Product Manual
Accessory Case Stops

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

Intelligrated®

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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.

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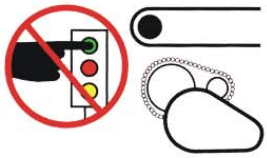
Package Conveyors

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

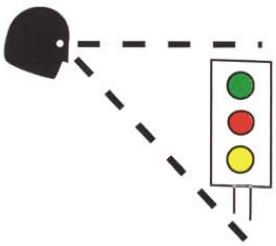
Ensure That All Personnel Are Clear of Equipment Before Starting

Allow Only Authorized Personnel To Operate or Maintain Material Handling Equipment

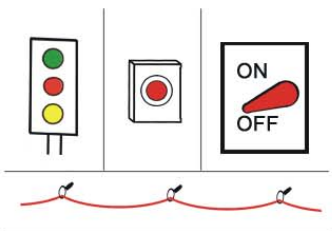
Do Not Modify or Misuse Conveyor Controls

Keep Clothing, BodyParts, and Hair Away from Conveyors

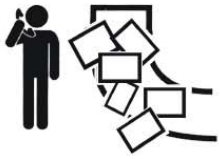
Remove Trash, Paperwork, and Other Debris Only When Power is Locked Out and Tagged Out



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

Intelligrated®

Product Manual Issue and Revision Date(s)

1st Issue	December, 2003
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Product Manual Revision Summary

Revision Date	Manual Section(s)	Revision Summary
2007 - 05	Section F	Corrected Part Number - Filter/Regulator
2007 - 05	Section I	Corrected Part Number - Filter/Regulator

Section A Product Summary

Section B Application Guidelines

Section C Specifications

Section H Maintenance

Section I Spare Parts

Section J Product Index

SECTION A:PRODUCT SUMMARY

Applicable Host Conveyors

A/CQ, Accuglide Plus, E-Z Set & Gravity Roller.

Pivot Assembly

Pivot frame incorporates cross-machine blade & lever arm (left-hand or right-hand location); pivots around axle of pivot roller. Assembly includes rollers as follows.

Roller Centers	Pivot Roller	Idler Roller	Escapement Roller
1 $^{1}/_{2}$" & 3"	1 $^{3}/_{8}$" O. D.	1 $^{3}/_{8}$" O. D.	–
2" & 4"	1.9" O. D.	1.9" O. D.	1 $^{5}/_{16}$" O. D.
3" & 6"	1.9" O. D.	–	1.9" O. D.

Mounting Frame

6 1/4" deep x 18" long. Mounts to underside of host-conveyor side rails.

Side Rail Height	Conveyor Model			
	A/C	Accuglide Plus	E-ZSet	Gravity Roller
2 1/2"				4
3 1/2"				4
5"	**4**			
5 1/2"	**4**			
6 3/8"		4	4	

Operating Mechanism

Hand & Foot Operated: Multiple-bar linkage connects to lever arm. Hand-operated unit includes crank handle mounted to operating shaft. Foot-operated unit includes cable & foot pedal, spring-loaded to engage case stop. Foot pedal location may be "direct drop" or "offset" up to 5 feet in infeed or discharge direction.

Air-Actuated: Double-acting 2" bore x 5" stroke air cylinder with air cushions at both ends. 60 – 80 PSI operating pressure. 3-position, open-center, 4-way solenoid valve with manifold base (3/8" NPT ports).

Accumulation Zone Control

Air-logic circuit with push-button zone-control valve. On hand- & foot-operated units, zone-control valve is activated by cam mounted to operating shaft. On air-actuated units, zone-control valve is activated by pilot valve piped to "disengage" port of air cylinder.

Options & Accessories

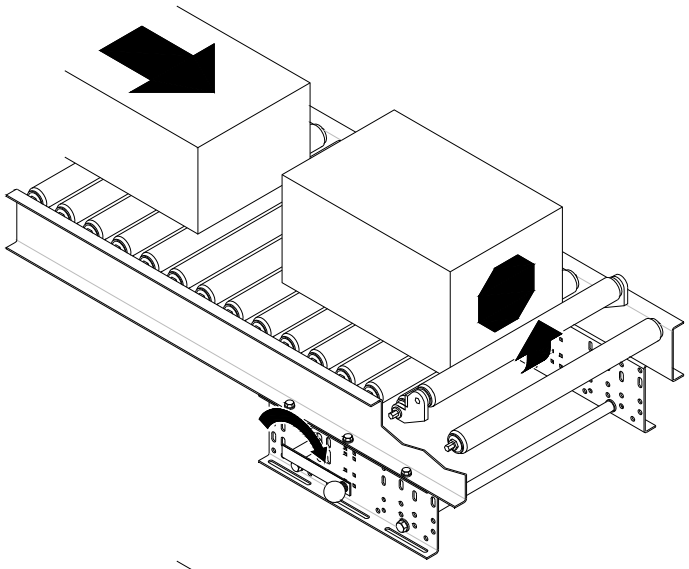
Stop-position proximity sensors; air filter-regulator-lubricator-gauge (for air-actuated units); additional crank handle for hand-operated case stop.

SECTION B:APPLICATION GUIDELINES

Product Overview

The case stop provides controlled, positive stopping of product travel. The case stop is suitable for installation on gravity-roller conveyors and on zero-pressure and low-pressure accumulation roller conveyors. When the case stop is engaged, a pop-up cross-machine blade interrupts product travel (see Figure B - 1). When disengaged, the cross-machine blade retracts below the conveying surface, allowing product travel to proceed unhindered.

Case Stop Engaged – Product Travel Is Interrupted



Case Stop Disengaged – Product Travel Continues

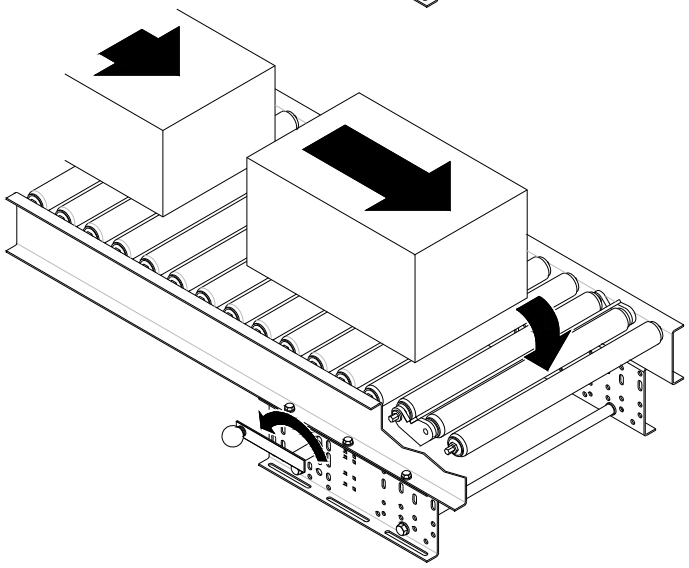


Figure B - 1 – The Case Stop Provides Positive Stopping Of Product Travel

Applicable Host Conveyors

Case stops are available for installation on the following models of host conveyor:

- Gravity Roller Conveyor;
- A/CQ Chain-Powered Roller Conveyor;
- Accuglide Plus Live Roller Conveyor; and
- E-Z Set Live Roller Conveyor.

Case stops are available for conveyor widths of 10”, 16”, 22”, 28”, 34” and 40”. Note that other types of case stops may be available on specific product lines, such as the pop-up blade stop available at the discharge end of the Accuglide “tail” idler section.

Case Stop Components

A case stop unit consists of the following three components (see Figure B - 2).

- Pivot assembly,
- Operating mechanism, and
- Mounting frame.

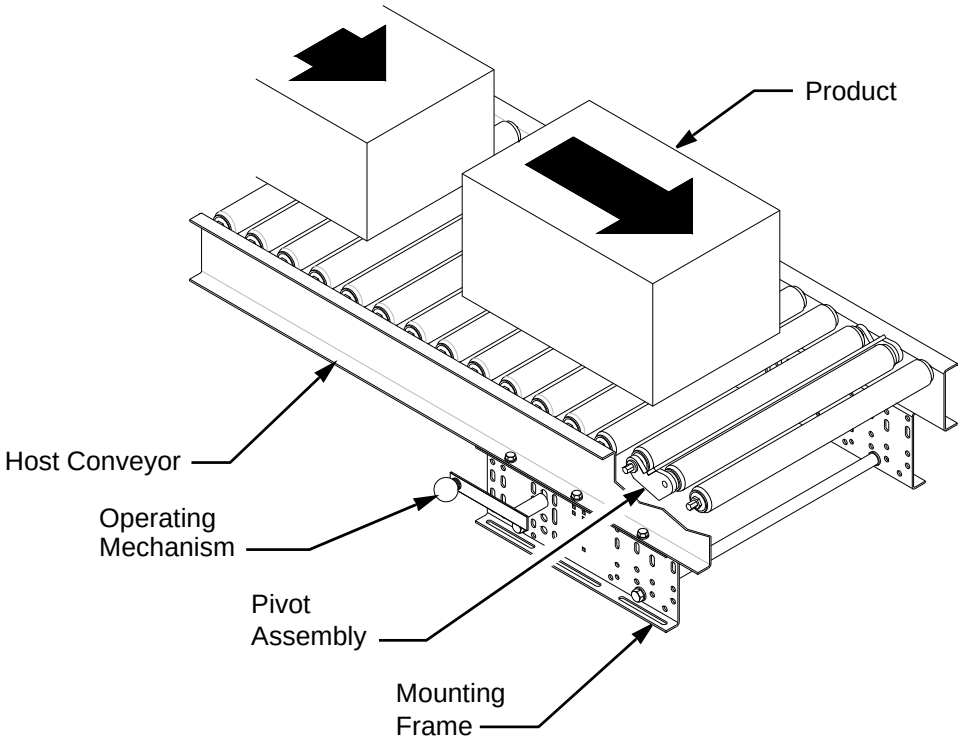


Figure B - 2 – Case Stop Components (Hand-Operated Unit Shown)

Pivot Assembly

The pivot assembly includes a roller frame, a lever-arm, and rollers. Pivot assemblies are available in three configurations according to the roller centers of the host conveyor, as follows:

- 1 $^{1}/_{2}$" & 3" roller centers (available for installation only on gravity roller conveyors with 1 $^{3}/_{8}$" diameter rollers);
- 2" & 4" roller centers; and
- 3" & 6" roller centers.

The roller frame consists of a pair of pivot arms and the cross-machine blade. The rollers included in the pivot assembly replace the corresponding standard rollers of the host conveyor. The roller frame pivots on the shaft of the pivot roller, which is mounted in the host conveyor to permit the cross-machine blade to be raised and lowered. The lever arm is mounted to the underside of the roller frame and connects to the linkage of the operating mechanism.

Pivot assemblies include pivot rollers and may also include idler rollers and escapement rollers, depending on the roller centers (see Table B.1). On units furnished with escapement rollers, when the case stop is disengaged, the top surface of the escapment roller remains flush with the conveying surface of the host conveyor. When the case stop is engaged, the escapement roller is elevated above the cross-machine blade to allow any product that may be positioned above the case stop at the moment of engagement to maintain its travel. The case stop will stop the following carton.

Table B.1 Case-Stop Roller Types By Roller Centers

Roller Centers	Pivot Roller	Idler Roller	Escapement Roller
1 $^{1}/_{2}$" & 3"	1 $^{3}/_{8}$" O. D.	1 $^{3}/_{8}$" O. D.	–
2" & 4"	1.9" O. D.	1.9" O. D.	1 $^{5}/_{16}$" O. D.
3" & 6"	1.9" O. D.	–	1.9" O. D.

Rollers with a 1.9" O. D. are available with the following options:

- Greased, high-speed bearings;
- ABEC precision bearings;
- One O-ring groove; and
- Plated axles for cold-room applications.

For gravity-roller conveyors with 1 $^{1}/_{2}$" and 3" roller centers, rollers with 1 $^{3}/_{8}$" O. D. are available with either $^{1}/_{4}$" or $^{5}/_{16}$" hex axles.

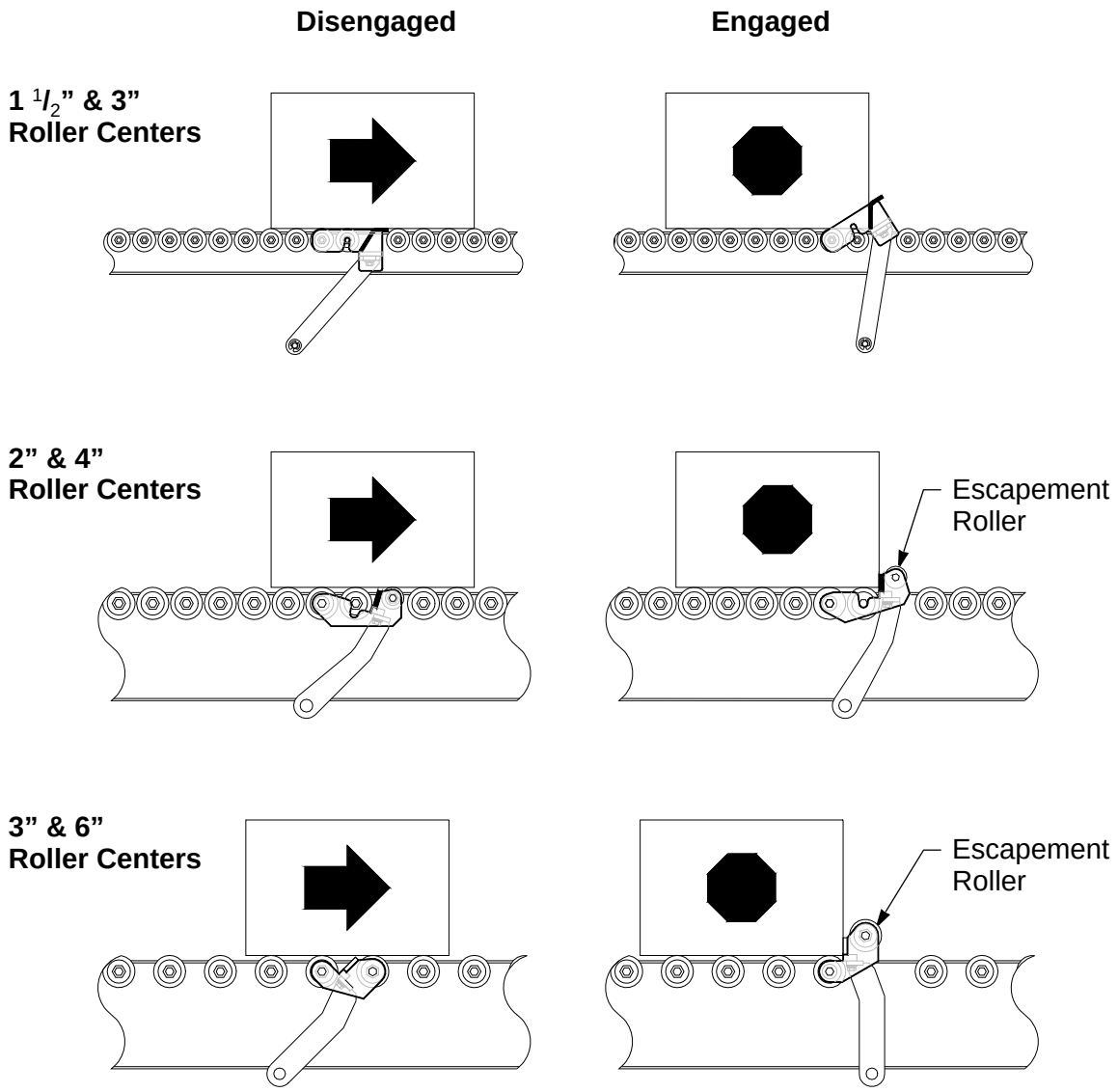


Figure B - 3 – Pivot Assemblies

Operating Mechanisms

Available operating mechanisms include:

- Hand-operated,
- Foot-operated, and
- Air-actuated.

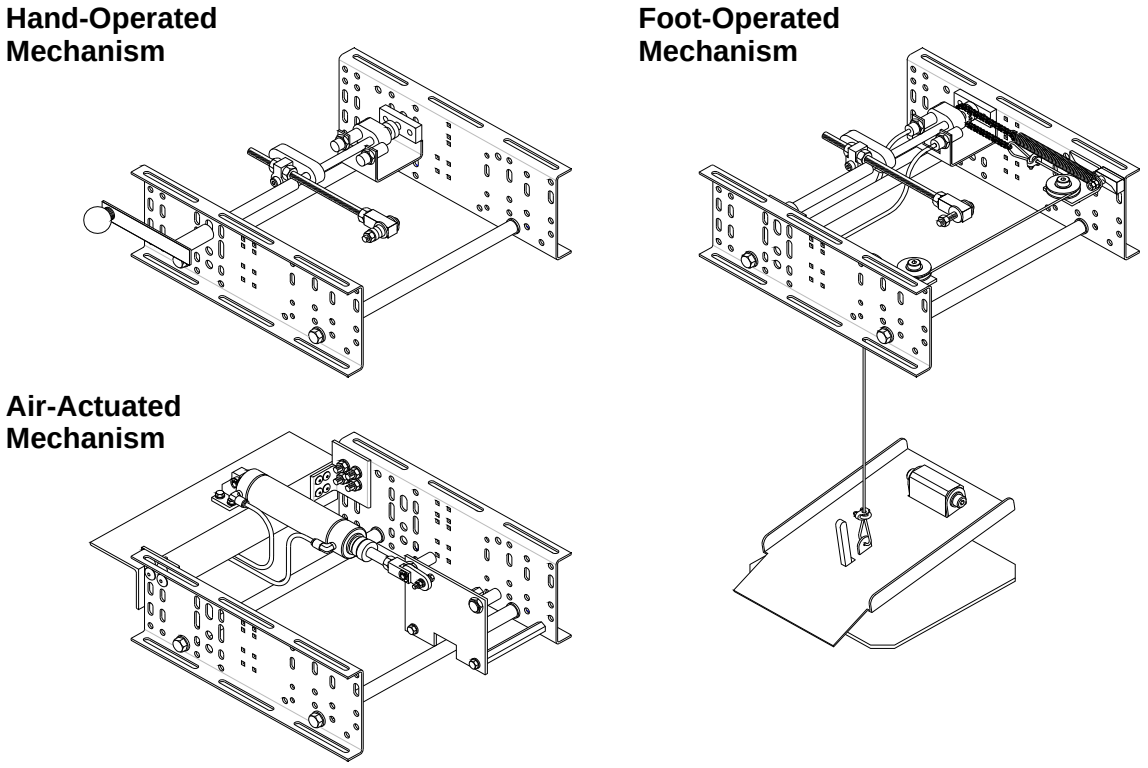


Figure B - 4 – Case Stop Operating Mechanisms

Hand- & Foot-Operated Mechanisms

Hand- and foot-operated case stops incorporate a link arm mounted to a cross-machine pivot shaft, and a threaded linkage rod. One end of the linkage rod is connected to the link arm, and the other end is connected to the lever arm mounted to the pivot assembly. When the case stop is engaged, the pivot shaft is rotated 180°, and the linkage rod operates the lever arm, raising the case stop. The reverse action lowers the case stop.

The hand-operated mechanism is furnished with a handle mounted to the pivot shaft outside the frame side rail. The handle may be located on either side of the conveyor (see Figure B - 5). If hand operation from both sides of the conveyor, a second handle is available separately to be installed in the field.

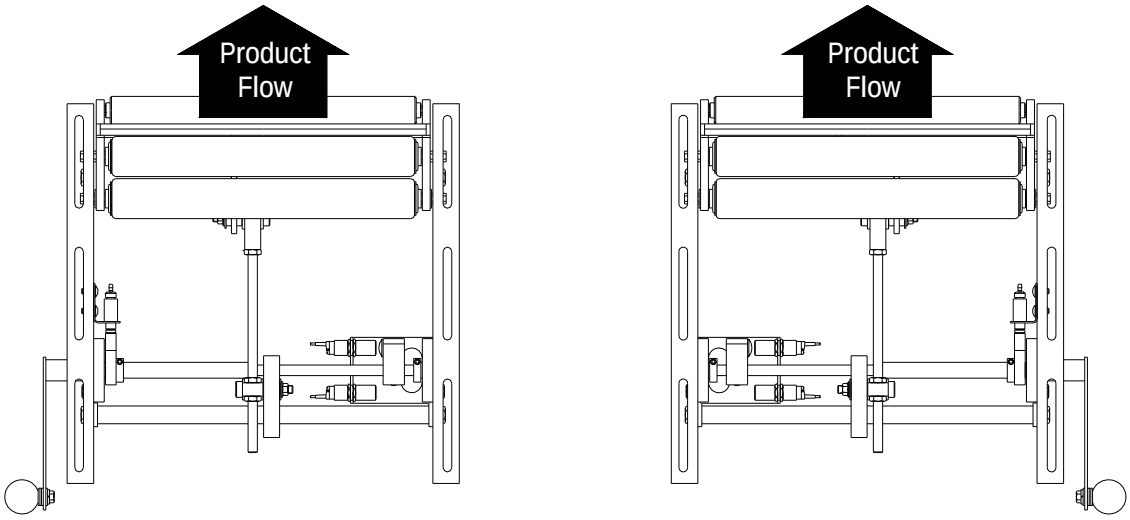


Figure B - 5 – Hand-Operated Case Stops – Left-Hand and Right-Hand Configurations

On the foot-operated mechanism a cable is connected to a foot pedal at one end and to a spring-loaded segment of roller chain at the other end. The chain wraps around a sprocket mounted to the pivot shaft, to which the link arm is mounted. The operating mechanism is spring-loaded to engage the case stop. Stepping on the foot pedal disengages the case stop. When the foot pedal is depressed, the cable pulls the chain in opposition to the spring, which rotates the sprocket and pivot shaft, lowering the case stop to permit product travel. The foot pedal is furnished with a latch for holding the pedal in the disengaged position.

The foot pedal may be located on either the left or right side of the conveyor, and either directly below the case stop (“direct drop” location) or up to 5 feet from the case stop in the upstream or downstream direction (“offset” location).

Air-Actuated Mechanism

The air-actuated mechanism incorporates a pneumatic cylinder mounted to a cross-machine support angle. A clevis mounted to the cylinder rod is connected to the lever arm. The air-actuated mechanism is furnished with a solenoid valve, which provides positive pressure for both case-stop actions, “engage” and “disengage.”

Case Stop Frame

The frame, which includes side rails and cross-members, mounts to the underside of the host conveyor. The operating mechanism is factory-installed in the case-stop frame for the side-rail height of a specific host conveyor.

Table B.2 – Conveyor Side Rail Heights For Case Stop Applications

Side Rail Height	Conveyor Model			
	A/C	**Accuglide Plus**	**E-ZSet**	**Gravity Roller**
2 1/2”				4
3 1/2”				4
5”	**4**			
5 1/2”	**4**			
6 3/8”		4	4	

Position Sensors (Optional)

Optional position sensors are available for any case-stop configuration. The position sensor utilizes a pair of proximity switches, one to detect that the case stop is engaged, and the other to detect that it is disengaged. The proximity-switch outputs may be used as feedback signals to the conveyor control system, or for controlling indicator lights, or for any other purpose deemed appropriate.

On manually operated units (hand-operated and foot-operated), the proximity switches are mounted to a bracket bolted to the case-stop frame and straddling the cross-machine pivot shaft, and a target arm, which is mounted to the pivot shaft. When the case stop is engaged, the target arm pivots into position to trigger the “engaged” proximity switch. When the case stop is disenged, the target arm pivots into position to trigger the “disengaged” proximity switch.

On air-actuated units, the proximity switches are mounted to a bracket bolted to the case-stop frame. The proximity switches are located to detect the position of the lever arm. When the case stop is engaged, the lever arm swings into position to trigger the “engaged” proximity switch. When the case stop is disengaged, the lever arm swings into position to trigger the “disengaged” proximity switch.

Accumulation Zone Control

Case stops configured for accumulation conveyor (Accuglide Plus and A/C conveyors) are furnished with accumulation zone control. Piped into the accumulation air-logic system, accumulation zone control functions as follows:

- When the case stop is engaged, the zone in which the case stop is installed operates as a discharge zone.
- When the case stop is disengaged, the zone in which the case stop is installed operates as a standard zone.

Hand- and Foot-Operated Case Stops

On hand- and foot-operated case stops, a cam mounted on the case-stop operating shaft engages a push-button accumulation zone-control valve (see Figure B - 6). When the case stop is disengaged, the cam depresses the valve push button, and the valve remains open. When the case stop is engaged, the cam releases the valve push button, and the valve closes. The accumulation zone-control valve is piped into the air line extending between the sensor valve of the adjacent downstream zone and the clutch actuators of the zone in which the case stop is installed (see Figure B - 7).

