to TTF Curves
(**)Consult engineering for extended delivery.

TTF - Variable IR Curves (2" non. Roller Centers at Inner Rail)

Description	Dwg. No.	Conveyor Width / Inside Radius				
		16"W 2'-6" IR	22"W 3'-4" IR	28"W 4'-0" IR	34"W 5'-0" IR	40"W 5'-0" IR
60 Degree Curve - 60 Degree Operational Zone						
AGPE 60CRV 1Z 2-6IR W16		***	--	--	--	NA
AGPE 60CRV 1Z 3-4IR W22	27523 D	--	827968	--	--	NA
AGPE 60CRV 1Z 4-0IR W28	27554 D	--	--	827976	--	NA
AGPE 60CRV 1Z 5-0IR W34		--	--	--	***	NA
90 Degree Curve - 90 Degree Operational Zone						
AGPE 90CRV 1Z 2-6IR W16	27513 D	827966	--	--	--	NA
AGPE 90CRV 1Z 3-4IR W22	27509 D	--	827961	--	--	NA
AGPE 90CRV 1Z 4-0IR W28	27512 D	--	--	827969	--	NA
AGPE 90CRV 1Z 5-0IR W34	27514 D	--	--	--	827967	NA

(***) Sixty (60) Degree Intermediate Curve Sections (indicated) are available. Consult Engineering for extended delivery.

Note: Intermediate Curve Section (accumulation-type) listed above include: 1) main air-supply line buting, power/communication extension cords; air-filter/regulator; photo-eye sensor/reflector assembly(s).

AGPE Curve Section - Accumulation-Type (Continued)

TTF - Variable IR Curves (2” non. Roller Centers at Inner Rail)

Description	Dwg. No.	Conveyor Width / Inside Radius				
		16”W 2’-6” IR	22"W 3’-4” IR	28"W 4’-0” IR	34"W 5’-0” IR	40"W 5’-0” IR
180 Degree Curve - 90 Degree Operational Zones						
AGPE 180CRV 2Z 2-6IR W16	27551 D	827973	--	--	--	NA
		827972	--	--	--	
AGPE 180CRV 2Z 3-4IR W22	27510 D	--	827962	--	--	NA
		--	827963	--	--	
AGPE 180CRV 2Z 4-0IR W28	27549 D	--	--	827970	--	NA
		--	--	827971	--	
AGPE 180CRV 2Z 5-0IR W34	27552 D	--	--	--	827974	NA
		--	--	--	827975	

Note: 180^{o} curves come in two parts. When ordering, be sure to order both part numbers indicated by the same description and drawing number.
Intermediate Curve Sections (accmulation-type) listed above include: 1) main air-supply line tubing, power/communication extension cords; air-filter/regulator, photo-eye sensor(s).

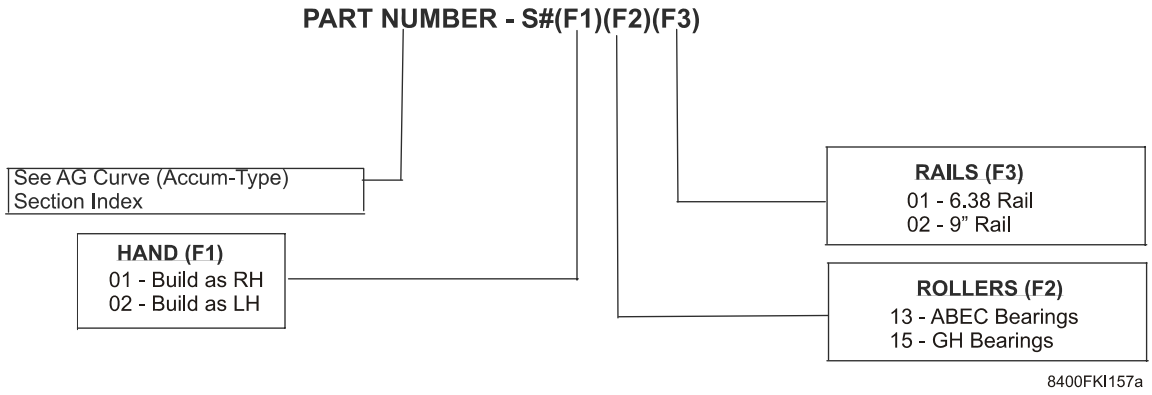


Figure J - 6 AGPE Intermediate Curve Section - Accumulation-type

Intermediate Section - Sawtooth Merge (Transportation)

ITEM CLASS B 1 1 1

(F1) HAND ASSY
(F2) ROLLERS
(F3) SIDE GUIDE TYPE
(F4) NON-REQUIRED - USE 00

30/45 Degree Merge (Close Roller Centers 2” nom.)