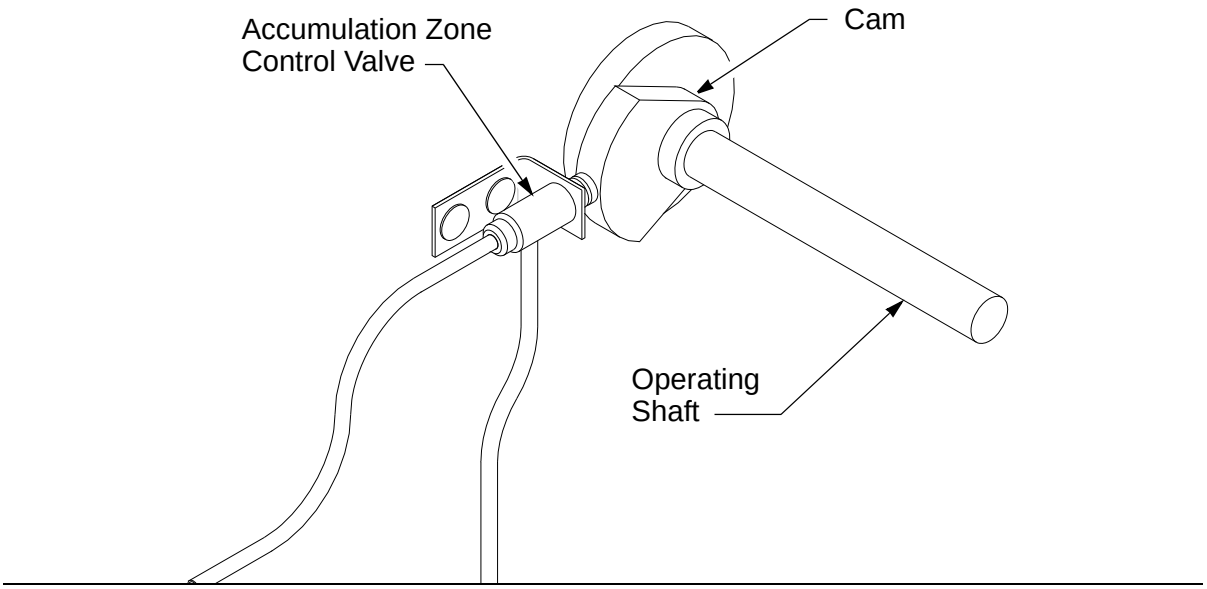


Figure B - 6 – Accumulation Zone Control Valve – Hand- & Foot-Operated Case Stops

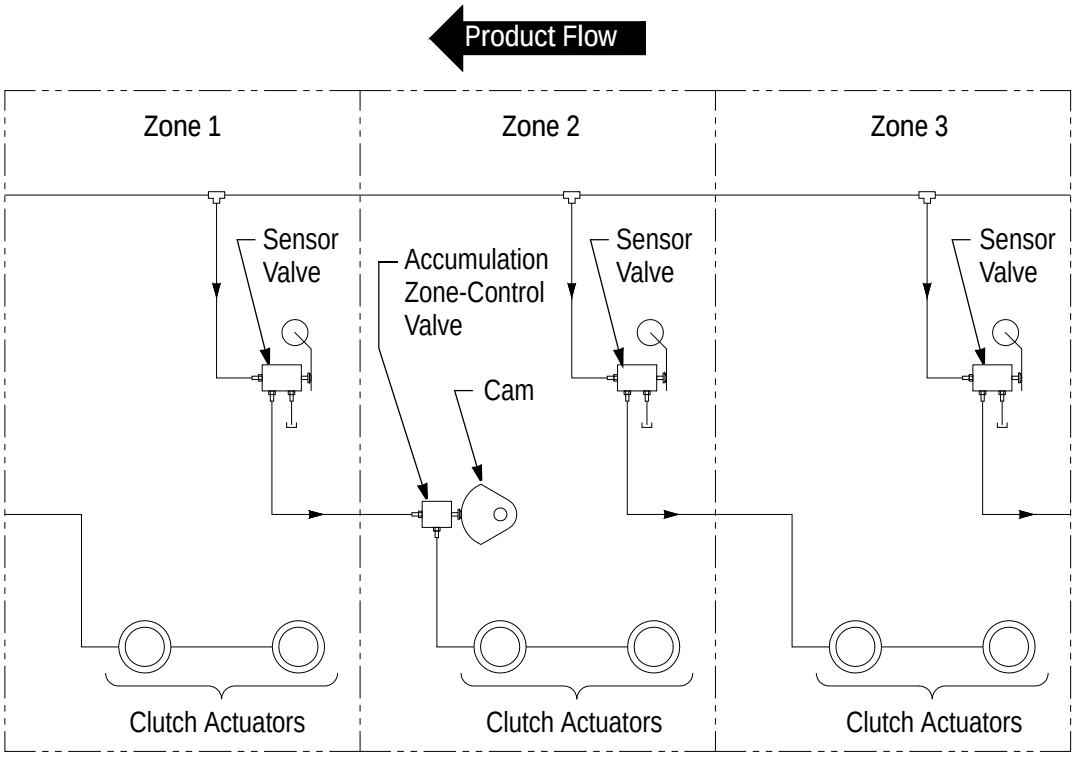


Figure B - 7 – Pneumatic Schematic – Hand- & Foot-Operated Case Stops With Accumulation Zone Control

Air-Actuated Case Stops

Air-actuated case stops incorporate a push-button accumulation zone-control valve, but, unlike the hand- and foot-operated case stops, the zone-control valve is operated by a pilot valve (see Figure B - 8). When the case stop is disengaged, the pilot valve depresses the zone-control valve push button, and the zone-control valve remains open. When the case stop is engaged, the pilot valve releases the zone-control valve push button, and the zone-control valve closes. The accumulation zone-control valve is piped into the air line extending between the sensor valve of the adjacent downstream zone and the clutch actuators of the zone in which the case stop is installed (see Figure B - 9). The pilot valve is piped to a tee installed in the “disengage” port of the pneumatic cylinder that actuates the case stop.

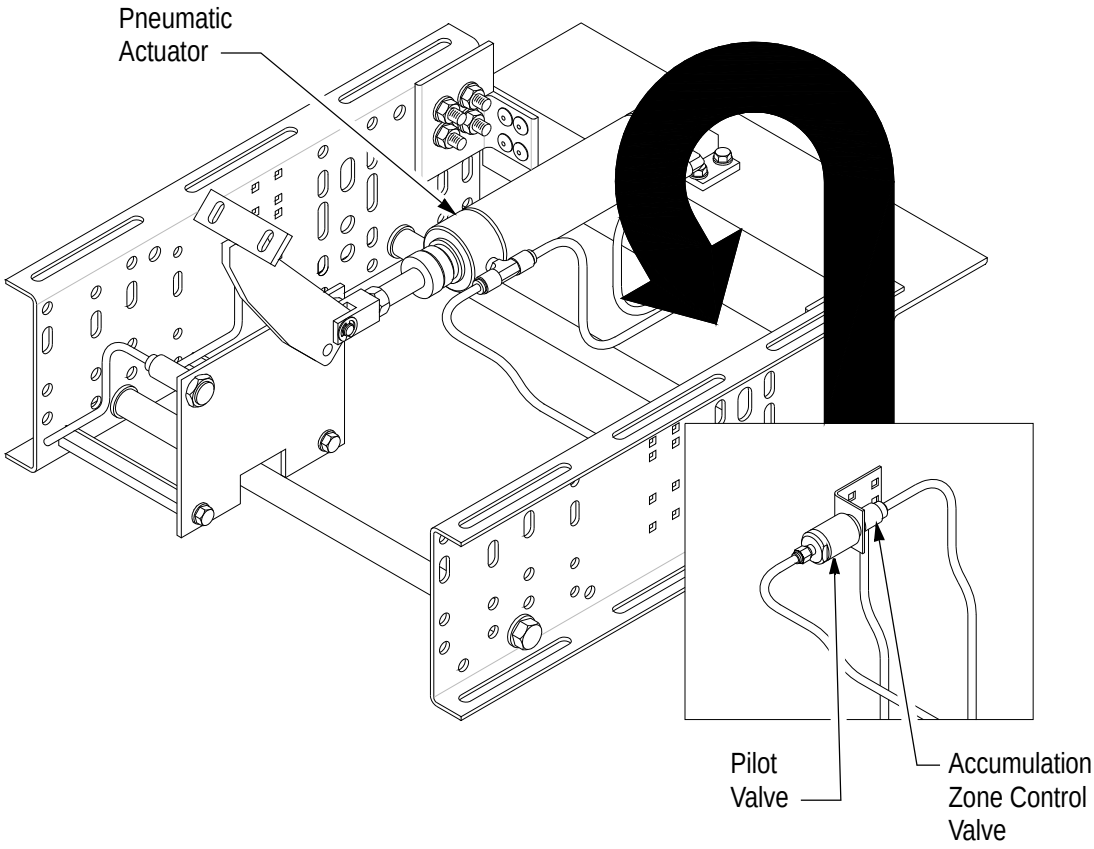


Figure B - 8 – Accumulation Zone Control Valve – Air-Actuated Case Stops

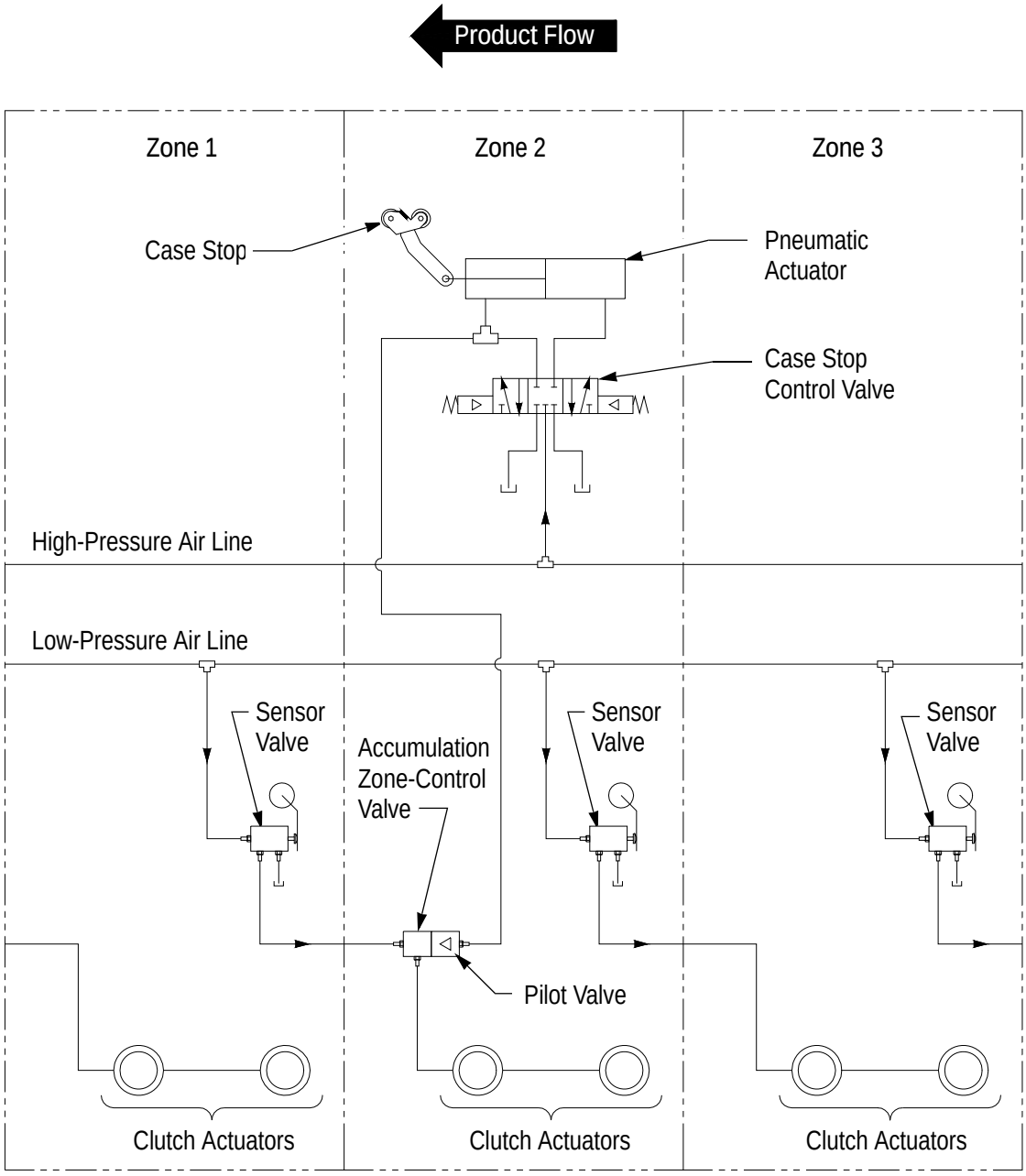


Figure B - 9 – Pneumatic Schematic – Air-Actuated Case Stop With Accumulation Zone Control

Applications

General

Case stops are suitable for applications requiring positive control over the interruption and resumption of product travel. Typical applications include the following:

- At the lower end of a length of inclined gravity-roller conveyor where product is accumulated, such as at an outbound dock door.
- On a zero-pressure or low-pressure accumulation conveyor near the junction point with a mainline conveyor, where accumulated product must be prevented from “drifting.”

Hand-Operated Case Stops

Hand-operated case stops are suitable for applications in which the interruption of product travel does not need to be synchronized with automated operations, and the operator’s hands are free. Location immediately upstream of a lift gate is a typical application. The operator engages the case stop, raises the lift gate, crosses to the other side of the conveyor, lowers the lift gate, and disengages the case stop. The case stop prevents product from hitting the raised lift gate.

Foot-Operated Case Stops

Foot-operated case stops are suitable for applications in which the interruption of product travel does not need to be synchronized with automated operations, but the operator’s hands are not free. A typical application would be at a work station where an operator performs some manual procedure that requires product travel to be interrupted. For example, an operator might need to check the product or add items to a carton. The operator engages the case stop by foot, performs the procedure by hand as necessary, and disengage the case stop by foot when the procedure is completed.

Air-Actuated Case Stops

Air-actuated case stops are recommended for applications in which the interruption of product travel must be synchronized with other automated operations. A typical application is at the discharge end of a branch line of conveyor where it merges with a trunk line. The case stop is engaged to prevent product accumulated on the branch line from creeping while a slug of product on the trunk line is passing the branch-line junction. When the slug of product has finished passing the junction, the case stop is disengaged, and the product accumulated on the branch line is permitted to merge onto the trunk line.

Limitations

Do not use a case stop as a high-speed stopping device. The maximum conveyor speed for case-stop applications is 180 FPM.

Conveyor Considerations

A case stop must be located to avoid interference with features in the host conveyor, including floor supports and ceiling hangers. The location for installing a case stop depends on the specific features of the host conveyor. When determining case-stop location, be certain to include the following considerations.

- Location in relation to the pivot roller;
- Location in relation to an accumulation zone;
- Interference with structural crossmembers; and
- Interference with electrical, pneumatic, and control components.

Case stops are installed on the host conveyor only on the job site and never in the factory. The exact location of various features of the host conveyor can vary depending on the specific configuration of features, and depending on adjustments made in the field. The exact location of a case stop depends in turn on the location of the specific features of the host conveyor.

For example, the distance from the discharge end of a section of conveyor to the closest roller is determined by the adjustments that the installer makes in the field in order to make roller spacing work out. The location of the case stop will depend in turn on the location of the closest roller to the desired case-stop location that can be used as a pivot roller.

If the precise location of the case stop is not critical, indicating an approximate location on the system layout drawings is recommended.

Note that the locations of certain factory-installed features of the host conveyor, such as air regulator-lubricators, can often be modified during field installation if necessary to accommodate an exact case-stop location.

Gravity Roller Conveyor Applications

For Gravity Roller conveyor applications, a case stop may be installed virtually anywhere along a straight length of conveyor. Interference with brake modules and with features of adjoining conveyor should be avoided.

If the case stop is installed at the discharge end of a length of Gravity Roller conveyor, it may be located as close to the end of the conveyor section as necessary for the case stop to operate properly (see Figure B - 10 and Figure B - 11). The floor support or ceiling hanger may then be installed under the case stop rather than directly under the conveyor side rails.

For Gravity Roller conveyor applications, the following pivot assemblies can be used:

- 1 1/2” & 3” roller centers;
- 2” & 4” roller centers; and
- 3” & 6” roller centers.

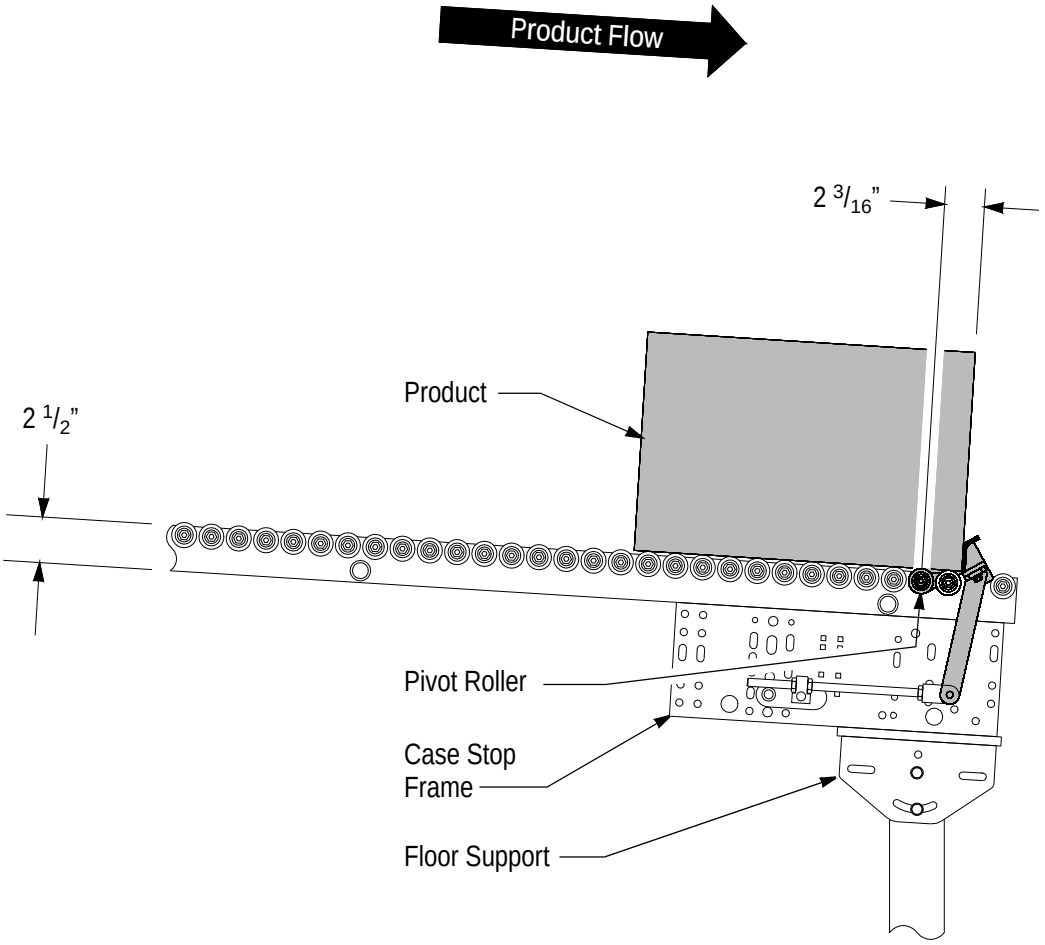


Figure B - 10 – Gravity Roller Conveyor Applications – 1 1/2" & 3" Roller Spacing

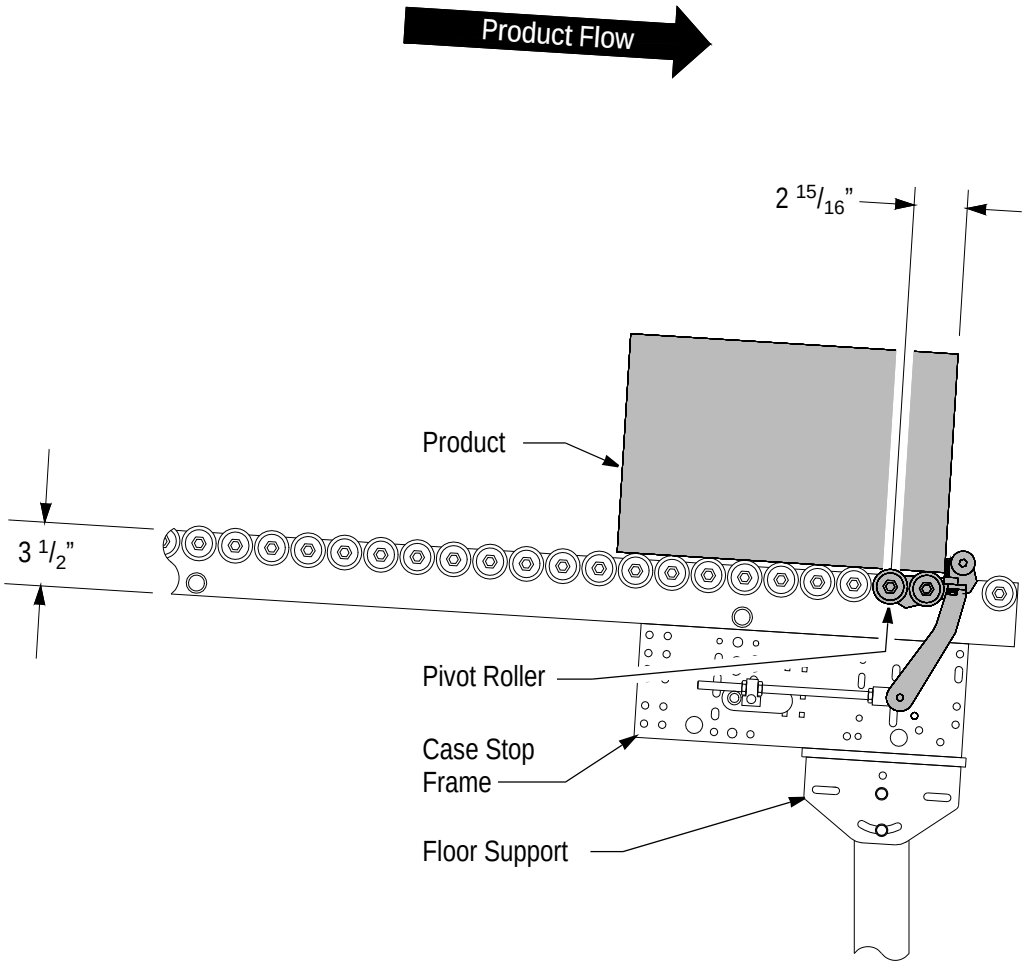


Figure B - 11 – Gravity Roller Conveyor Applications – 2" & 4" Roller Spacing

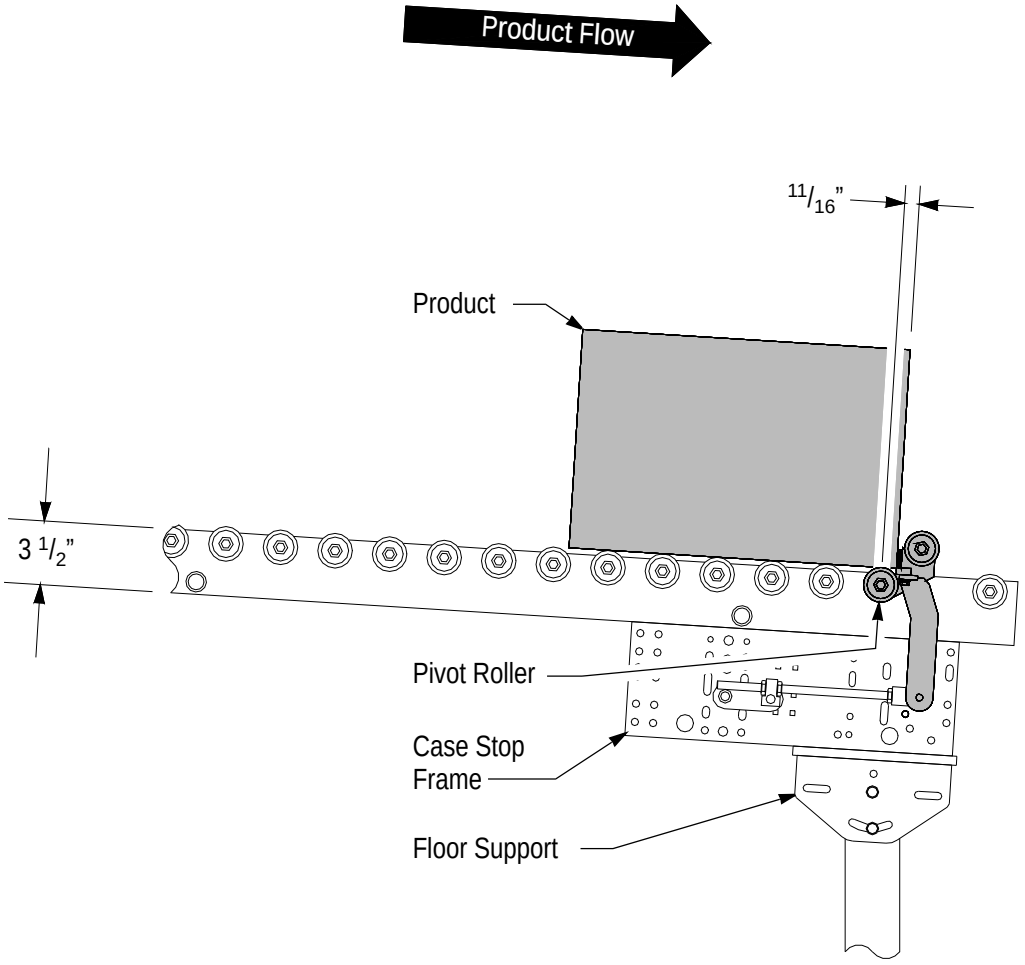
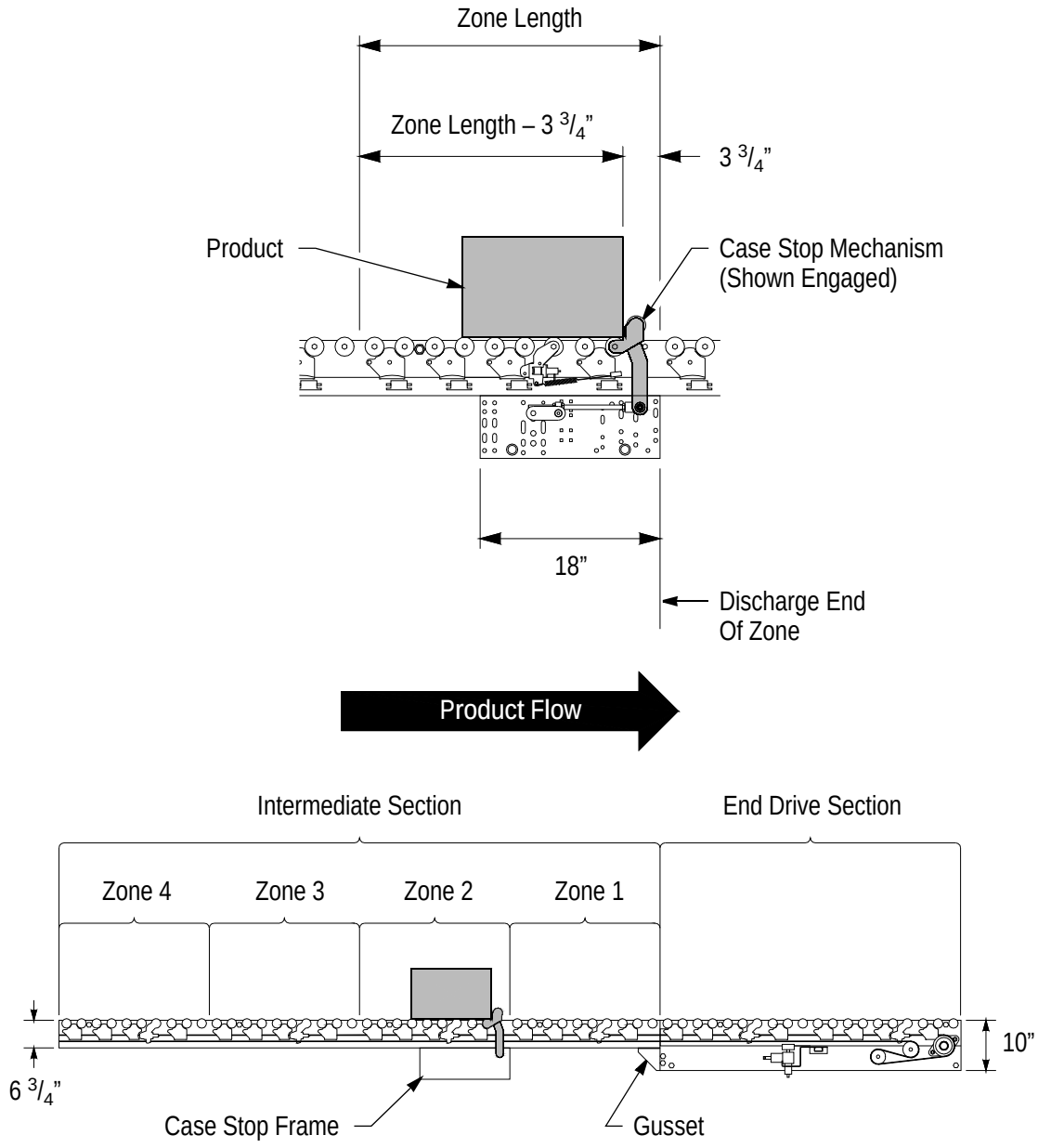


Figure B - 12 – Gravity Roller Conveyor Applications – 3” & 6” Roller Spacing

A/CQ Conveyor Applications

For A/CQ conveyor applications, case stops can be installed only on intermediate sections (see Figure B - 13). Locate the case stop immediately downstream of a sensor roller. When configured for installation on A/CQ conveyor, the case stop is furnished with an accumulation zone-control valve for connection in series to the zone-control air lines.

For A/CQ conveyor applications, only pivot assemblies for 3” & 6” roller centers can be used.



Note:
When selecting a case-stop location, be certain to avoid interference with such features as gussets & support tops.

In the example shown, the case stop cannot be installed in zone 1, due to interference with gusset.

Figure B - 13 – A/CQ Conveyor Applications – 3" Roller Spacing

Accuglide Plus Applications

For Accuglide Plus conveyor applications, case stops can be installed only on intermediate sections (see Figure B - 15 and Figure B - 14). Note that the side-rails of an Accuglide Plus intermediate section are 6 $^{3}/_{8}$" high. Locate a case stop immediately downstream of a sensor roller. When configured for installation on Accuglide Plus conveyor, the case stop is furnished with a singulation zone-control valve for connection in series to the zone-control air line for the zone located immediately upstream. A light-load sensor cannot be furnished in any zone in which a case stop is located.

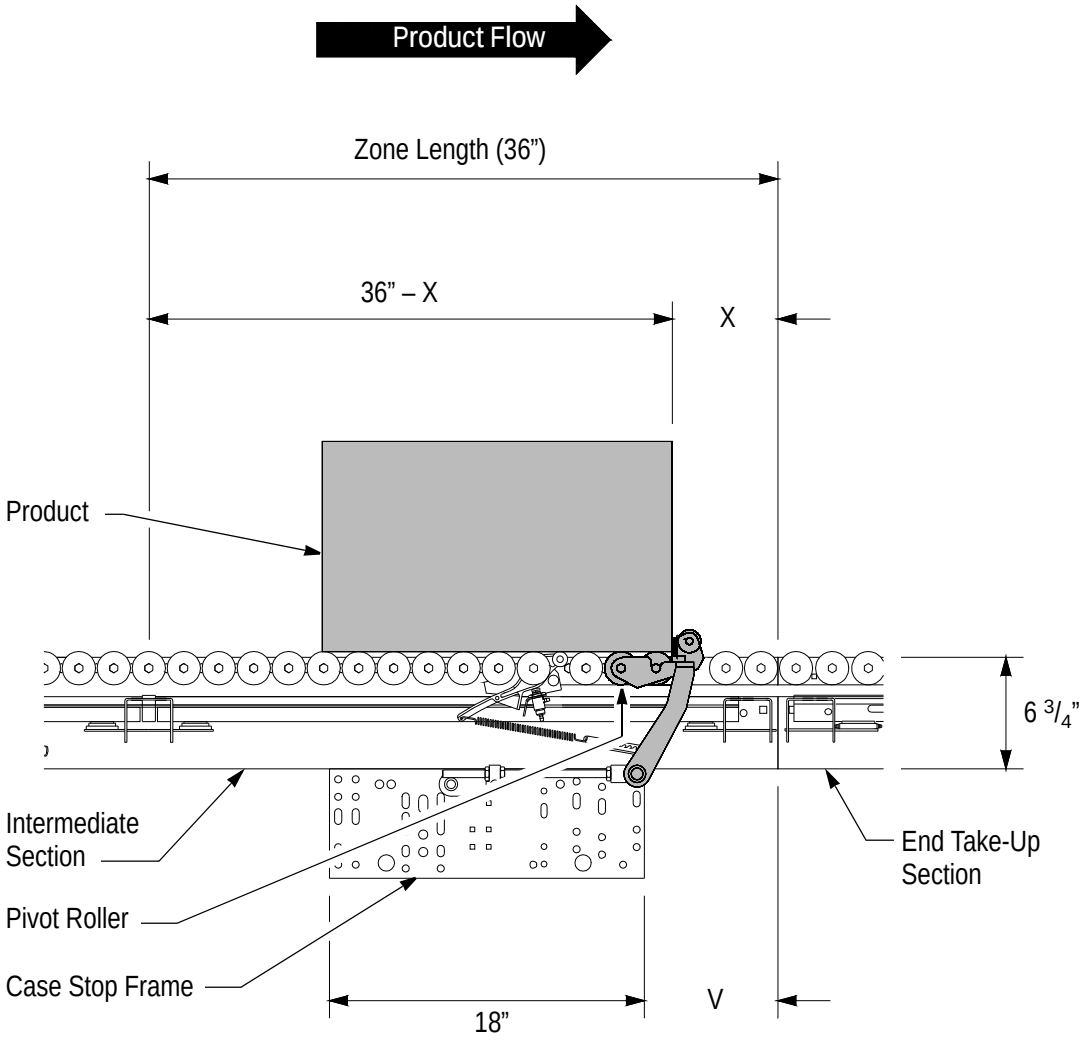


Figure B - 14 – Accuglide Plus Conveyor Appllications – 2" & 4" Roller Spacing

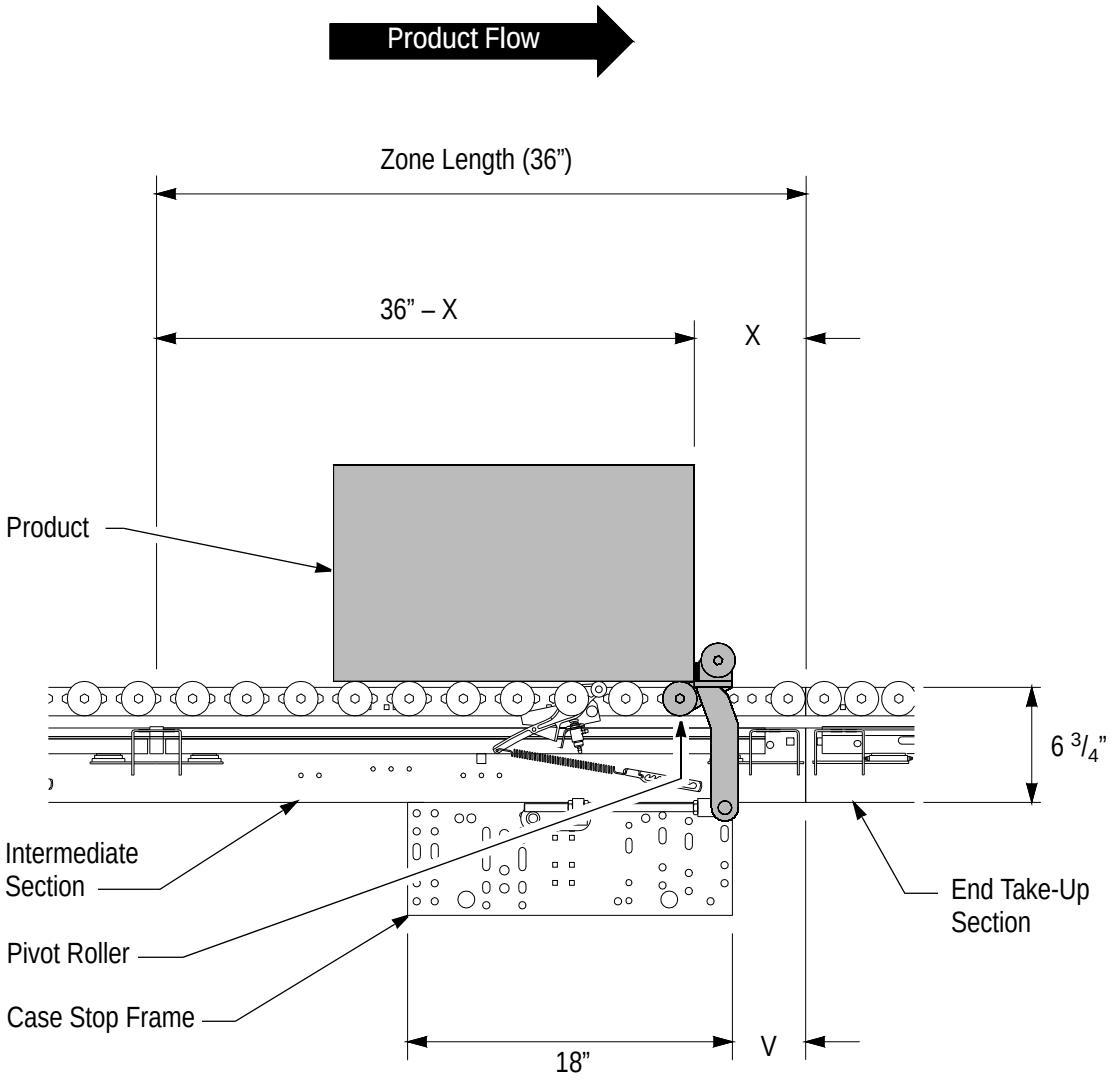


Figure B - 15 – Accuglide Plus Conveyor Applications – 3" & 6" Roller Spacing

For Accuglide Plus conveyor applications, the following pivot assemblies can be used:

- 2" & 4" roller centers; and
- 3" & 6" roller centers.

E-Z Set® Applications

For E-Z Set conveyor applications, case stops can be installed only on intermediate sections (see Figure B - 16 and Figure B - 17). Note that the side rails of an E-Z Set intermediate section are 6 $^{3}/_{8}$" high.

Case stops can be installed virtually anywhere along the length of an intermediate section. Note that the mounting holes in which cross-members are installed in the side rails are located on one-inch centers. As a result, the location of a cross-member can be modified in the field to accommodate the location of a case-stop location.

The case stop should be located to avoid interference with the following features:

- The gusset where the intermediate section is joined to the end idler section; and
- Pressure rollers and return rollers that support the drive belt.

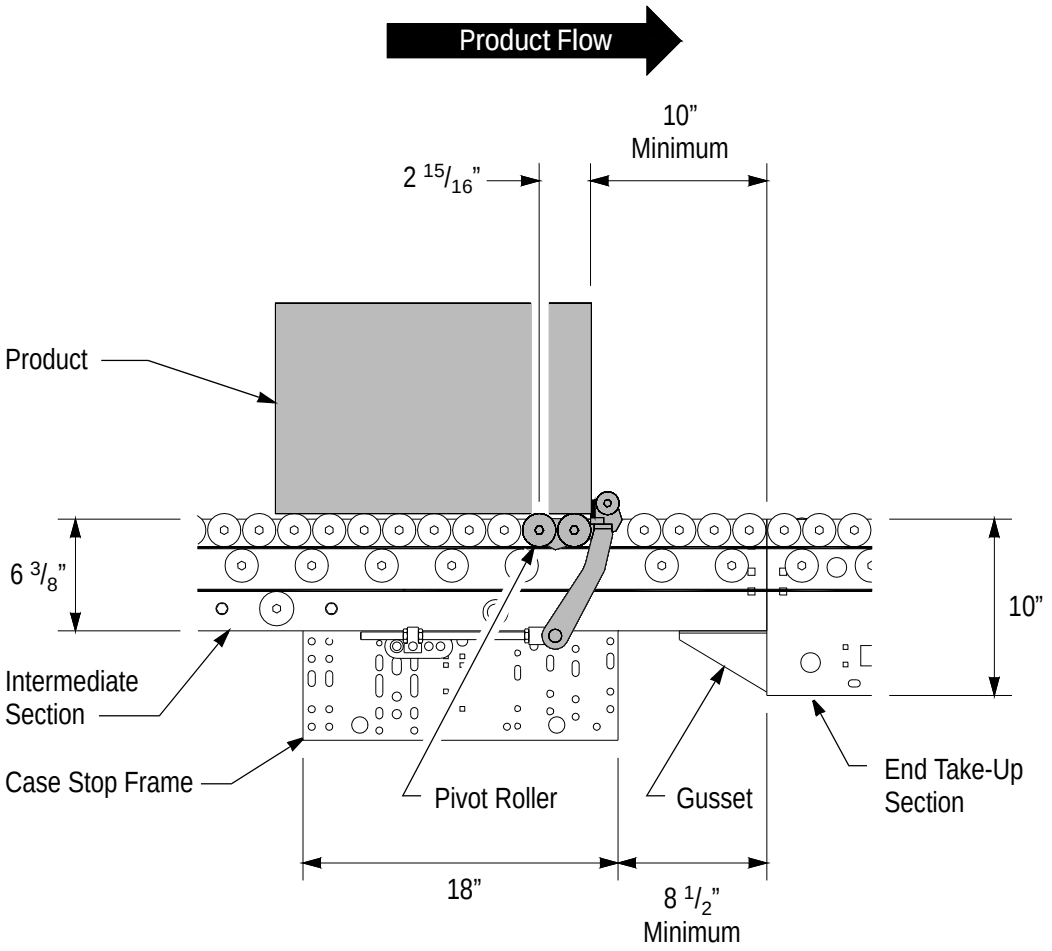


Figure B - 16 – E-Z Set Conveyor Applications – 2" & 4" Roller Spacing

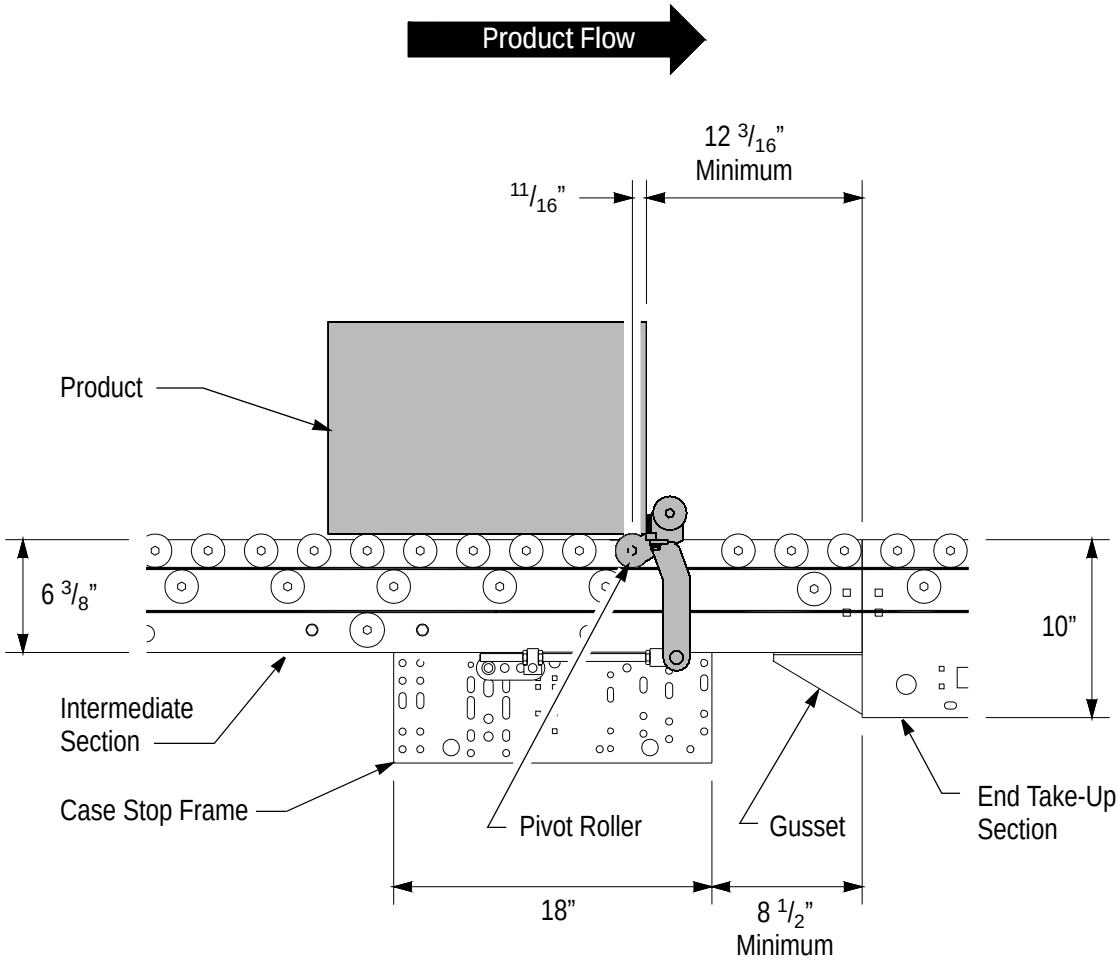


Figure B - 17 – E-Z Set Conveyor Applications – 3” & 6” Roller Spacing

For E-Z Set conveyor applications, the following pivot assemblies can be used:

- 2” & 4” roller centers; and
- 3” & 6” roller centers.

Installation on E-Z Set conveyors up to 28 inches wide require special case-stop configurations. In these configurations, the operating mechanism is located to one side of the case-stop assembly in order to clear the conveyor drive belt.

For E-Z Set applications, it is crucial that drive-belt tracking be monitored closely (see Figure B - 18). Mistracking can result in damage to the case-stop assembly as well as to the belt itself.

Note:
For installation on E-Z Set conveyor up to 28” wide, case stops are provided in specific configurations designed to avoid interference with the drive belt.

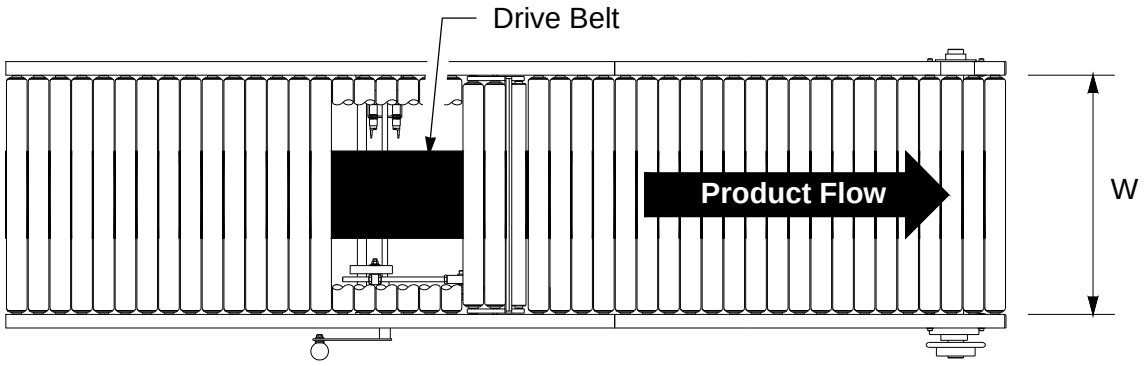


Figure B - 18 – E-Z Set® Applications

Product Considerations

Case stops should not be used if the containers to be conveyed are not capable of withstanding all of the following:

- The impact of the container against the case stop
- The impact of one container against another container that is already stopped; and
- The cumulative pressure of a train of product (on gravity and low-pressure accumulation conveyors).

The area of contact between the case-stop cross-machine blade and the carton should be taken into consideration. The area of contact is determined by multiplying the height of the cross-machine blade above the conveying surface times the width of the side of the carton that addresses the case stop (see Figure B - 19).

At the moment of impact, the case stop is normally already at rest in the “stop” position. All forces of impact will thus be attributed solely to the movement of the product.

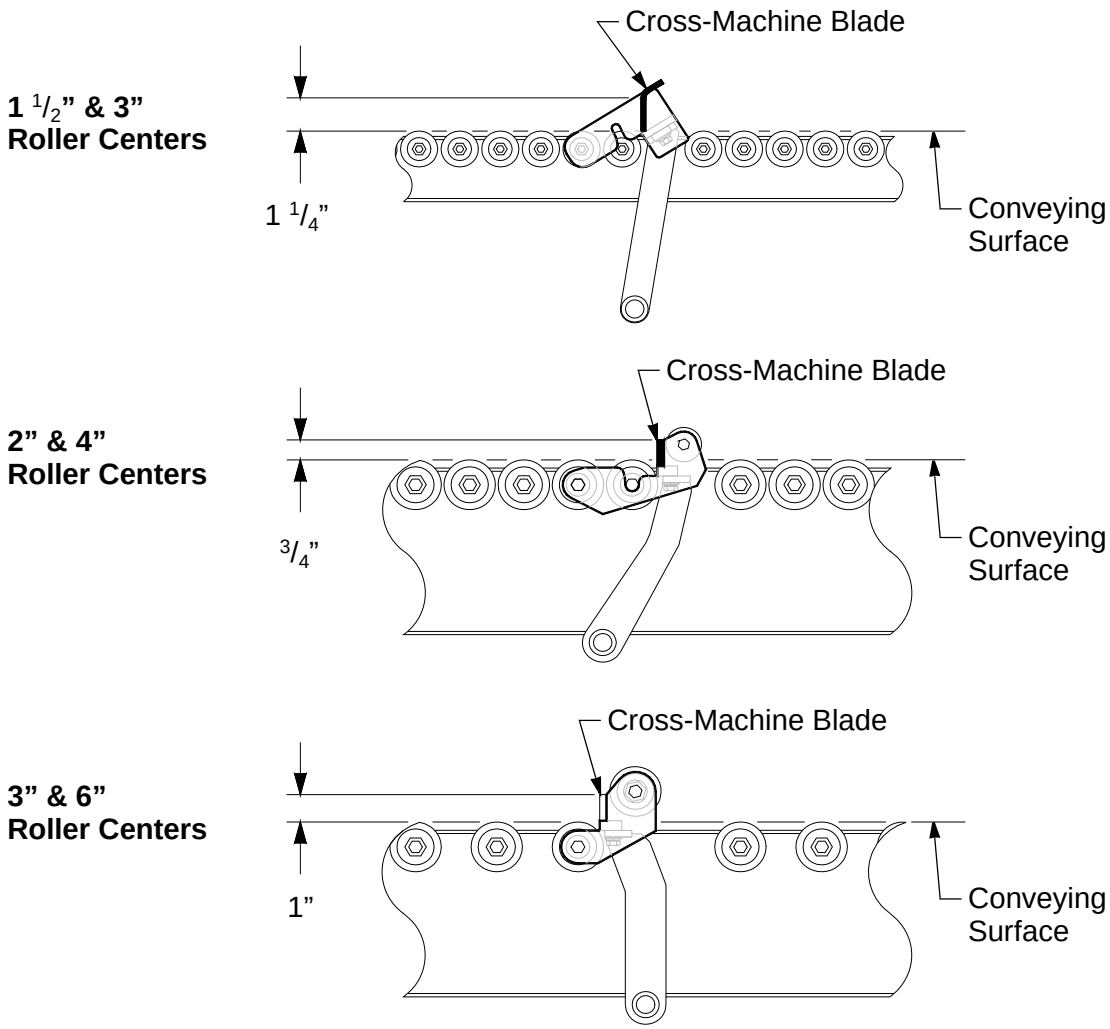


Figure B - 19 – Height of Cross-Machine Blade Above the Conveying Surface

Totes

Case stops are not recommended for applications with totes that have angled sides or radiused corners, since such totes may tend to “jump” over the case stop (see Figure B - 20). Also, impact will most likely occur along a narrow line across the leading surface of the tote, which may result in heavy wear along the impact line.

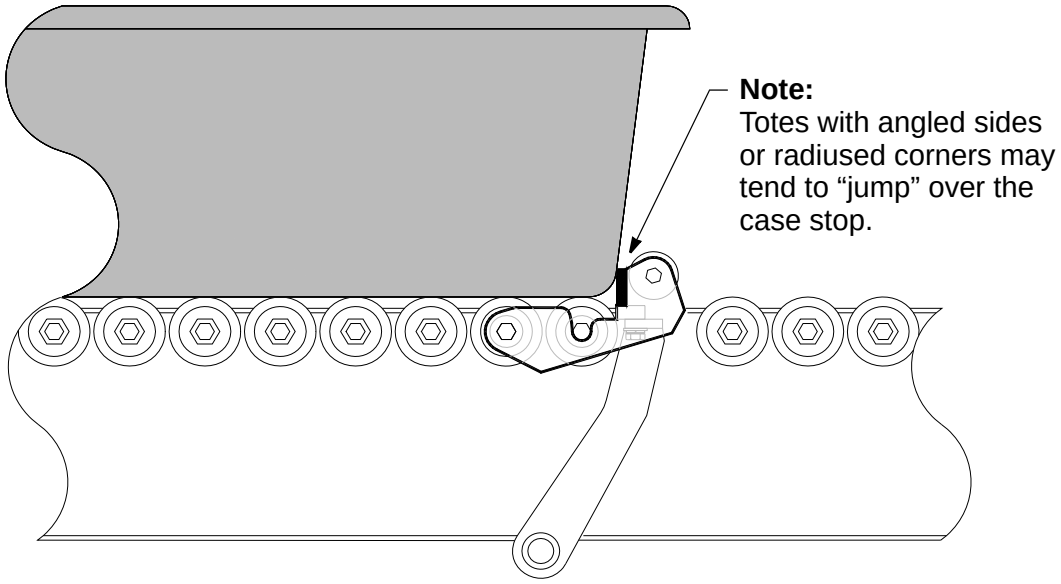


Figure B - 20 – Case Stops Used With Totes

SECTION C:SPECIFICATIONS

Pivot Assemblies

Pivoting Frame

Steel weldment pivots around axle of pivot roller. Lever arm is assembled to the specified side.