Description	Dwg. No.	Machine Conveyor Width			
		22”	28”	34”	40”
AG 45 DEG STM W_	27312D00	828980	--	--	--
	27313D00	--	828981	--	--
	27314D00	--	--	828982	--
	27315D00	--	--	--	828983
AG 30 DEG STM W_	27316D00	828984	--	--	--
	27317D00	--	828985	--	--
	27318D00	--	--	828986	--
	27319D00	--	--	--	828987

Accessories

ITEM CLASS B 1 1 9

LEO Code	Description	Dwg. No.	Part No.
BA3	**BRAKE MODULE** **CURVE SECTION - AIR CONTROL** All mechanical and air components required for installing two (2) Brake Modules into the first two (2) operational zones of an AG Intermediate Section located upstream of an AG Intermediate Curve Section; BM is controlled by an air signal from an operational zone downstream of the curve.		
	AG FK - BM SING CRV - AIR CONTROL	AGF16	000866
	AG FK - BM AUTO CRV - AIR CONTROL	AGF17	000864
BE3	**BRAKE MODULE** **CURVE SECTION - SOLENOID CONTROL** All mechanical, air and electrical components required for installing two (2) Brake Modules into the first two (2) operational zones of an AG Intermediate Section located upstream of an AG Intermediate Curve Section; BM is controlled by a remote signal.		
	AG FK - BM AUTO CRV - SOLENOID 120VAC	AGF18	000867
	AG FK - BM AUTO CRV - SOLENOID 24VDC	AGF18	000876
BE1	**BRAKE MODULE** **INTERMEDIATE SECTION - SOLENOID CONTROL** All mechanical, air and electrical components required for installing two (2) Brake Modules in any two (2) operational zones in an AG Intermediate Section located upstrem of an AG Intermediate Curve Section; BM is controlled by a remote signal (Singulation Release).		
	AG FK - BM INTER - SOLENOID 120VAC	AGF24	000898
	AG FK - BM INTER - SOLENOID 24VDC	AGF24	000899
IFU	**AG DRIVE TO IDLER PIPING KIT** Components for connecting adjacent drive and idler sections.		
	AG IFU SING IDL to DRV KIT	AGF19	000863
	AG IFU AUTO IDL to DRV KIT	AGF20	000869
	AG IFU SLUG IDL to DRV KIT	AGF21	000870

Note: Specify one sensor assembly from below in addition to one of the kits listed above for mechanical sensor applications.

Accessories (continued)

ITEM CLASS B 1 1 9

LEO Code	Description	Dwg. No.	16" W	22" W	28" W	34" W	40" W
QEV	**SLUG QUICK EXHAUST VALVE _W**	16098	271293	271294	7271295	271296	271297
SIV	**SLUG/SING INTERFACE KIT _W**	AGF23	000804	000805	000806	000807	000808

LEO Code	Description	Dwg. No.	Part No.
DYN	**AG DYNAMIC SLUG RELEASE KIT 120VAC**	AGF22	000862
	AG DYNAMIC SLUG RELEASE KIT 24VDC	AGF22	000874
AFR	**AG AIR CONTROL ASSY KIT FIL/REG** Filter/Regulator assembly with mounting hardware and air fittings for connecting to the main (3/8" O.D.) air-supply line.		
	Type A Filter/Regulator Assembly	23335	004763
	Type B Filter/Regulator Assembly	---	---
	Type C Filter/Regulator Assembly	---	---
	Type D Filter/Regulator Assembly	---	---
AKS	**AG KIT STD ADD'L AIR COMPONENTS** See Section F - Accessories for parts listing	NA	000872
SPL	**COMMON HEIGHT SPLICE PLATE ASSY** For splice connections when support/hanger must be offset.	5000010L	5200379
TEM	**AG FIELD CUT MODIFICATION KIT**	B119004L	000873
SWK	**SKEWED DRIVER GUIDE FIELD KIT**	B119003L	B119003

Note: Total Quantity of Kits Required = (Skewed Footage Required / 3) + 1)

Example: CODE = SWK

QTY = 018 Footage (18 / 3) + 1 = 7 (Kits Required)

Accessories - Photo Eye Accumulation

ITEM CLASS B 1 1 9

AGPE CURVE SECTION CONNECTION KIT (transportation type curve) Main air supply line (red, 1/2" OD) and 4-wire Power/Communication Cord with Push-To Connect connectors (12mm micro connector, male/female). For connecting an Intermediate Curve Section (transportation type) with two (2) adjoining Intermediate Straight Sections. See Table J-1 for specific kit requirements.			
Kit "A"	**AGP1 CRV AIR LINE and CORD - 6'-0"**	N.A.	7040227
Kit "B"	**AGP1 CRV AIR LINE and CORD - 9'-0"**	N.A.	7040228
Kit "C"	**AGP1 CRV AIR LINE and CORD - 12'-0"**	N.A.	7040229
Kit "D"	**AGP1 CRV AIR LINE and CORD - 13'-0"**	N.A.	7040230
Kit "E"	**AGP1 CRV AIR LINE and CORD - 15'-0"**	N.A.	7040231
Kit "F"	**AGP1 CRV AIR LINE and CORD - 18'-0"**	N.A.	7040232
Kit "G"	**AGP1 CRV AIR LINE and CORD - 21'-0"**	N.A.	7040233