Rollers

Table C.1 – Rollers & Host Conveyors By Roller Centers

Roller Centers	Pivot Roller	Idler Roller	Escapement Roller	Host Conveyor			
				A/C	Accuglide Plus	E-Z Set	Gravity Roller
1 1/2" & 3"	G138	G138	–				4
2" & 4"	G196	G196	G138		4	4	4
3" & 6"	G196	–	G196	4	4	4	4

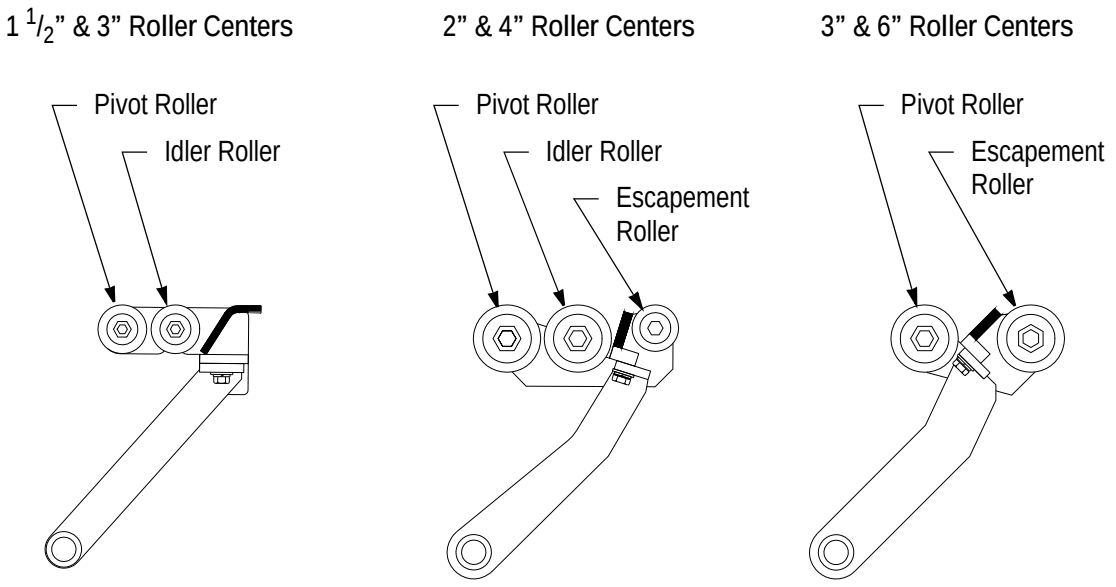


Figure C - 1 – Pivot Assemblies

Hand- & Foot-Operated Case Stops

Mounting Frames

18” long x 6 1/4” deep x 10 gauge formed steel side channels with bolted crossmembers.

Linkage

Multiple-bar linkage: Link arm is mounted to cross-machine operating shaft. Pivot hinge connects threaded rod to link arm. Rod eye connects threaded rod to lever arm.

Operating Mechanism

Hand-Operated: Steel crank handle with plastic ball is mounted to operating shaft.

Foot-Operated: Foot pedal with latch for disengaged position. 1/8” diameter cable routed through pulleys connects foot pedal to chain, which wraps around sprocket mounted to operating shaft. chain is spring-loaded for case-stop engagement. Foot pedal location may be “direct drop” or “offset” up to 5 feet in either infeed or discharge direction.

Accumulation Zone Control (Accuglide Plus™ and A/C Conveyors Only)

Normally closed 3-way valve. Accumulation zone control is available only in singulation release mode for Accuglide Plus and A/C conveyors.

Stop-Position Sensor (Optional)

Two 18mm proximity sensors (120VAC 60Hz, or 24VDC) detect position of a target mounted to operating shaft. Target rotates with position of pivot assembly (engaged or disengaged). Sensors may be wired into controls or to indicators to be monitored by operator.

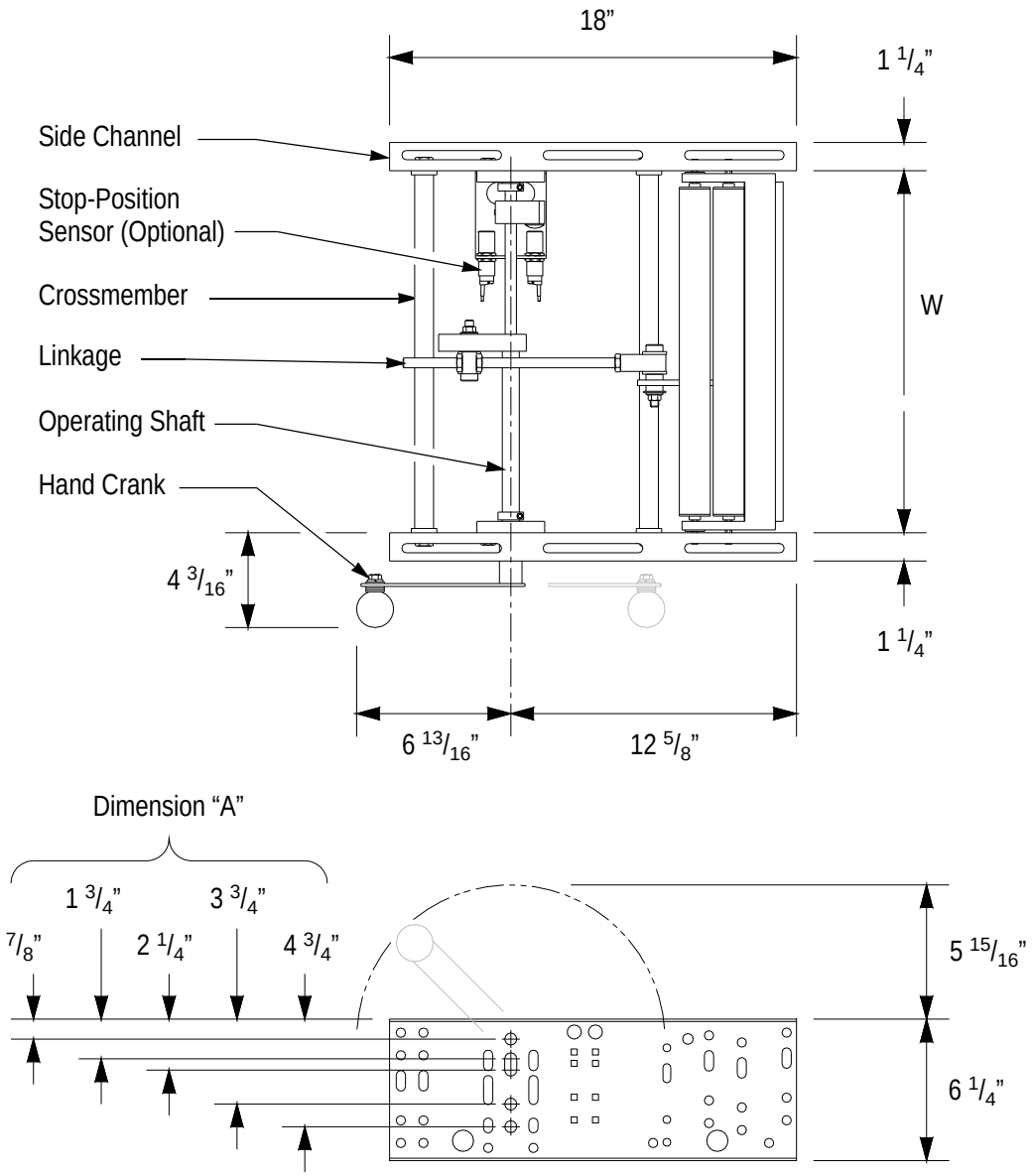


Figure C - 2 – Mounting Frame – Hand-Operated Case Stop

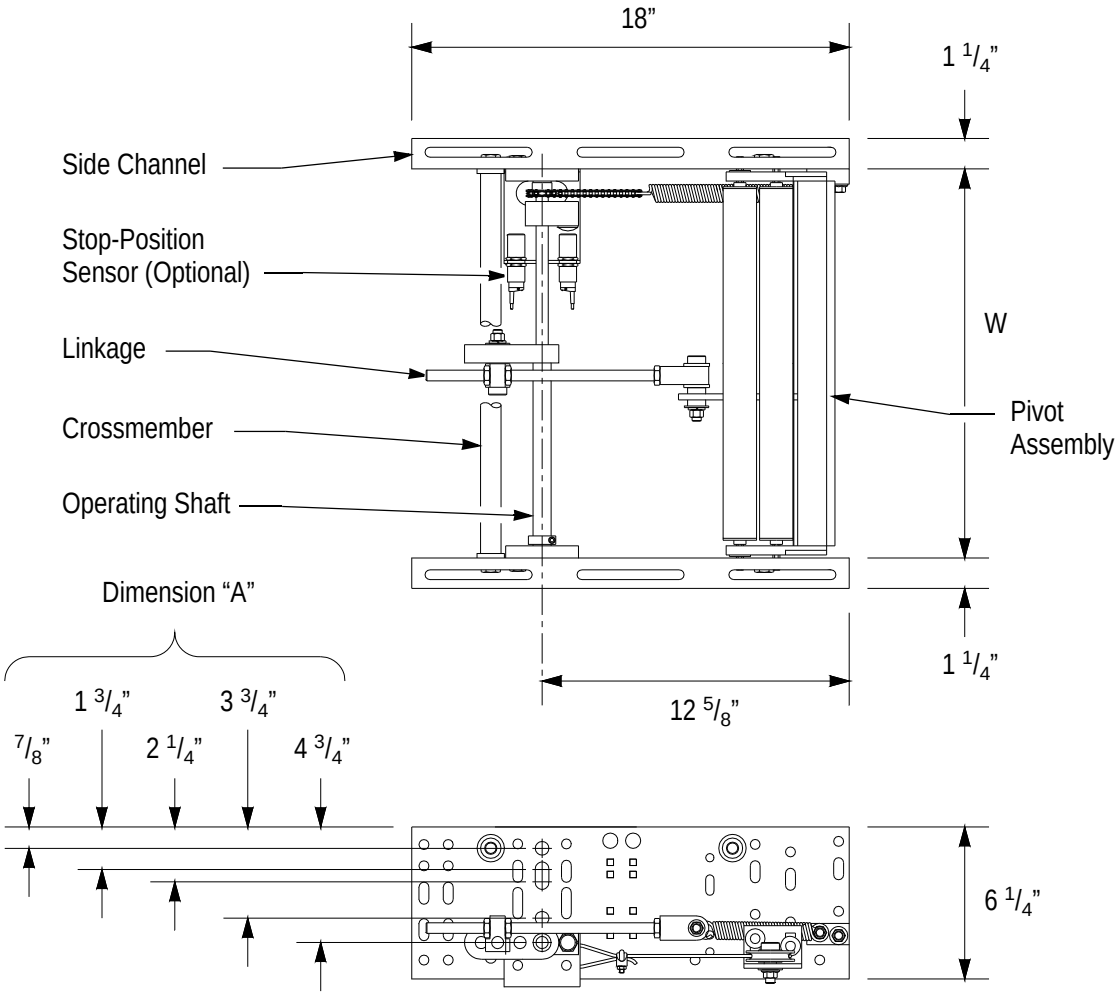


Figure C - 3 – Mounting Frame – Foot-Operated Case Stop

Table C.2 – Hand- & Foot-Operated Case Stops – Dimension “A” & Host Conveyors

Note: Dimension “A” is the vertical distance from the top of the case-stop side channels to the centerline of the operating shaft.

Side Rail Height	Dimension “A”	Conveyor Model			
		A/C	Accuglide Plus	E-ZSet	Gravity Roller
2 1/2”	4 3/4”				4
3 1/2”	3 3/4”				4
5”	2 1/4”	**4**			
5 1/2”	1 3/4”	**4**			
6 3/8”	7/8”		4	4	

Table C.3 – Mounting Frame Widths (Dimension “W”) & Host Conveyors

Roller Centers	Mounting Frame Widths (Dimension “W”)	Host Conveyor			
		A/C	Accuglide Plus	E-Z Set	Gravity Roller
1 1/2” & 3”	10”, 16”, 22”				4
2” & 4”	16”, 22”, 28”, 34” 40”		4	4	4
3” & 6”	16”, 22”, 28”, 34” 40”	4	4	4	4

Linkage – Hand- & Foot-Operated

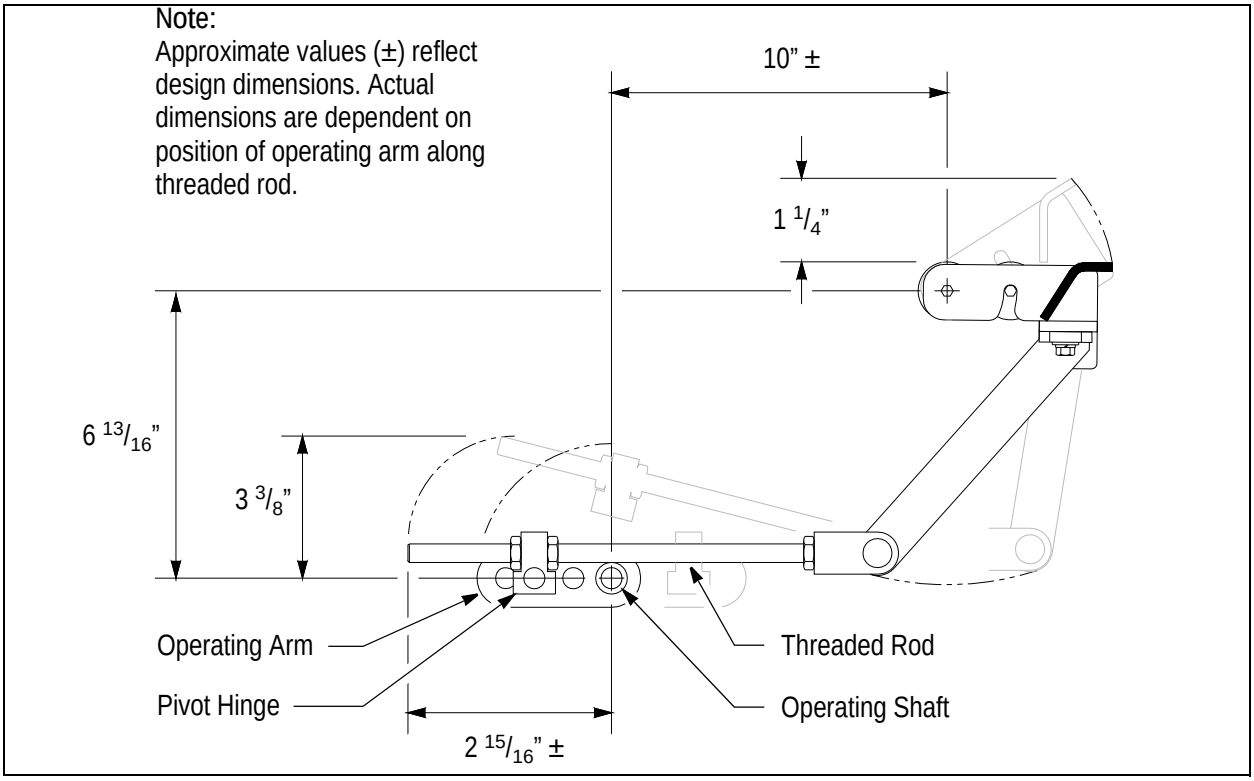


Figure C - 4 – Linkage – 1 1/2" & 3" Roller Spacing

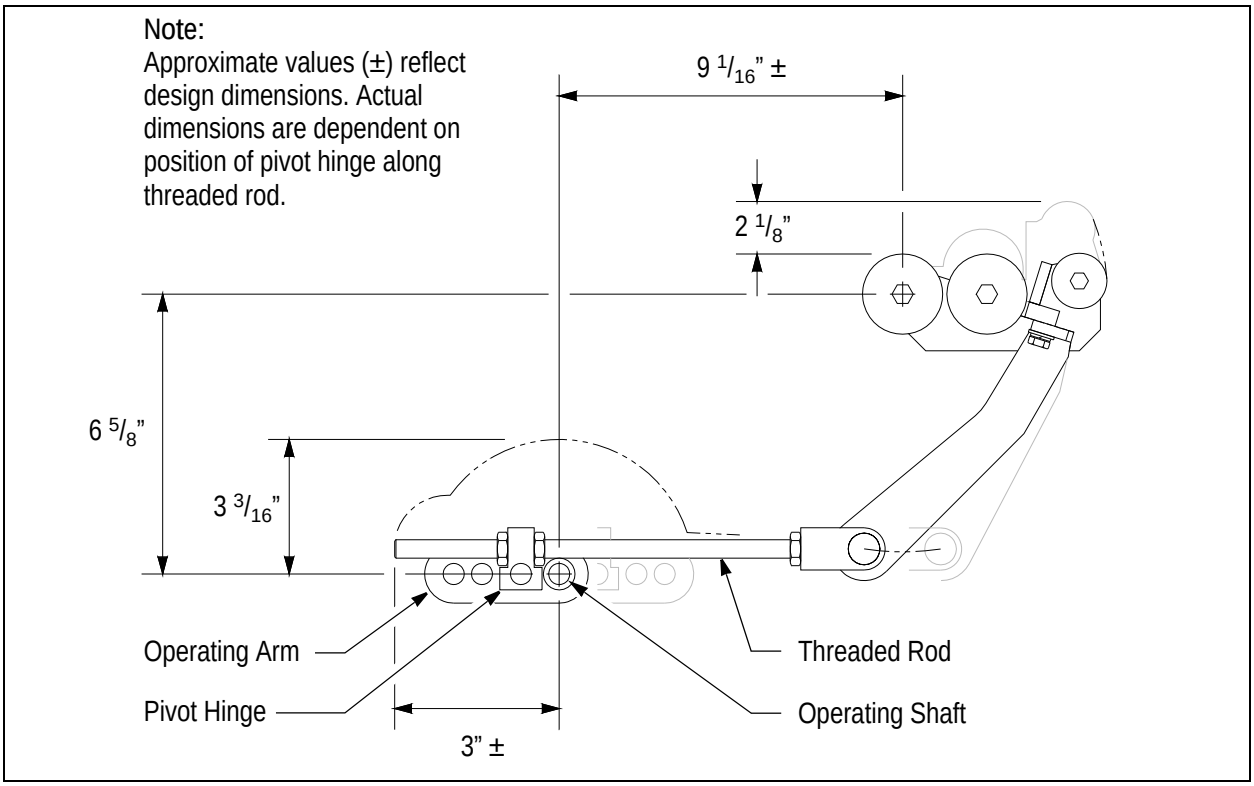


Figure C - 5 – Linkage – 2" & 4" Roller Spacing

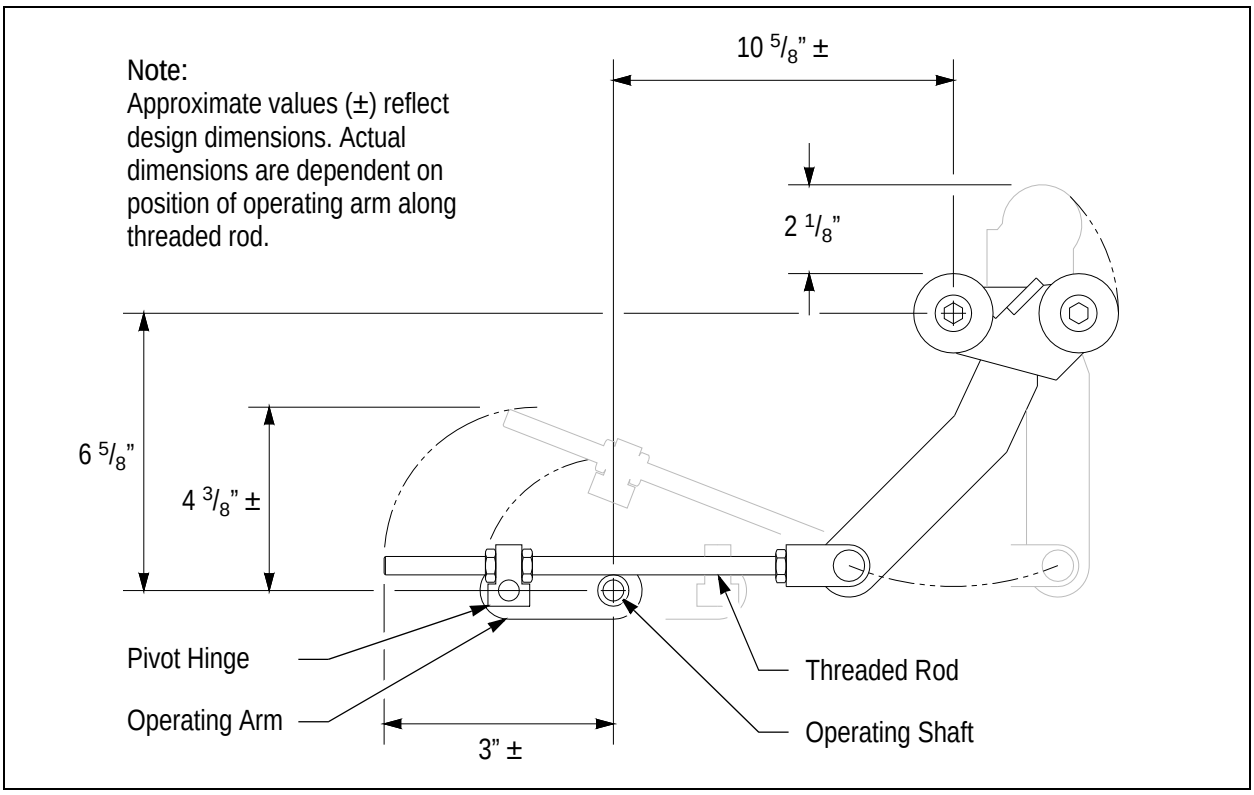


Figure C - 6 – Linkage – 3" & 6" Roller Spacing

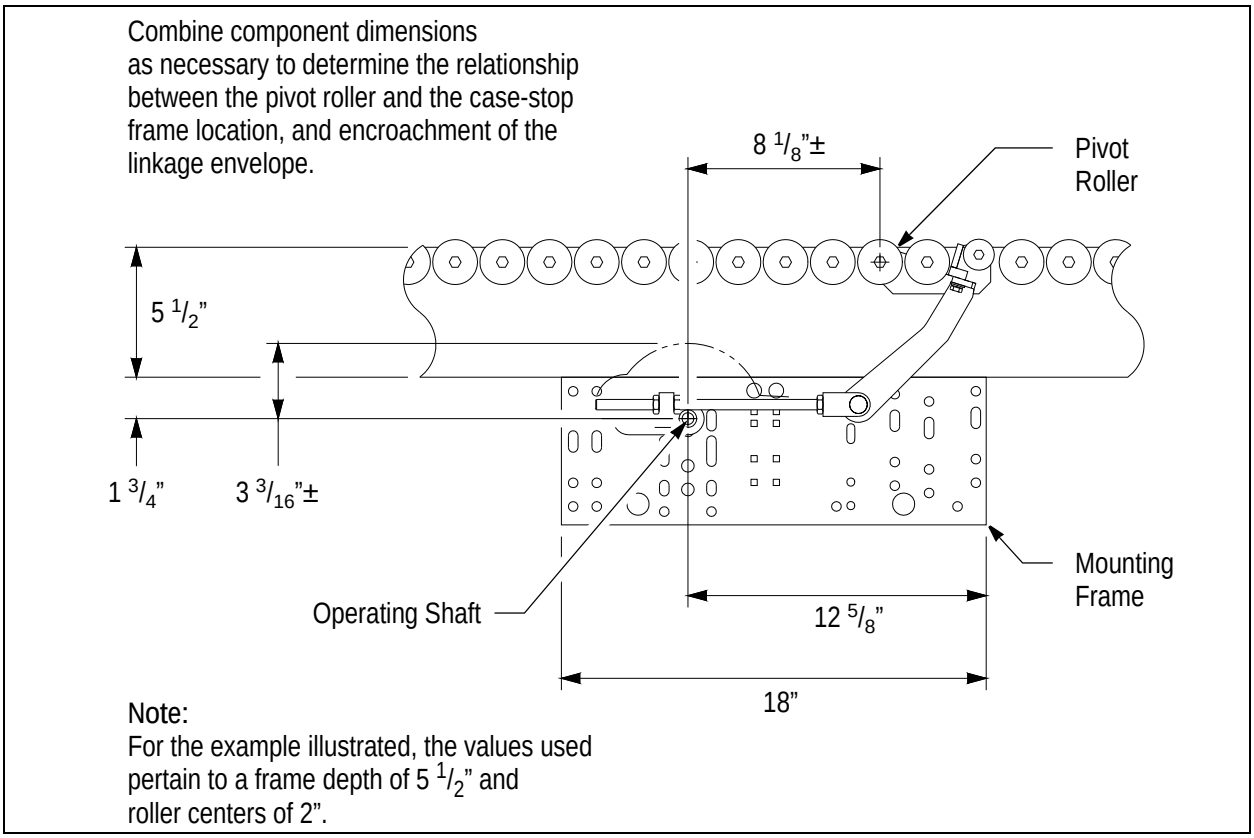


Figure C - 7 – Applying Component Dimensions

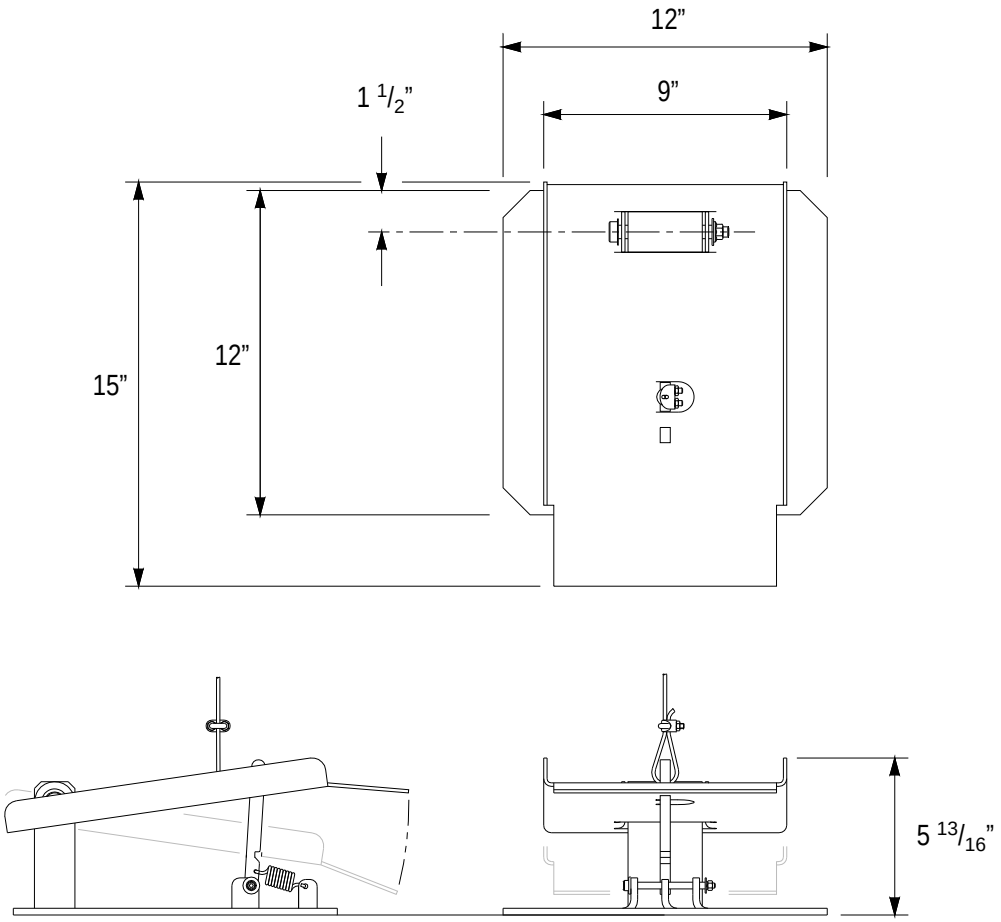


Figure C - 8 – Foot Pedal

Air-Actuated Case Stops

Mounting Frames

18” long x 6 1/4” deep x 10 gauge formed steel side channels with bolted crossmembers. Steel angle (3” x 4”) located at infeed end of unit supports actuator mounting bracket and solenoid valve.

Operating Mechanism

Double-acting 2” bore x 5” stroke air cylinder with air cushions at both ends; 60 to 80 PSI operating pressure.

Solenoid Valve

Three-position, open-center, 4-way with manifold base (3/8” NPT ports). Both actions are powered (engage and disengage). 120VAC, 60Hz (standard), or 24VDC (optional).

Accumulation Zone Control (Accuglide Plus™ and A/C Conveyors Only)

A pilot valve piped to the “disengaged” port of the actuator activates a normally closed 3-way valve. Accumulation zone control is available only in singulation release mode for Accuglide Plus and A/C conveyors.

Stop-Position Sensor (Optional)

Two 18mm proximity sensors (120VAC 60Hz, or 24VDC) detect position of lever armt. Sensors may be wired into controls or to indicators to be monitored by operator.

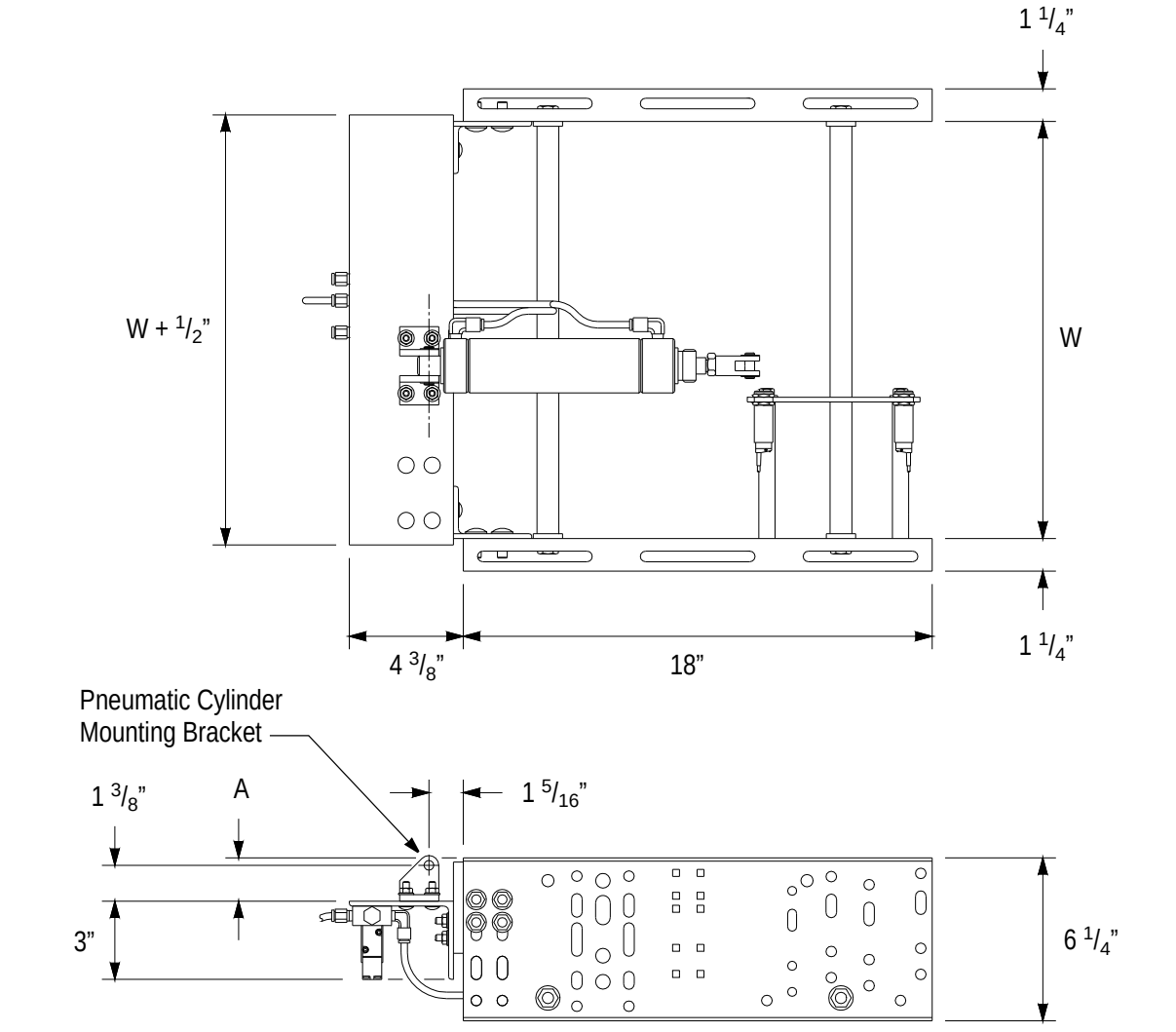


Figure C - 9 – Mounting Frame – Air-Actuated Case Stop

Table C.4 – Air-Actuated Case Stops – Dimension “A”

Note: Dimension “A” is the vertical distance from the top of the case-stop side channels to the centerline of the pivot pin of the air-cylinder mounting bracket.

Side Rail Height	Dimension “A”	Conveyor Model			
		A/C	Accuglide Plus	E-ZSet	Gravity Roller
2 1/2”	5 17/32”				4
3 1/2”	4 17/32”				4
5”	3 1/32”	**4**			
5 1/2”	2 17/32”	**4**			
6 3/8”	1 21/32”		4	4	

Table C.5 – Mounting Frame Widths (Dimension “W”)

Roller Centers	Mounting Frame Widths (Dimension “W”)	Host Conveyor			
		A/C	Accuglide Plus	E-Z Set	Gravity Roller
1 1/2” & 3”	10”, 16”, 22”				4
2” & 4”	16”, 22”, 28”, 34” 40”		4	4	4
3” & 6”	16”, 22”, 28”, 34” 40”	4	4	4	4

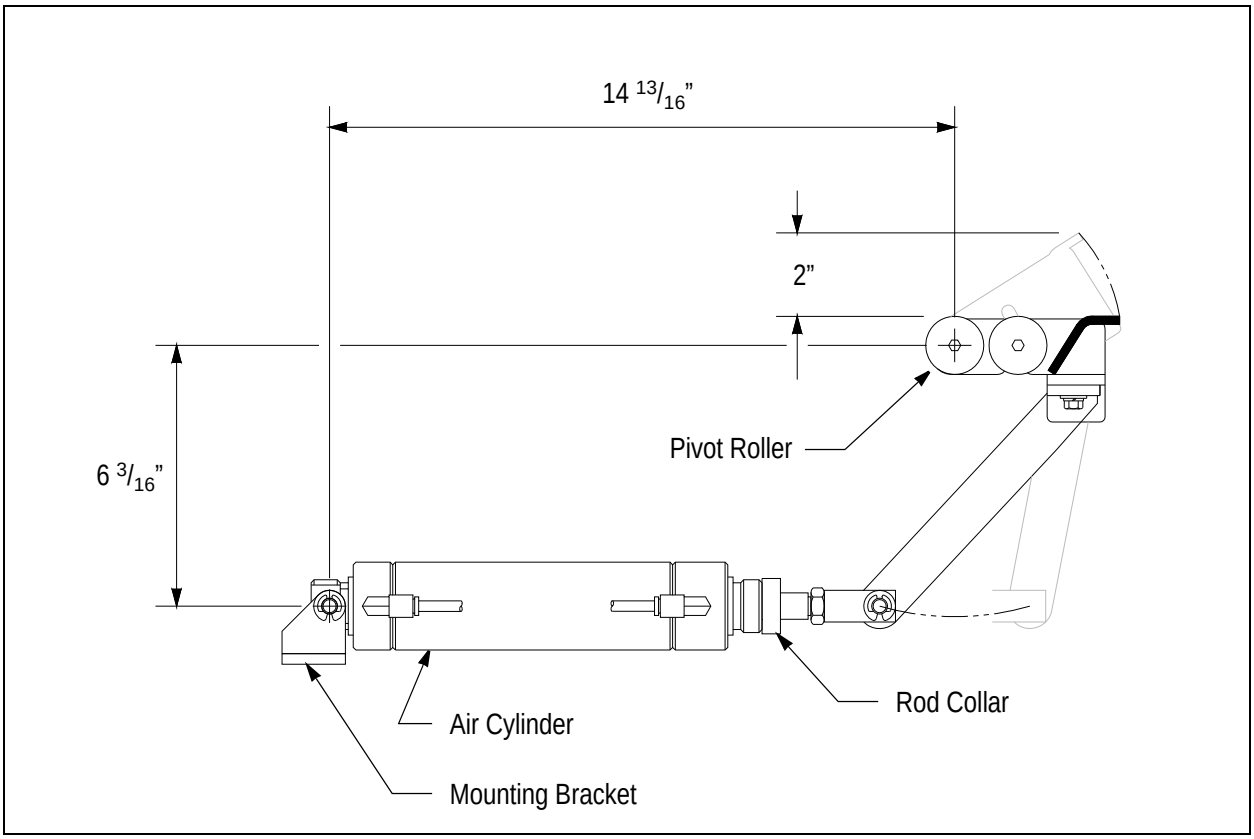


Figure C - 10 – Actuator & Linkage Dimensions – 1 1/2" & 3" Roller Centers

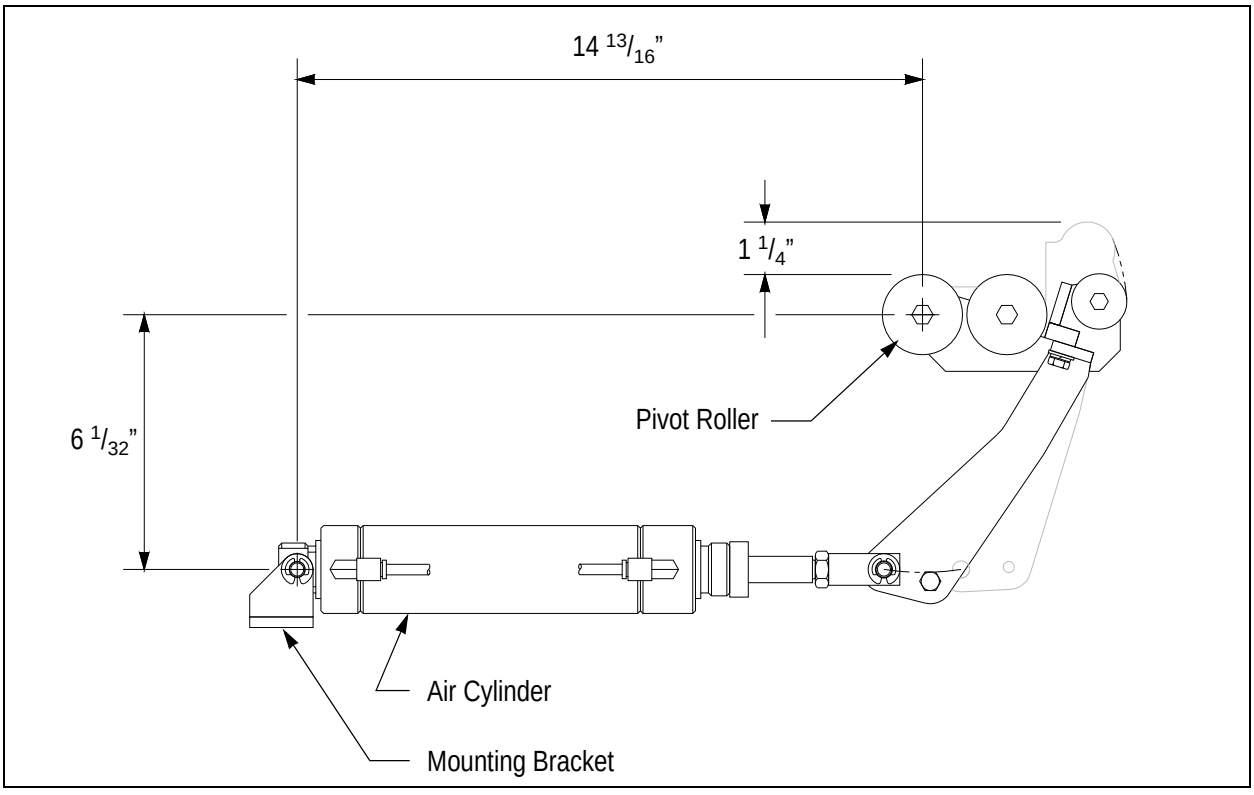


Figure C - 11 – Actuator & Linkage Dimensions – 2" & 4" Roller Centers

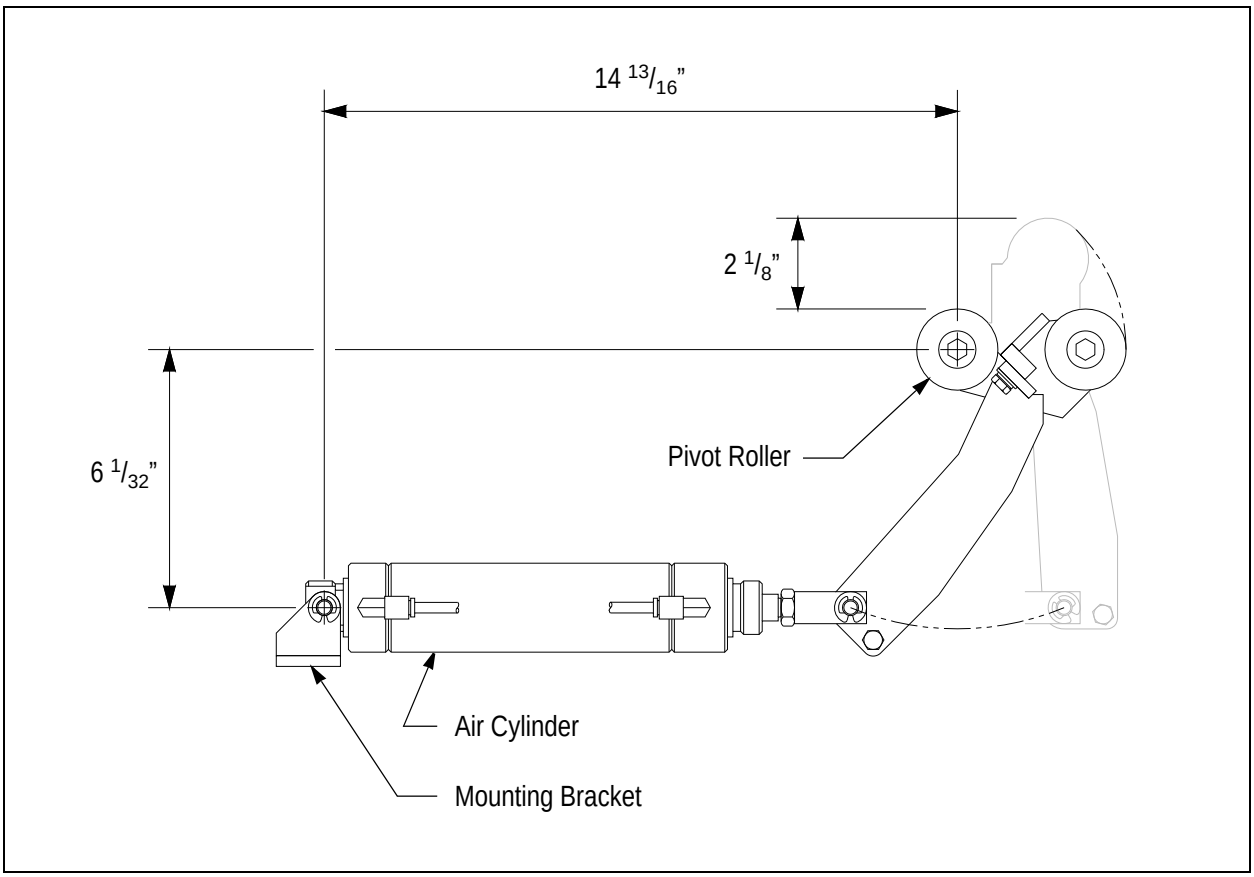


Figure C - 12 – Actuator & Linkage Dimensions – 3" & 6" Roller Centers

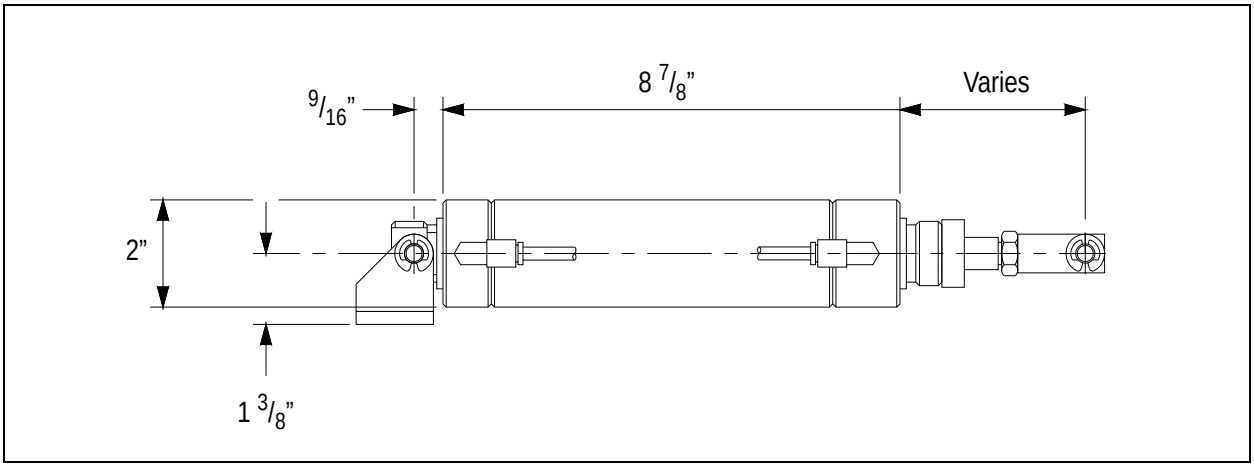


Figure C - 13 – Air Cylinder Dimensions

SECTION D:ENGINEERING DATA

SECTION E: LAYOUT DIMENSIONS

Table B.1 – Variable Dimensions (See Figure E - 1, Figure E - 2, & Figure E - 3)

Dimension “W”	10”	16”	22”	28”	34”	40”
Dimension “A”	12 1/2”	18 1/2”	24 1/2”	30 1/2”	36 1/2”	42 1/2”

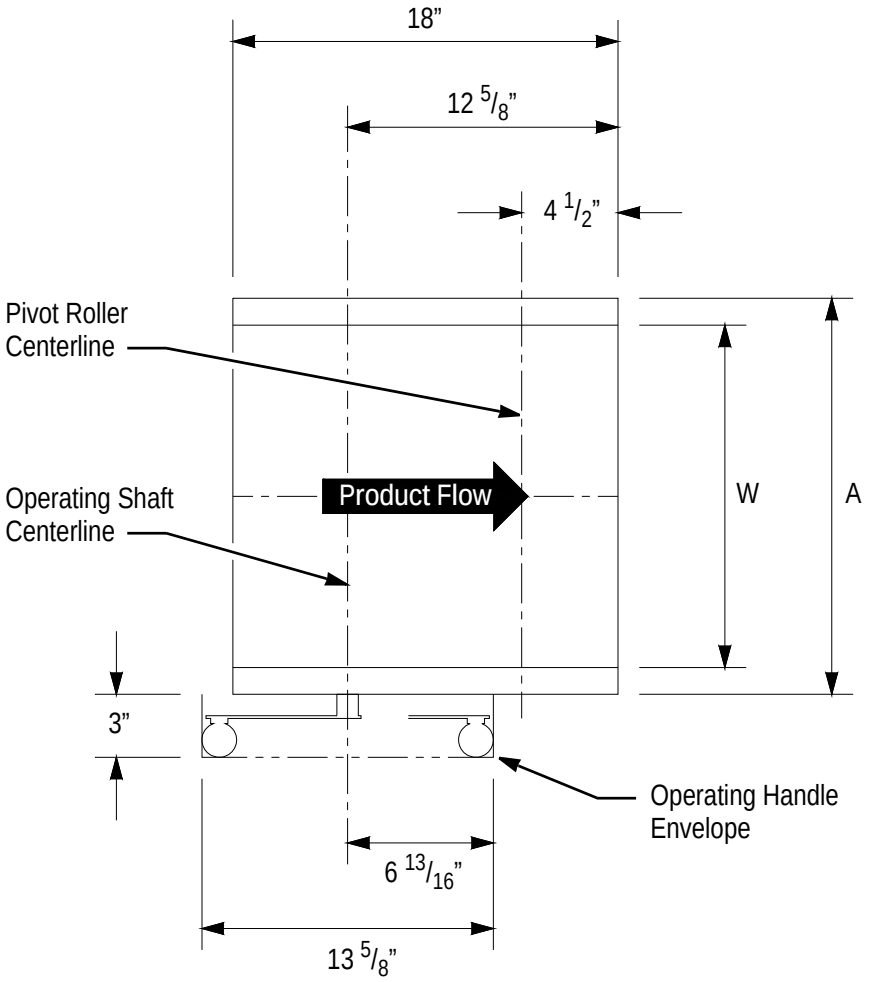


Figure E - 1 – Hand-Operated Case Stop (Right-Hand Configuration Shown)

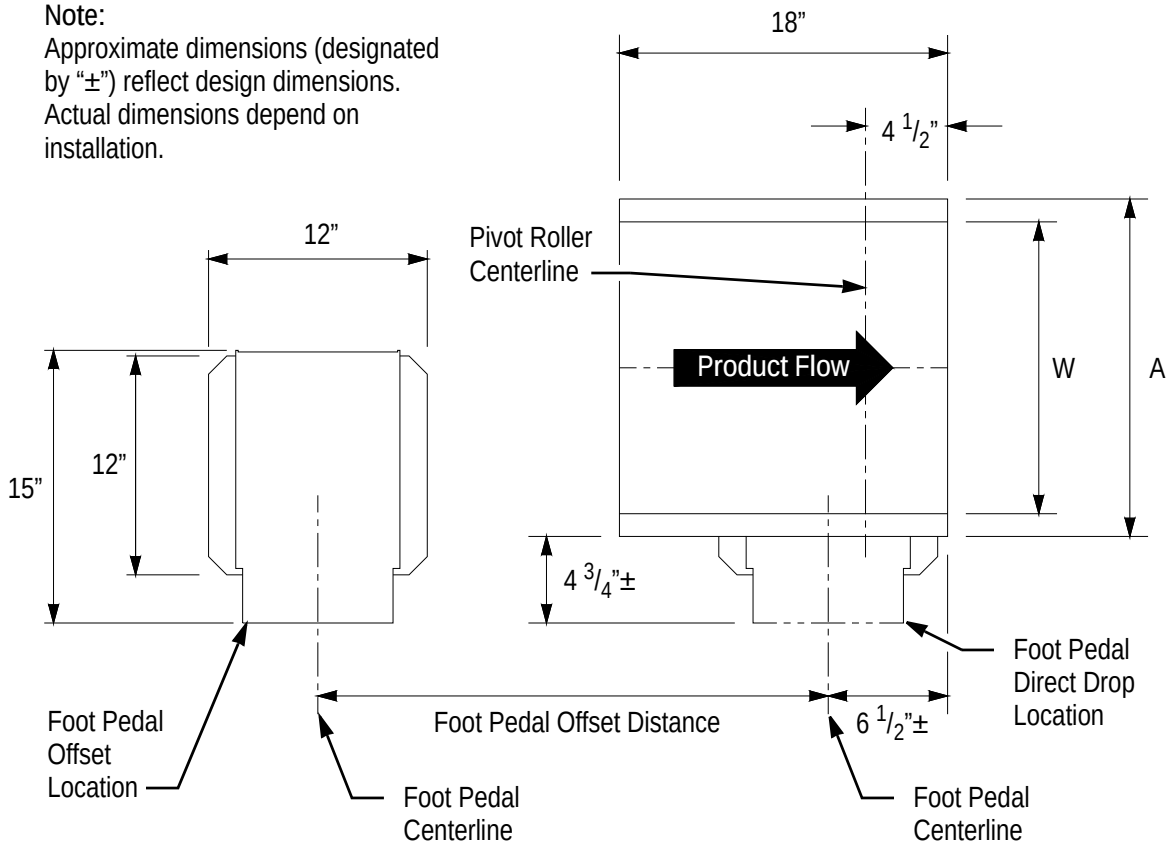


Figure E - 2 – Foot-Operated Case Stop (Right-Hand Configuration Shown)

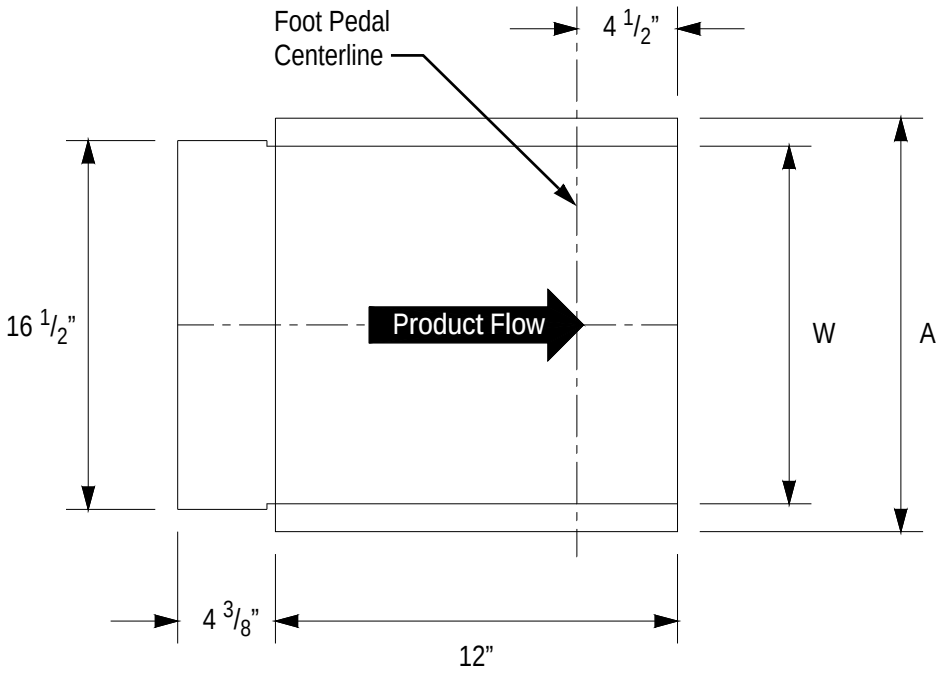


Figure E - 3 – Air-Actuated Case Stop (Right-Hand Configuration Shown)