Table J - 3 AGPE Curve Air Line and Cord Kit Requirements

Arc	**AGPE Curve Section - Width/Frame Type**							
	16W		**22W**		**28W**		**34W - 40W**	
	26IR	**TTF**	**26IR**	**TTF**	**26IR**	**TTF**	**26IR**	**TTF**
90°	B		B	B	B	C	B	C
60°	A		A	B	A	B	A	B
45°	A		A	A	A	B	A	B
30°	A		A	A	A	A	A	A
180°	D		D	E	D	F	D	G

Accessories - Photo Eye Accumulation (continued)

ITEM CLASS B 1 1 9

LEO Code	Description	Dwg. No.	Part No.
BA3	**BRAKE MODULE** **CURVE SECTION - AIR CONTROL** All mechanical and air components required for installing two (2) Brake Modules into the first two (2) operational zones of an AGP1 Intermediate Section located upstream of an AG Intermediate Curve Section; BM is controlled by an air signal from an operational zone downstream of the curve.		
	AGP1 FK - BM SING CRV - AIR CONTROL	AGF31	7040214
	AGP1 FK - BM AUTO CRV - AIR CONTROL	AGF34	7040225
BE3	**BRAKE MODULE** **CURVE SECTION - SOLENOID CONTROL** All mechanical, air and electrical components required for installing two (2) Brake Modules into the first two (2) operational zones of an AGP1 Intermediate Section located upstream of an AG Intermediate Curve Section; BM is controlled by a remote signal.		
	AGP1 FK - BM CRV - SOLENOID 120VAC	AGF33	7040216
	AGP1 FK - BM CRV - SOLENOID 24VDC	AGF33	7040217
BE1	**BRAKE MODULE** **INTERMEDIATE SECTION - SOLENOID CONTROL** 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).		
	AGP1 FK - BM IS - SOLENOID 120V	AGF32	7040219
	AGP1 FK - BM IS - SOLENOID 24V	AGF32	7040220

Accessories - Photo Eye Accumulation (continued)

ITEM CLASS B 1 1 9

LEO Code	Description	Dwg. No.	Part No.
IFU	**AGPE DRIVE TO IDLER PIPING KIT** Components for connecting adjacent drive and idler sections.		
	AGP1 IFU IDL to DRV KIT	AGF35	7040223
	AGP1 IFU IDL TO DRV KIT W/T-DELAY PE SENSOR	AGF35	7040222
	AGP1 DRIVE / IDLER PIPING KIT (1 per conveyor) Air connection fittings for connecting the Intermediate Sections' main air-supply line (1/2" O.D. - red) to the Drive Sections' chain track lubricator and the Idler Sections' zone control valve (1/4" O.D. - yellow)	NA	004770
AFR	**AGPE AIR CONTROL ASSY KIT FIL/REG** Filter/Regulator assembly with mounting hardware and air fittings for connecting to the main (1/2" O.D.) air supply line.		
	Type A Filter/Regulator Assembly	23335	004763
	Type B Filter/Regulator Assembly	---	---
	Type C Filter/Regulator Assembly	---	---
	Type D Filter/Regulator Assembly	---	---
AKP	**AGPE AIR COMPONENTS KIT** - See Section F Accessories for parts listing		
	AGP1 AIR COMPONENTS KIT - Standard PE SENSOR	N.A.	7040245
	AGP1 AIR COMPONENTS KIT - Time-Delay SENSOR	N.A.	7040246

Accessories - Photo Eye Accumulation (continued)

ITEM CLASS B 1 1 9

LEO Code	Description	Dwg. No.	Part No.
PWA	**AGP1 POWER SUPPLY KIT** Includes T-Cord and mounting hardware. Powers up to 70 zones; 110VAC (input), 24VDC (output)	27148	7040152
	AGP1 POWER ISOLATION CORD One required for each additional Power Supply supplied for a conveyor. (Red cord cover for quick identificaiton.)	25884	7035993
	AGP SLUG TERMINATOR CORD One required to terminate slug signal. (Black cord cover for quick idntification.)	25884	7035550

	AGP1 SIDE GUIDE SPACER KIT - 1” Spacers (5) and mounting hardware for spacing Type A, B, C or D side Guides above drive, idler, and curve sections when intermediate sections with Type RSH (6-3/8”) frame rails are supplied.	N.A.	004771