SECTION F: ACCESSORIES

Stop-Position Sensor

Hand- & Foot-Operated Case Stops

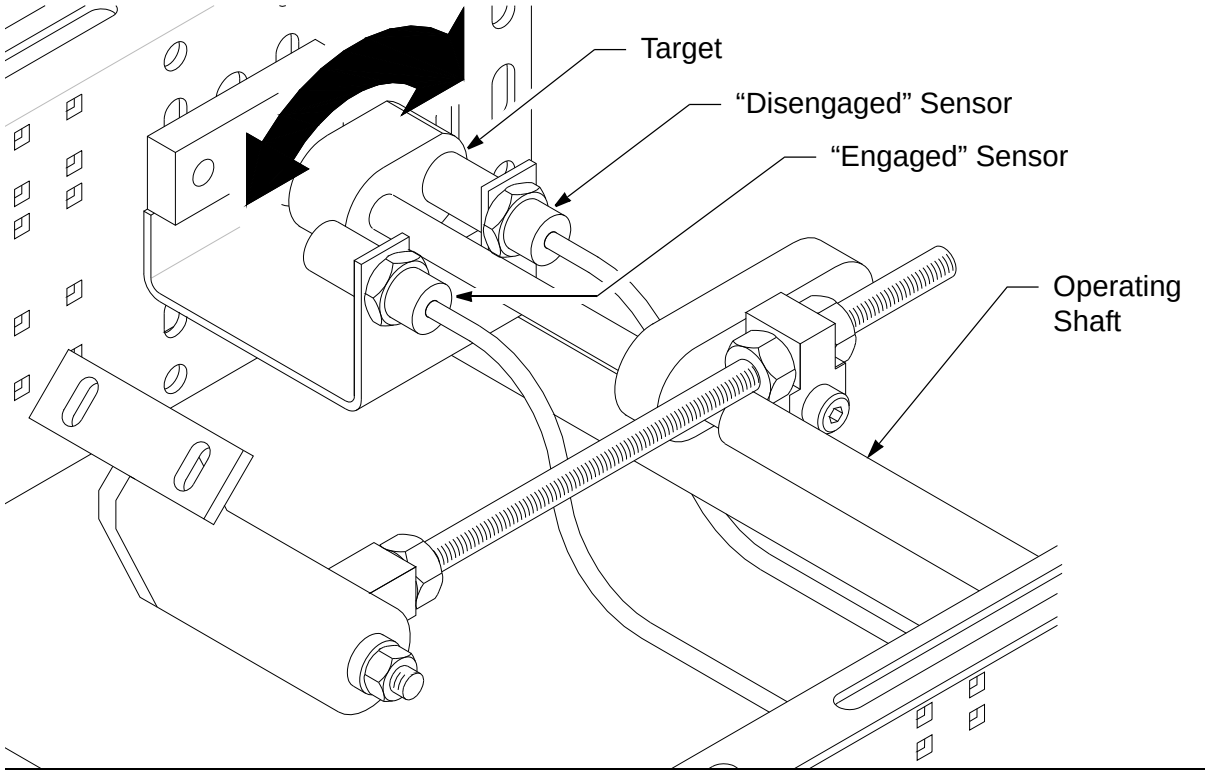


Figure F - 1 – Stop Position Sensors – Hand- & Foot-Operated Case Stops

Air-Actuated Case Stops

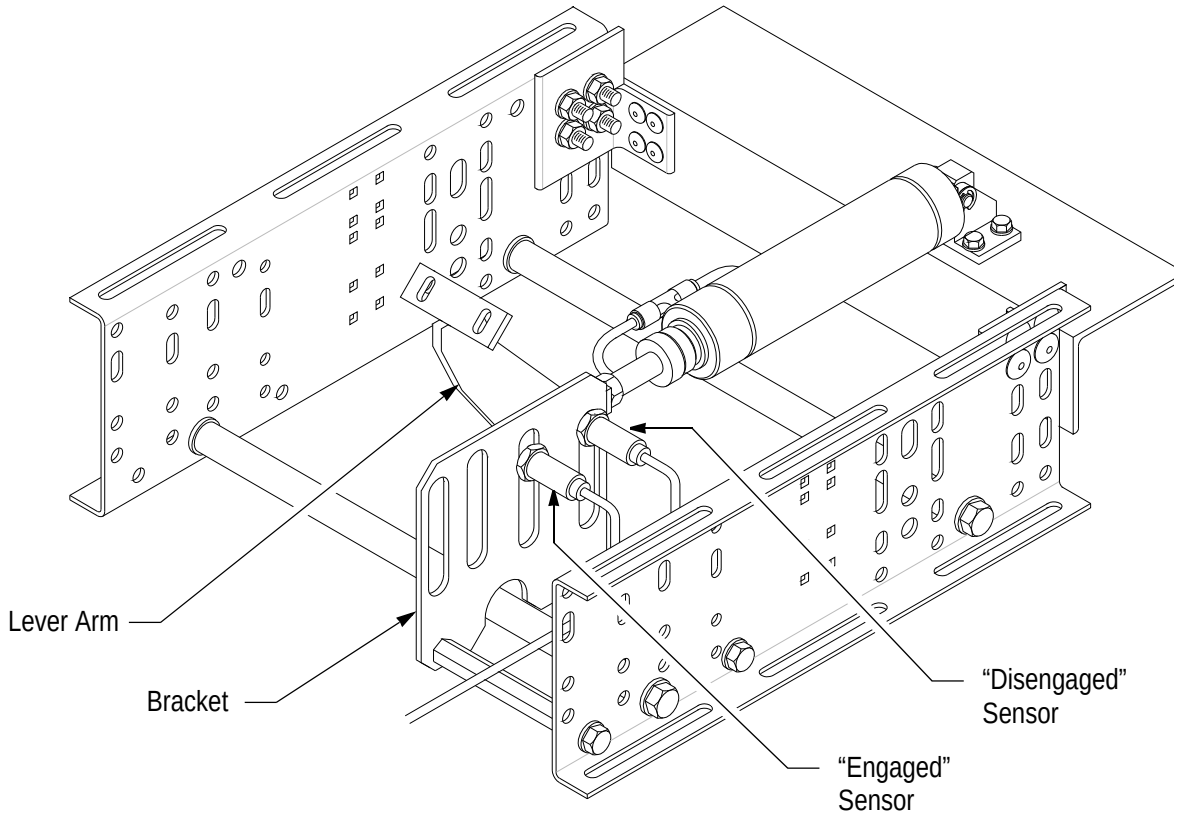


Figure F - 2 – Stop Position Sensors – Air-Actuated Case Stops

Handle For Hand-Operated Case Stops

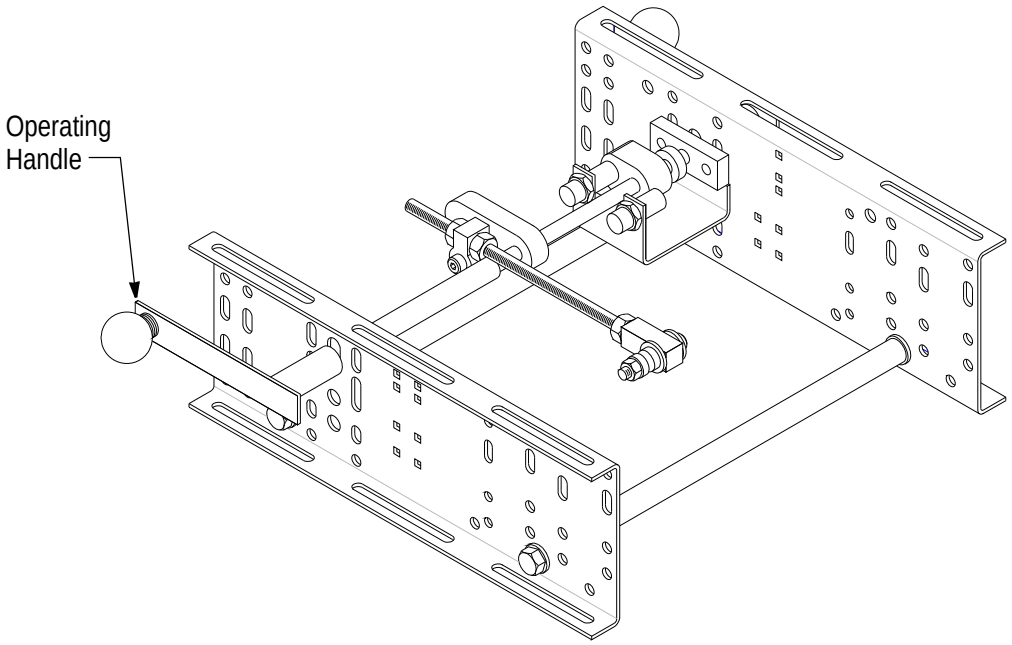


Figure F - 3 – Operating Handle For Hand-Operated Case Stops

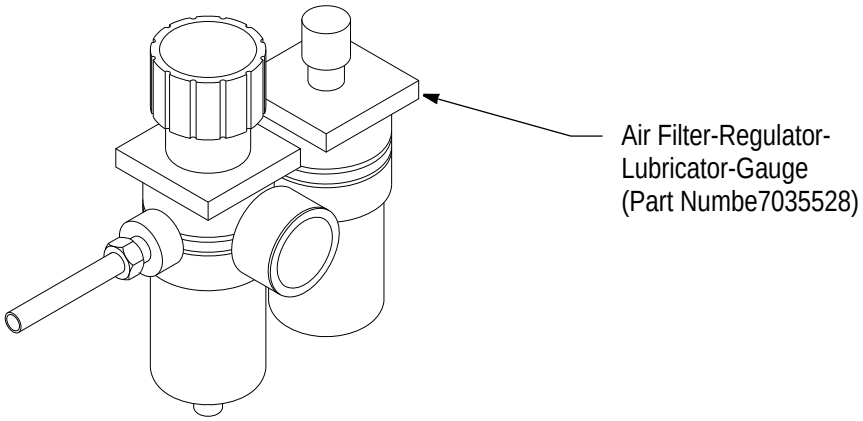


Figure F - 4 – Air Filter-Regulator-Lubricator-Gauge

SECTION G:INSTALLATION PROCEDURES

Introduction

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 Customer Service in writing within ten (10) days after receipt of shipment.

Note: It is very important that you compare the Order Acknowledgment against the actual material received when you receive the shipment so you have enough lead time to order any missing parts. If you find that a part is missing during assembly, you may have to discontinue assembly while you wait for the part to arrive.

Lost or Damaged Shipment

Report lost shipments to our Shipping Department.

If shipping damage is evident upon receipt of the conveyor, 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 seller, 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 our Traffic Department.

Claims and Returns

All equipment furnished in accordance with the Manufacturer's Agreement is not returnable for any reason except when authorized in writing by the Seller. Notification of return must be made to the Customer Service Department, and if approved, a "Return Authorization Tag" will be sent to the Purchaser (user). 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 conveyor equipment is designed and manufactured to comply with the American National Standard Institute's "SAFETY STANDARDS FOR CONVEYORS AND RELATED EQUIPMENT" (ANSI B20.1) and with the National Electrical Code (ANSI/ NFPA70).

The Purchaser/User shall be familiar with, and responsible for, compliance with all codes and regulations having jurisdiction regarding the installation, use, and maintenance of this equipment.

Warning Signs

Warning signs and labels posted on or near the conveyor equipment shall not be removed, painted over, or altered at any time. All safety devices, warning lights, and alarms associated with the conveyor 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 conveyor parts list or bills-of-materials for replacement part numbers.

Safety Features

- Do turn off conveyor 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 conveyor is in operation.
- Do observe all warning signs, lights, and alarms associated with the conveyor operation and maintenance, and be alert at all times to automatic operation(s) of adjacent equipment.
- Do use extreme caution near moving conveyor 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 conveyor at any time except where suitable catwalks, gates, or bridges are provided for personnel travel.
- Do not attempt to repair any equipment while the conveyor is running, replace any conveyor component without appropriate replacement parts, or modify the conveyor system 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 conveyor.
- Do not clear jams or reach into any unit before first turning off the equipment power source(s) and affixing appropriate lockout/tagout device(s).

Parts Replacement

To minimize production downtime, selected conveyor spare parts should be stocked for replacement of defective components when required. If quantity requirements or code numbers are not indicated on the conveyor parts list, refer to the equipment bill(s)-of-materials. For added convenience, a list of selected spare parts is included in this manual (see Section I).

Factory Assistance

Contact Field Service for installation, operation, or maintenance assistance, or Customer Service and Support for replacement parts.

Installation

Prepare The Host Conveyor

Install the case stop after the host conveyor is installed. Determine the location for installing the case stop in accordance with the project layout drawings and the features of the host conveyor.

Check for features of the host conveyor that may interfere with the intended location of the case stop. If possible, rearrange features that interfere. If not possible, relocate the case stop to the nearest location that does not present interference.

Remove rollers as necessary (see Figure G - 1).

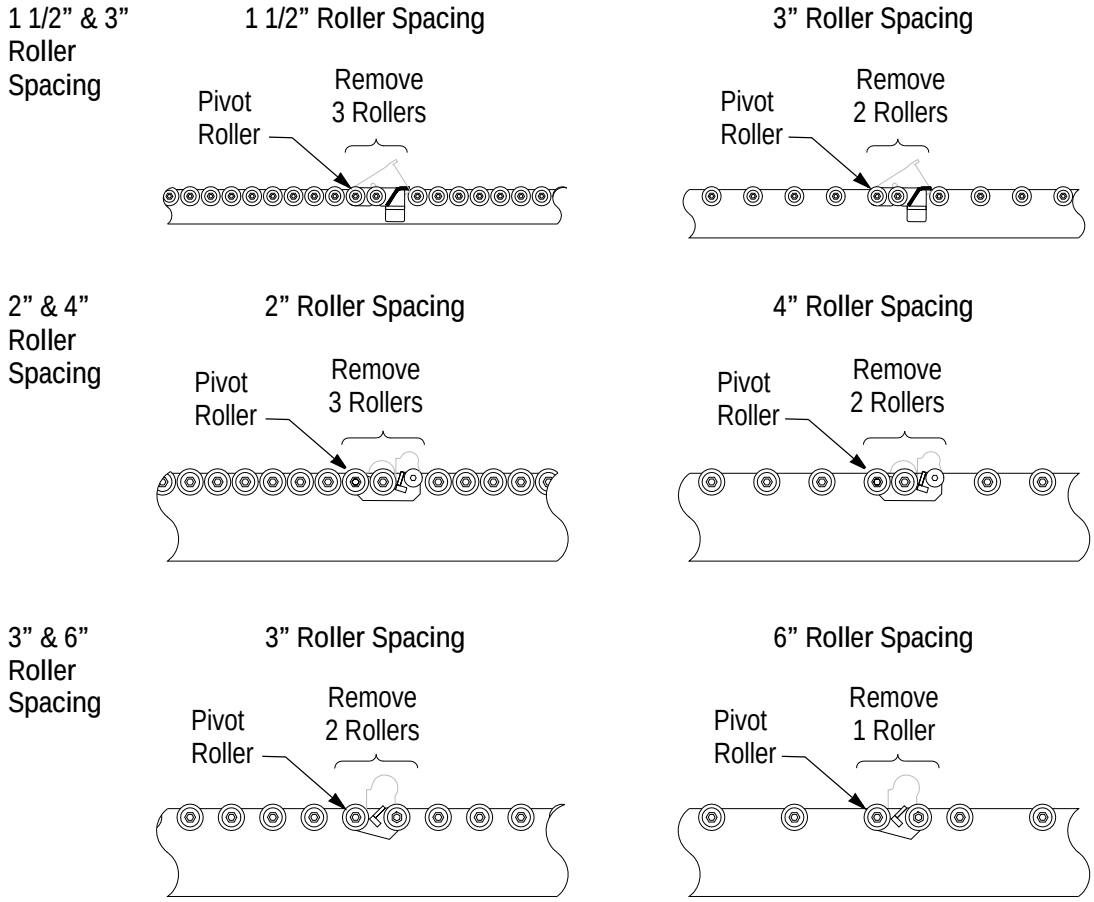


Figure G - 1 – Removing Rollers From Host Conveyor

Prepare The Case Stop

Disconnect the operating linkage from the lever arm (see Figure G - 2). It may also be helpful to remove the lever arm from the pivot assembly.

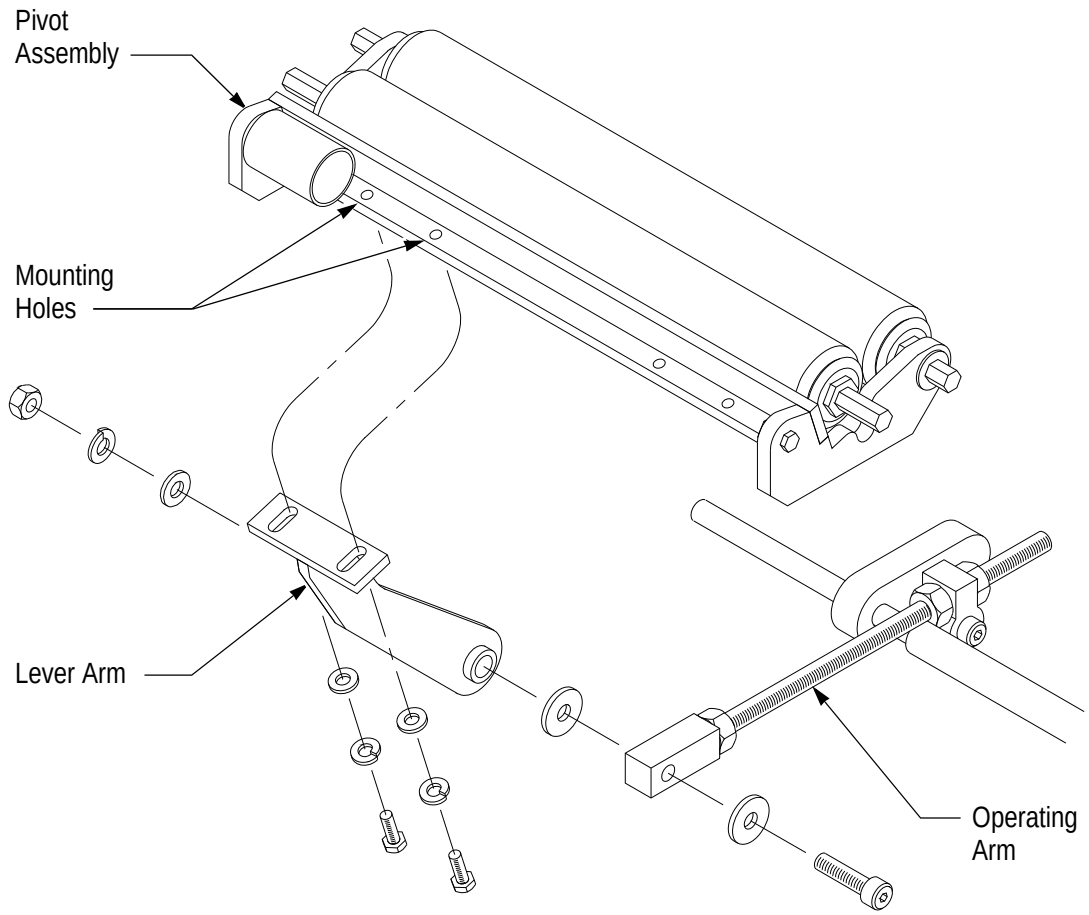


Figure G - 2 – Disconnecting Operating Linkage – Hand- & Foot-Operated Case Stops

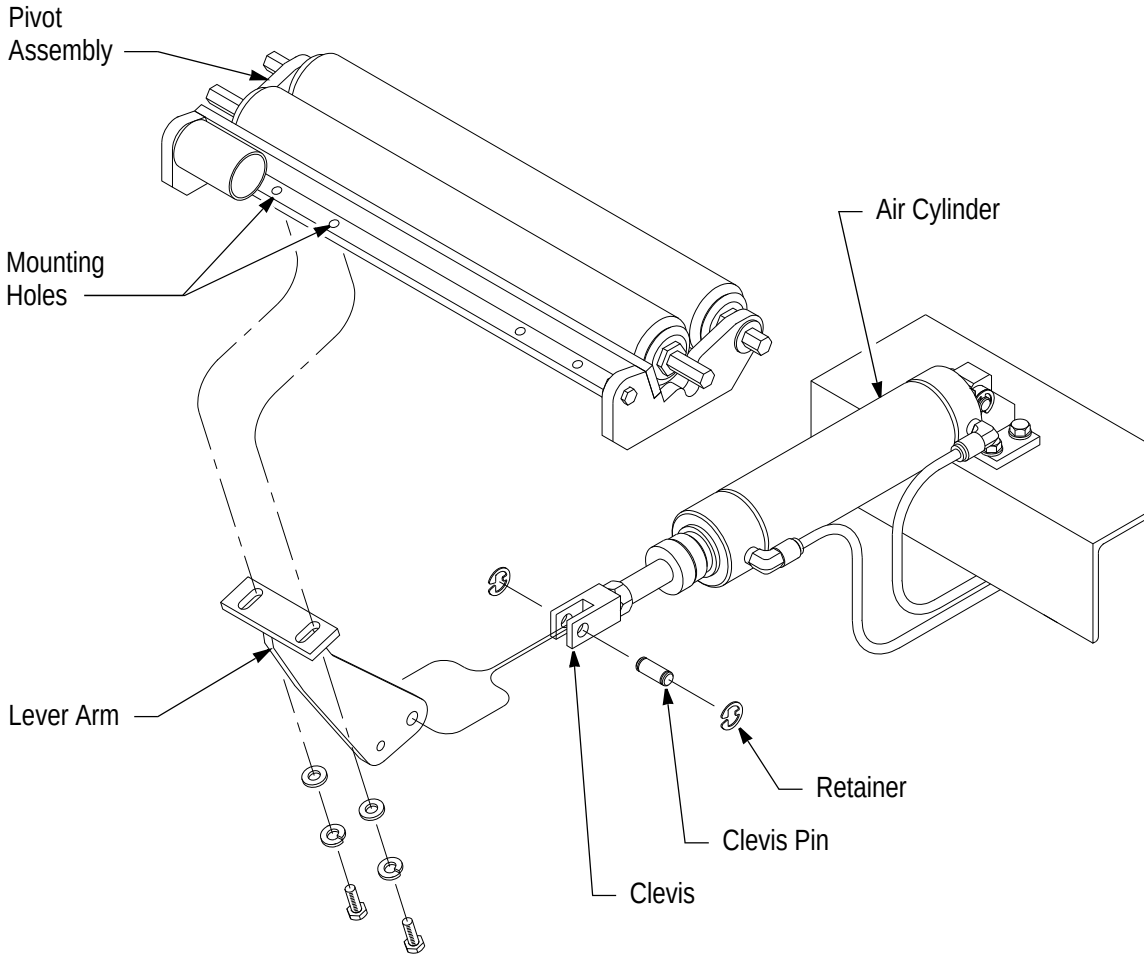


Figure G - 3 – Disconnecting Operating Linkage – Air-Actuated Case Stops

Install The Pivot Assembly

Install the pivot assembly on the conveyor, (see Figure G - 4, Figure G - 5, and Figure G - 6). Operate the pivot assembly manually several times to ensure that there is no interference with existing rollers or other components. Make adjustments as necessary.

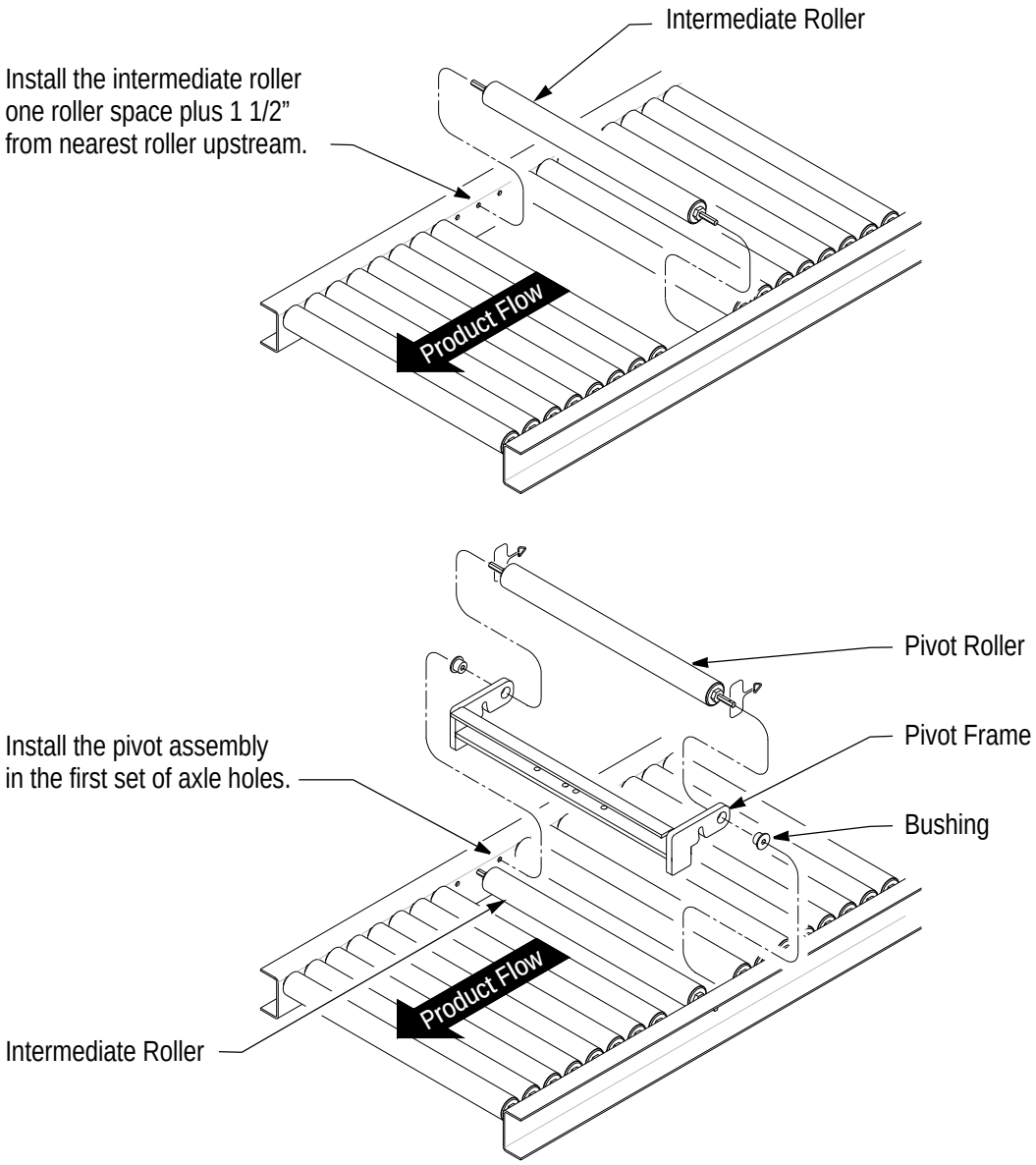


Figure G - 4 – Install The Pivot Assembly – 1 1/2" & 3" Roller Centers

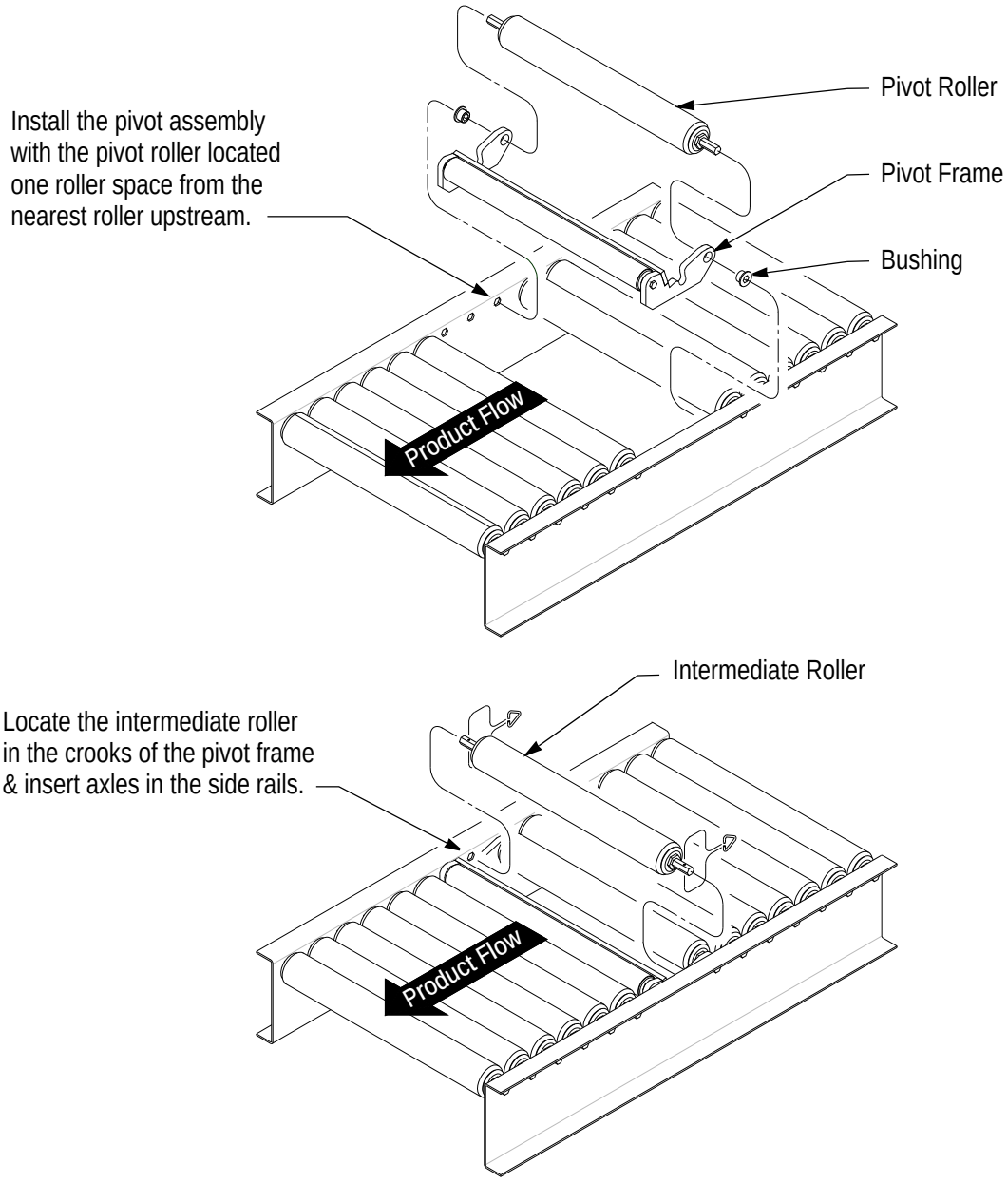


Figure G - 5 – Install The Pivot Assembly – 2” & 4” Roller Centers

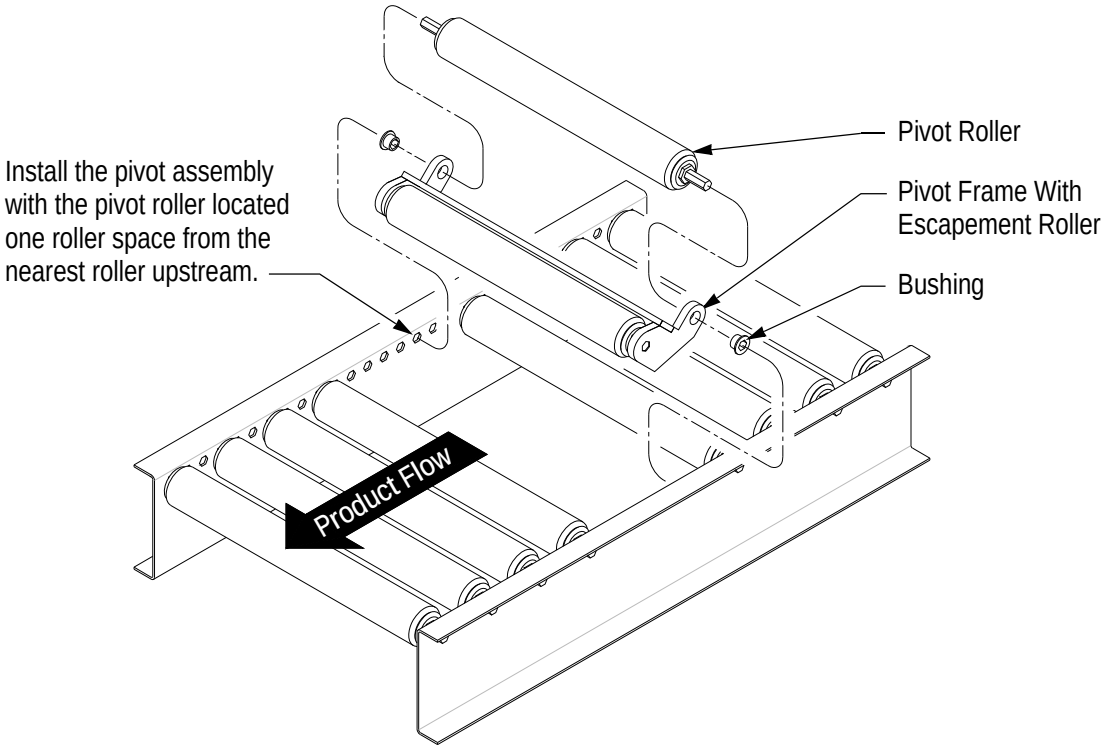


Figure G - 6 – Install The Pivot Assembly – 3” & 6” Roller Centers

Install The Case-Stop Frame.

If the lever arm was removed from the pivot assembly, replace the lever arm. Use a lift bed to position the case stop frame underneath the host conveyor. Raise the case stop assembly to the underside of the conveyor side rails, and bolt the top flanges of case stop frame to the bottom flanges of the conveyor side rails. Do not tighten until positioned properly (see Figure G - 7).

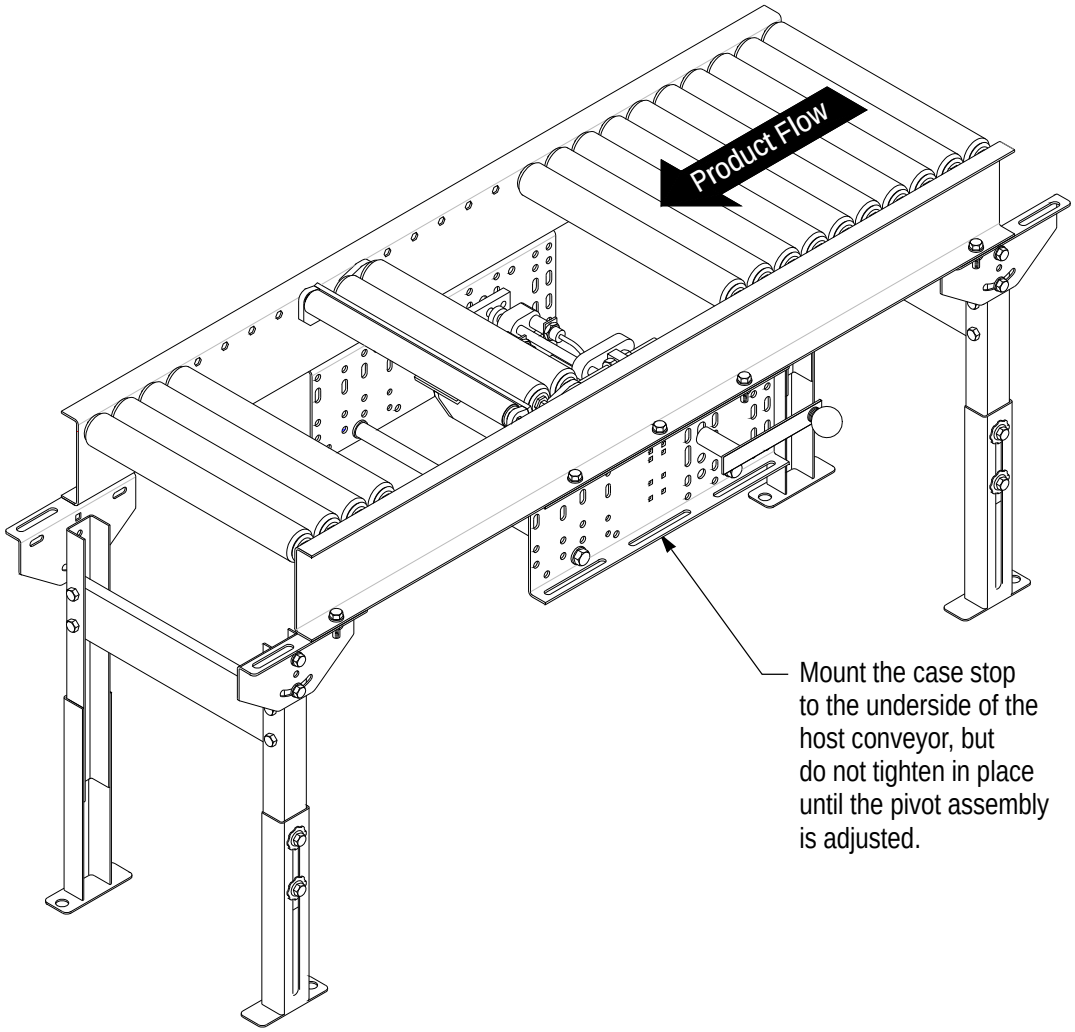


Figure G - 7 – Install The Case Stop Frame

Note:

On foot-operated case stops for 1 1/2” & 3” roller centers, remove the spreader pipes after mounting the case-stop frame to the underside of the host conveyor.

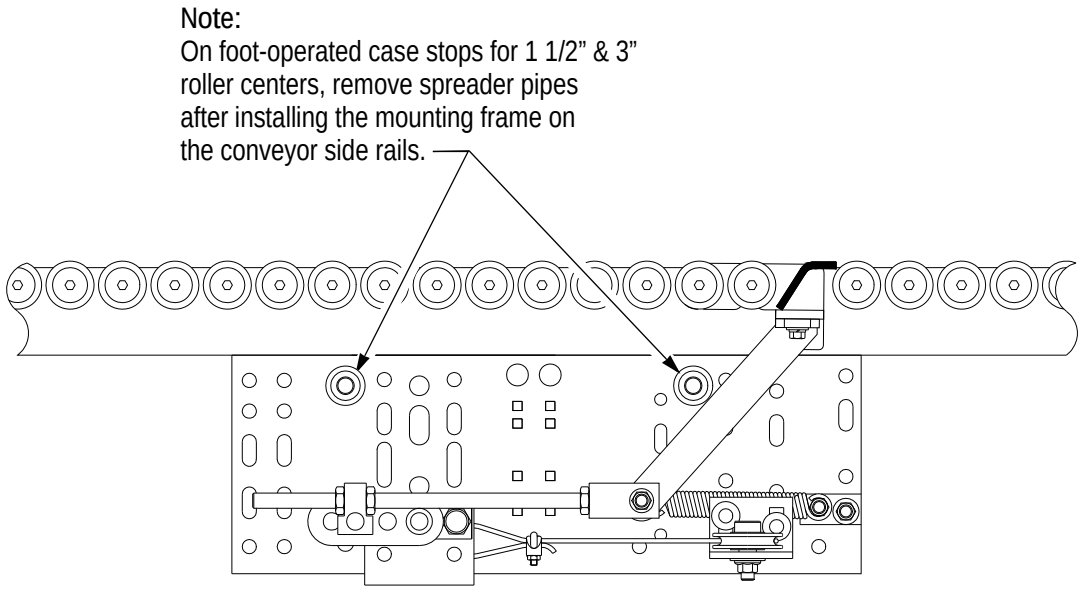


Figure G - 8 – Spreader Pipes On Foot-Operated Case Stops For 1 1/2” & 3” Roller Centers

Check The Pivot Assembly

Attach the lever arm to the operating mechanism. With the case stop disengaged, lay a straightedge across the conveying surface and check the position of the pivot assembly (see Figure G - 9).

- On case stops for 1 1/2-inch and 3-inch roller centers, make certain that the cross-machine blade lies below the conveying surface.
- On case stops for 2-inch and 4-inch and for 3-inch and 6-inch , make certain that the top of the escapement roller is flush with the conveying surface.

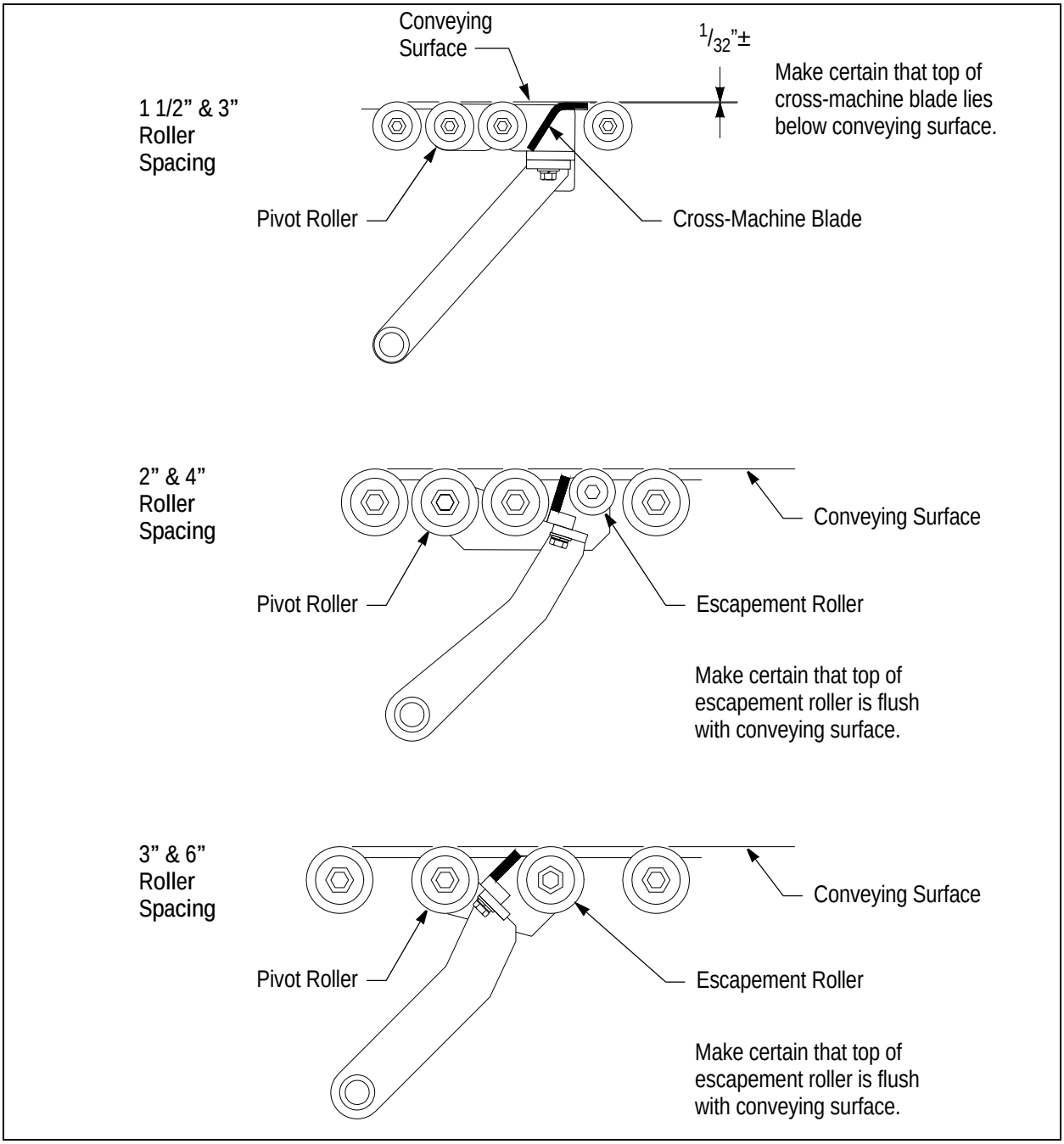


Figure G - 9 – Checking The Pivot Assembly

Note that on foot-operated case stops, the linkage is spring-loaded to engage the case stop. To check the disengaged position of the pivot assembly before the foot pedal is installed, secure the pivot assembly in the disengaged position by using a clamp or by tying it down.

Adjust the position of the mounting frame as follows:

- If the pivot assembly is too high, shift the mounting frame toward the infeed end of the conveyor.
- If the pivot assembly is too low, shift the mounting frame toward the discharge end of the conveyor.

When the disengaged position of the pivot assembly is as close to the correct height as possible, tighten the mounting hardware connecting the mounting frame to the conveyor side rails.

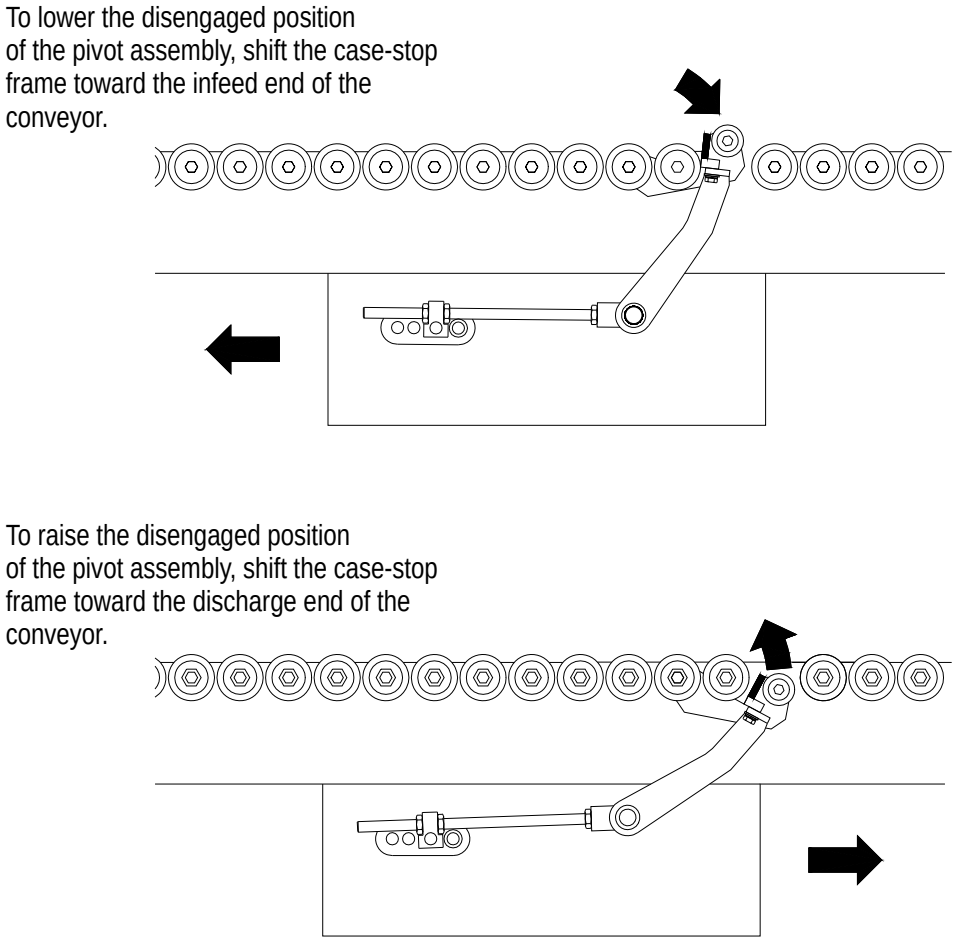


Figure G - 10 – Adjusting The Pivot Assembly

Fine Adjustment

If the disengaged position of the pivot assembly requires additional adjustment after the mounting frame is secured, fine adjustments can be made in the linkage.

Hand- And Foot-operated Case Stops

The lever arm is connected to a threaded rod, which is connected to a link arm with a pivot hinge (see Figure G - 11). There are two jam nuts on the threaded rod, one on each side of the pivot hinge.

To adjust the disengaged position of the pivot assembly, loosen the corresponding jam nut, and tighten the other jam nut, until the correct pivot-assembly position is achieved. When the adjustment is complete, be certain that the jam nuts are tight against the pivot hinge.

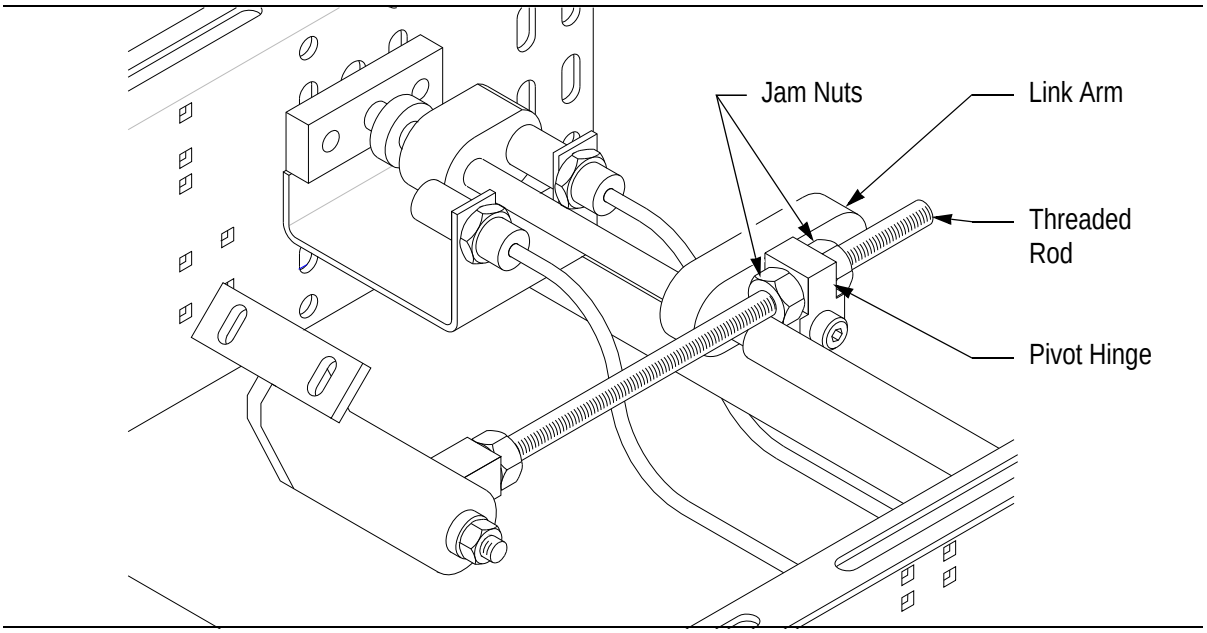


Figure G - 11 – Adjusting Linkage – Hand- & Foot-Operated Case Stops

Air-Actuated Case Stops

On air-actuated case stops, only the disengaged position of the pivot assembly can be adjusted with the linkage. Note that adjusting the disengaged position with the linkage affects the relationship between the disengaged and engaged positions, which is preset in the factory for proper operation. For this reason, every effort should be made to set the disengaged position by adjusting the position of the mounting frame. The disengaged position should be adjusted with the linkage only as a last resort.

To adjust the disengaged position with the linkage, loosen the collar mounted on the piston rod (see Figure G - 12). Secure the pivot assembly in the disengaged position as necessary. Abut the collar firmly against the cylinder, and tighten the collar.

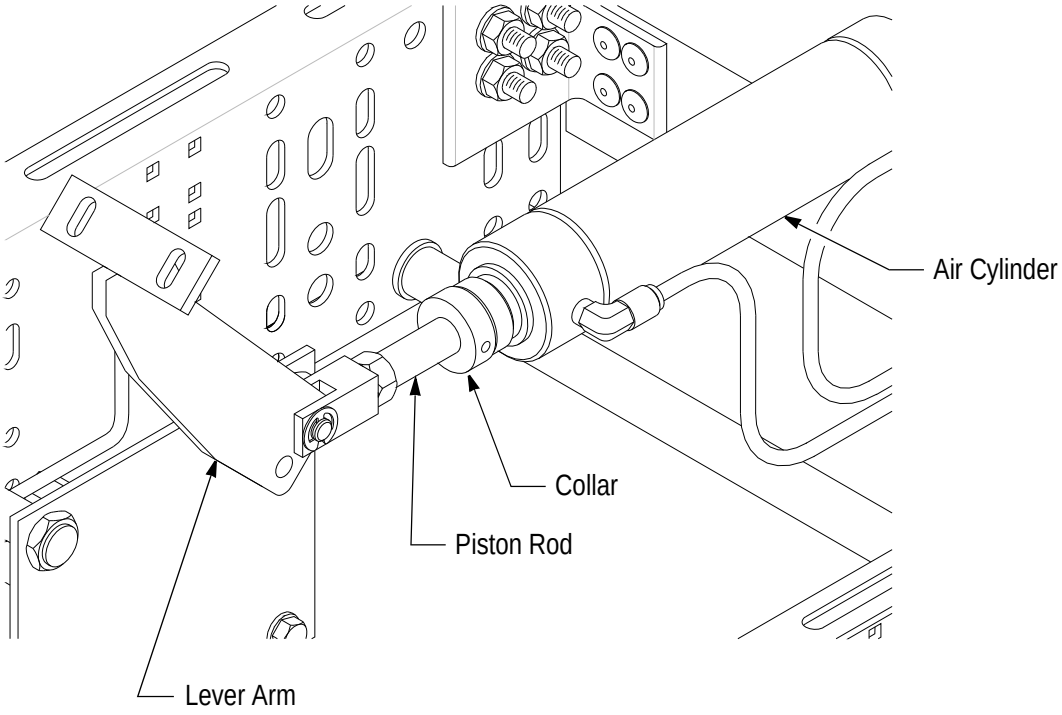


Figure G - 12 – Adjusting Linkage – Air-Actuated Case Stops

Install the Foot Pedal (Foot-Operated Case Stops Only)

On foot-operated units, a cable connects the operating mechanism to the foot pedal. The case stop unit is shipped with the cable installed, but with the foot pedal shipped loose. Foot-pedal installation requires the following steps:

- Determine the foot-pedal location.
- Anchor the foot pedal to the floor as necessary.
- Adjust the length of the cable as necessary and attach the cable to the foot pedal.