	AGPE PE RETRO-FIT KITS The following retrofit kits are for photo-eye sensors. Please consult engineering for application data.		
	AGP1 2ZONE PE RETRO KIT	F7036224	7036224
	AGP1 2ZONE PE RETRO KIT DELAY	F7036224	7036225
	AGP1 1ZONE PE RETRO KIT	F7036229	7036229
	AGP1 1ZONE PE RETRO KIT DELAY	F7036229	7036230

Cover Sheet Items

Description	Dwg. No.	Part No.
PAINT - Intelligrated GRAY (5-GALLON)	N.A.	959513
PAINT - Intelligrated GRAY (16 oz. SPRAY CAN)	N.A.	959514
POWER UNIT DRIP PAN	N.A.	643027
AG TRACK MAG-OIL SENSOR W/RESV	N.A.	730230
AG KIT - STD AUTO INTER TO IDLER	AGF10	000875
AG DE SPROCKET ADJUSTMENT GAUGE	23336B	740003
AG CHAIN - RC50 w/PIN - STD Change Length = (2X Conveyor Length) + Curve Allowance + 3'-0" for Take-Up. (For curve allowance see Table J-2).	22489B	200981
AG CHAIN - RC50 w/PIN - DOM	22489B	200993
AG CHAIN - RC CONNECTOR LINK (One req'd. per 100 feet of chain)	22488B	7017265
AG POLYURETHAN DRIVER PAD **Length = AG Chain Length**	22904B	7034040
AG POLYURETHANE DRIVER PAD (For Export Shipment)	22904B	7034040 EXP

Table J - 4 Curve Drive Chain Allowance (ft.)

Curve ARC	Curve Section Inside Radius			
	2'-6"	**3'-4"**	**4'-0"**	**5'-0"**
30°	7.5	8.0	8.5	9.5
45°	9.0	10.0	11.0	12.5
60°	10.5	12.0	13.5	15.5
90°	14.0	16.0	18.0	21.5
180°	23.0	28.5	32.5	38.5

Cover Sheet Items (continued)

Carrier Rollers - Intermediate Straight Section (Shipped Separate)

Description	Mainline Conveyor Width				
	16”W	22"W	28"W	34"W	40"W
Fixed Mount - with Spring Loaded Axle					
F2A - No. G196 GH (1815GH Brg.)	7017540	7017541	707542	7017543	7017544
F2A - No. G196 GH-CR (1815GH Brg.)	7040112	7040113	7040114	N.A.	N.A.
S7A - No. G196 AB (6203 ABEC Brg.)	7015687	7015688	7015689	7015690	7015691
S7A - No. G196 AB-CR (6203 ABEC Brg.)	7040118	7040119	7040120	N.A.	N.A.
L7G - No. G198 B2001 ABEC (Cartridge) - No Foam	7012584	7012585	7004180	7012586	7012587
L7G - No. G196 B2001 ABEC (Cartridge) - With Foam	7015554	7015514	7015516	7015556	7015559
Pop-Out Mount (Slotted Rail - AG) - with Spring-Loaded Axle					
F2A - No. G196 GH (1815GH Brg.)	7017540	7017541	7017542	7017543	7017544
F2A - No. G196 GH-CR (1815GH Brg.)	7040112	7040113	7040114	N.A.	N.A.
S7A - No. G196 AB (6203 ABEC Brg.)	7015687	7015688	7015689	7015690	7015691
S7A - No. G196 AB-CR (6203 ABEC Brg.)	7040118	7040119	7040120	N.A.	N.A.
Pop-Out Mount (Pop-Out Clip - AGPE) - with Fixed Axle					
F2A - No. G196 GH (1815GH Brg.)	7005488	7005489	7005490	7005491	7005492
F2A - No. G196 GH-CR (1815GH Brg.)	7040321	7040322	7040323	N.A.	N.A.
S7A - No. G196 AB (6203 ABEC Brg.)	7005501	7005502	7005503	7005504	7005505
S7A - No. G196 AB-CR (6203 BEC Brg.)	7040234	7040235	7040236	N.A.	N.A.

Table J - 5 Intermediate Section Carrier Rollers - Required Per Foot / Sensor Type

Roller Centers	Single Sensor	Dual Sensor	No Sensor / AGP1 (PE)
2”	5.333	4.666	6.000
3”	3.666	3.333	4.000
4”	2.666	2.333	3.000

Example below is for calculating Carrier Rollers requirements for AG / AGP1 Intermediate Sections which are shipped separately.

Example: 144’-0” lg. AG Accuglide Conveyor with Single Sensor and 3” Roller Centers

Infeed Drive Section = 6’-0”
Discharge Section = 3’-0”
Base Conveyor Length = 9’0”
Intermediate Section Length = (144’0” - 9’0”) = 135’0”
No. of Rollers = (135’0” x 3.666) = 494.9 / 495 rollers