Determine the foot-pedal location according to the project layout drawings, which should indicate on which side of the conveyor the foot pedal should be accessible, the location along the conveyor, or the distance from some other object. The foot pedal may be located as follows:

- “Direct drop” (the foot pedal is located directly below the pulley mounted to the inside of the mounting frame); or
- “Offset” (the foot pedal is located up to five feet from the “direct drop” location).

Direct Drop Foot Pedal Location

Locate the foot pedal on the floor directly below the pulley mounted on the inside surface of the case-stop side channel. Anchor the pedal base to the floor as necessary (see Figure G - 13).

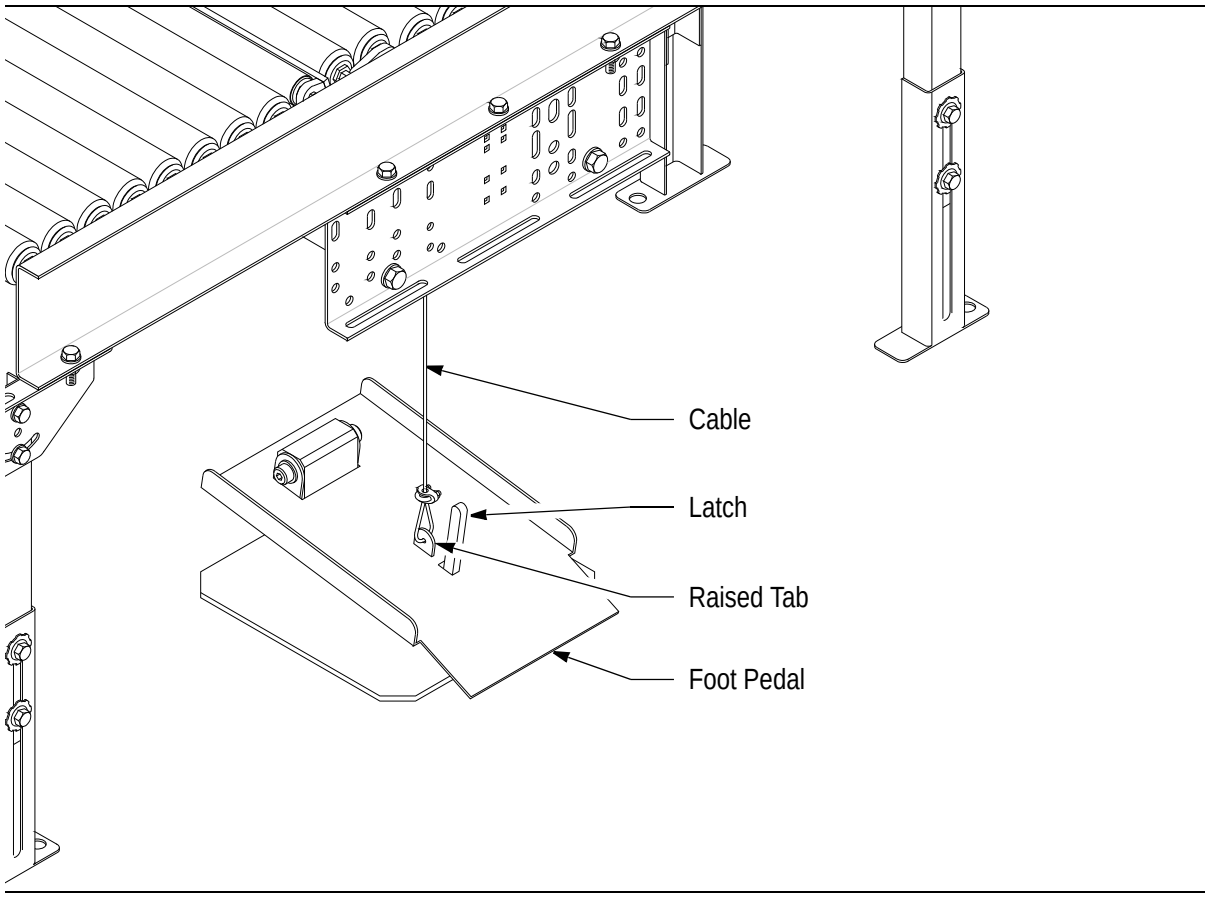


Figure G - 13 – “Direct Drop” Foot Pedal Installation

Offset Foot Pedal Location

Mount offset bracket #1 to the bottom flange of the case stop side channel below the pulley (see Figure G - 14). Mount offset bracket #2 to the bottom flange of the conveyor side rail at the required distance from the case stop. Make certain that the pulleys mounted to both brackets are oriented toward the center of the conveyor.

Locate the foot pedal on the floor directly below offset bracket #2. Anchor the pedal base to the floor as necessary. Route the cable under the pulley mounted to offset bracket #1 and over the pulley mounted to offset bracket #2.

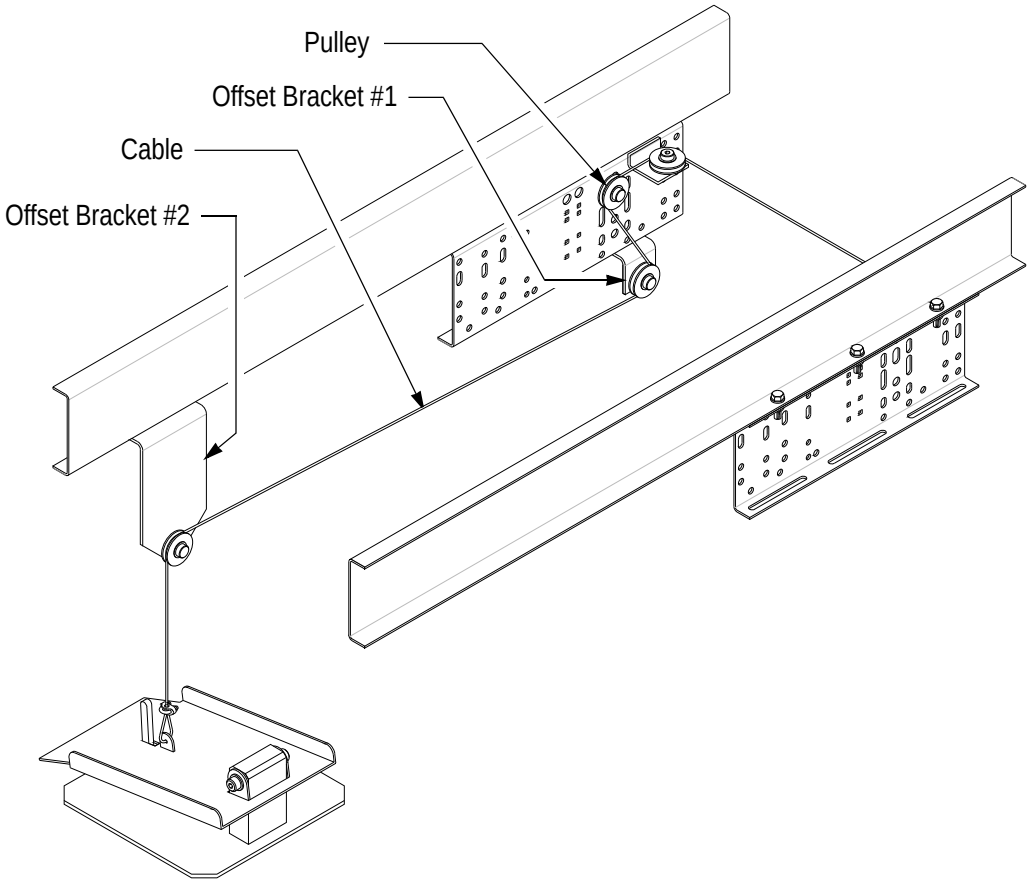


Figure G - 14 – “Offset” Foot Pedal Location

Attach Cable To Foot Pedal

Set the pivot assembly in the engaged position. Make certain that the foot pedal is in the released position.

Route the cable through the eye in the raised tab in the center of the pedal.

Note that the opposite end of the cable is fastened to an extension spring mounted to the side channel of the case stop. Put the cable under tension until the extension spring is stretched about 7/8 to one inch beyond the free length (see Figure G - 15).

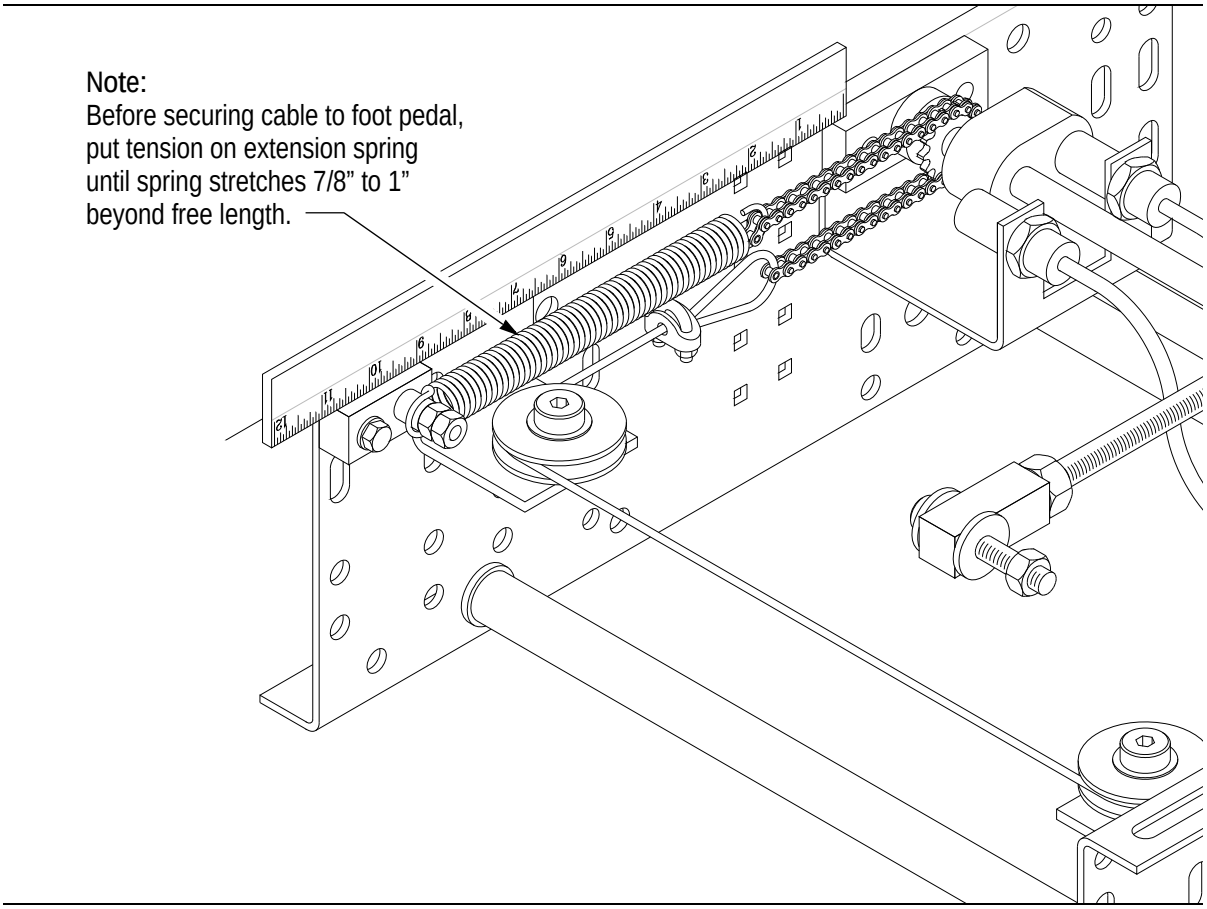


Figure G - 15 – Checking Spring Tension

While holding the cable under tension, place the wire rope clip around the strands of cable on both sides of the raised tab in the foot pedal. Secure the wire rope clip around the cable (see Figure G - 16).

Depress the pedal and then release the latch several times. When the pedal returns to the raised position, make certain that the extension spring remains under tension. With the foot pedal latched in the disengaged position, verify that the cross-machine blade lies below the conveying surface. On units furnished with an escapement roller, verify that the top of the escapement roller is flush with the conveying surface. Adjust the cable length as necessary. When the cable is properly adjusted, trim the excess cable as necessary.

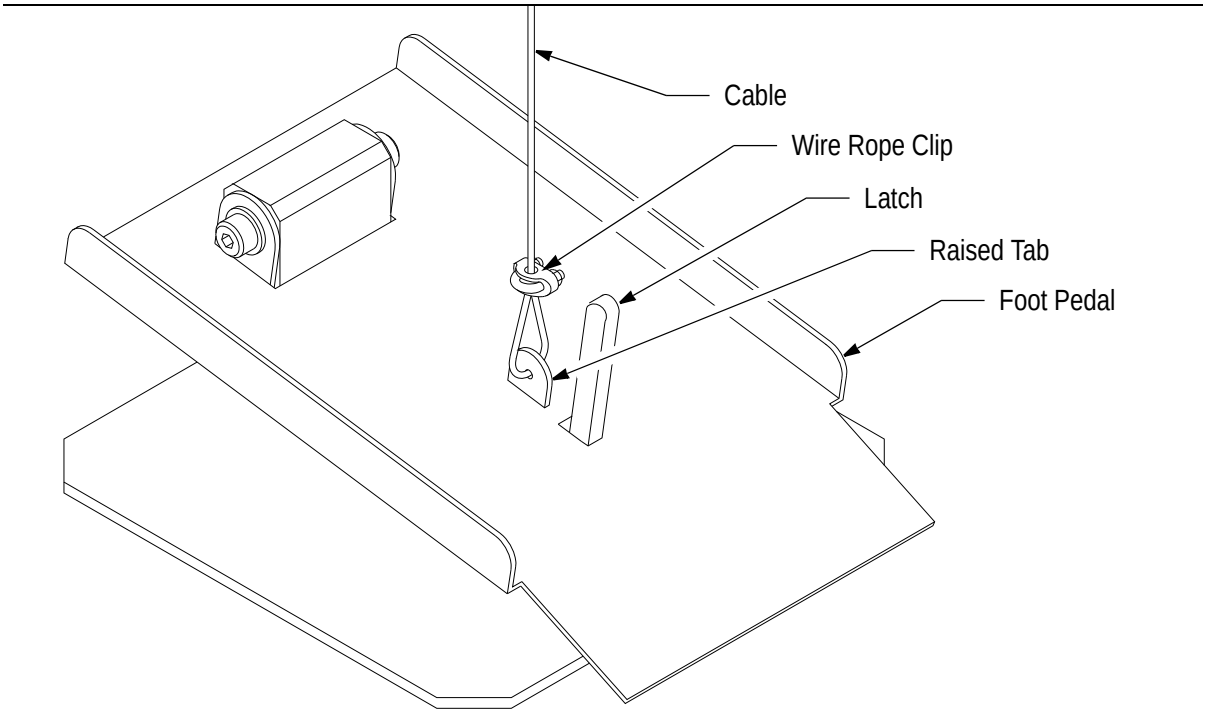


Figure G - 16 – Attaching Cable To Foot Pedal

Pneumatic Actuator

Connect filtered shop air to the solenoid valve (see Figure G - 17). Adjust the air-supply pressure regulator to 60 to 80 PSI.

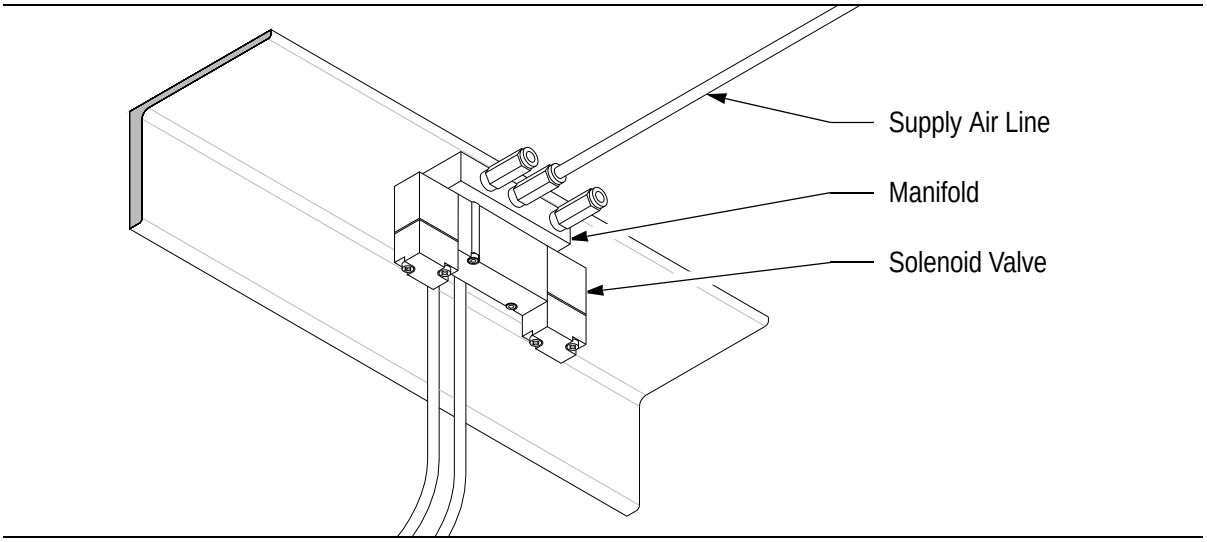


Figure G - 17 – Connecting Air Supply Line

Accumulation Zone Control Piping

Case stops configured for accumulation conveyor (Accuglide Plus and A/C conveyors) are furnished with accumulation zone control. The accumulation zone control must be piped into the accumulation air-logic system of the host conveyor

Hand- and Foot-Operated Case Stops

On hand- and foot-operated case stops, a cam mounted on the case-stop operating shaft engages a push-button accumulation zone-control valve (see Figure G - 18). When the case stop is disengaged, the cam depresses the valve push button, and the valve remains open. When the case stop is engaged, the cam releases the valve push button, and the valve closes.

Pipe the accumulation zone-control valve into the air line extending between the sensor valve of the adjacent downstream zone and the clutch actuators of the zone in which the case stop is installed (see Figure G - 19 and Figure G - 20).

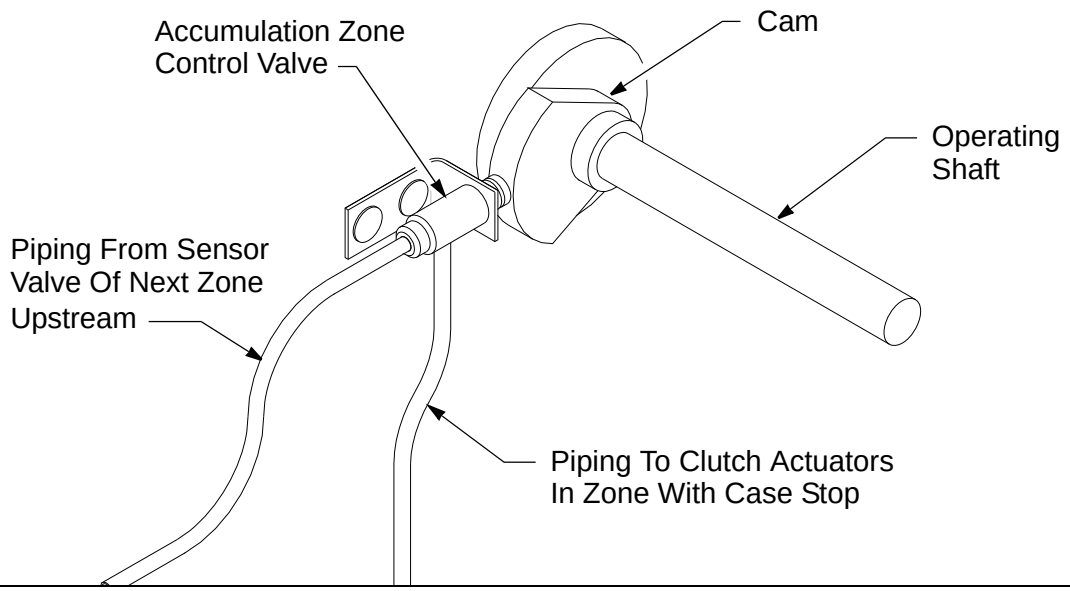


Figure G - 18 – Piping Accumulation Zone Constrol Valve – Hand- & Foot-Operated Case Stops

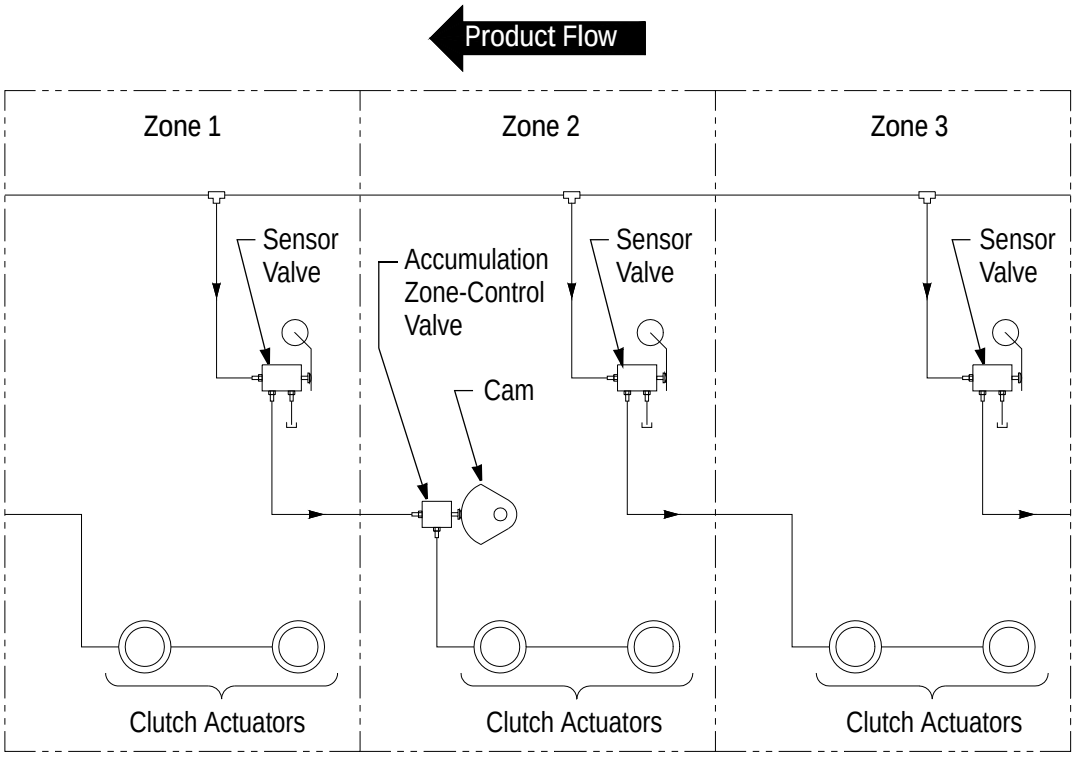


Figure G - 19 – Pneumatic Schematic – Hand- & Foot-Operated Case Stops With Accumulation Zone Control

Air-Actuated Case Stops

Air-actuated case stops incorporate a push-button accumulation zone-control valve, but, unlike the hand- and foot-operated case stops, the zone-control valve is operated by a pilot valve (see Figure G - 20). When the case stop is disengaged, the pilot valve depresses the zone-control valve push button, and the zone-control valve remains open. When the case stop is engaged, the pilot valve releases the zone-control valve push button, and the zone-control valve closes.

Pipe the accumulation zone-control valve into the air line extending between the sensor valve of the adjacent downstream zone and the clutch actuators of the zone in which the case stop is installed (see Figure G - 20 and Figure G - 21Figure G - 21). Note that the pilot valve is piped to a tee installed in the “disengage” port of the pneumatic cylinder that actuates the case stop.

Make certain that the wiring to the solenoid valves is connected according to the project wiring diagrams. Operate the case stop several times using the control system to ensure that it operates properly.

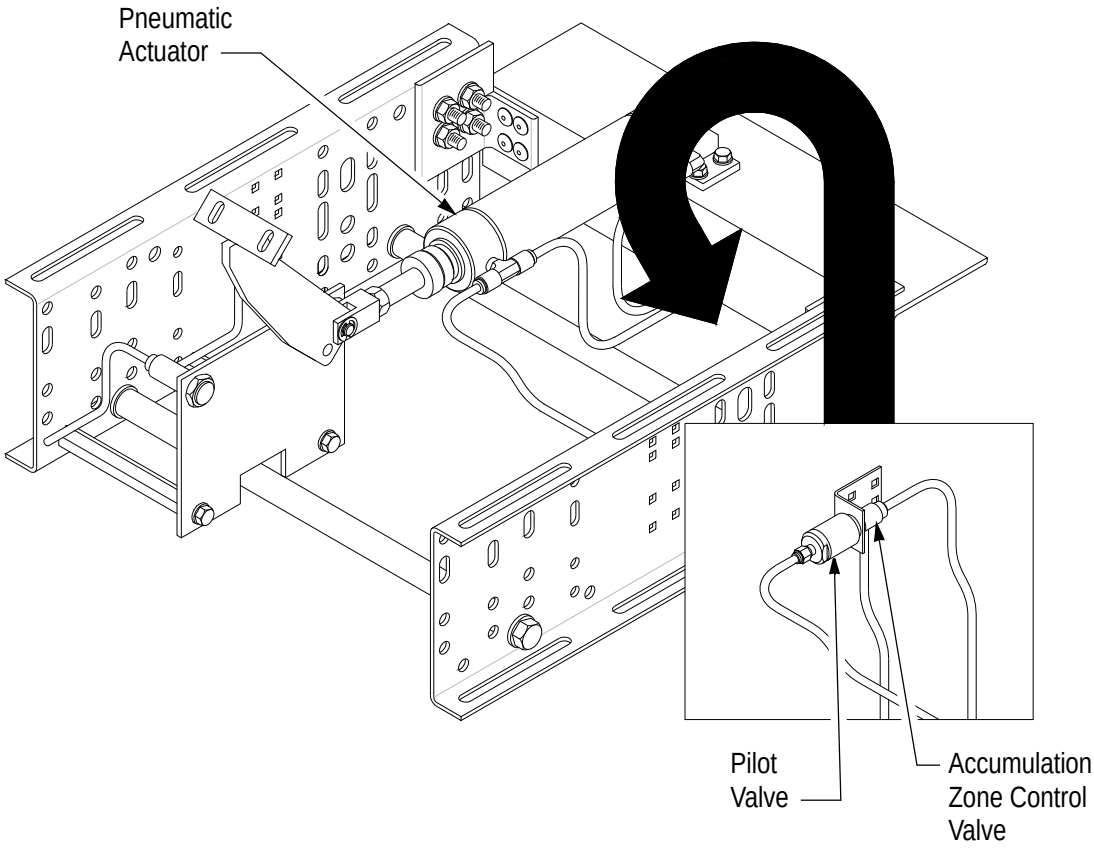


Figure G - 20 – Accumulation Zone Control Valve – Air-Actuated Case Stops

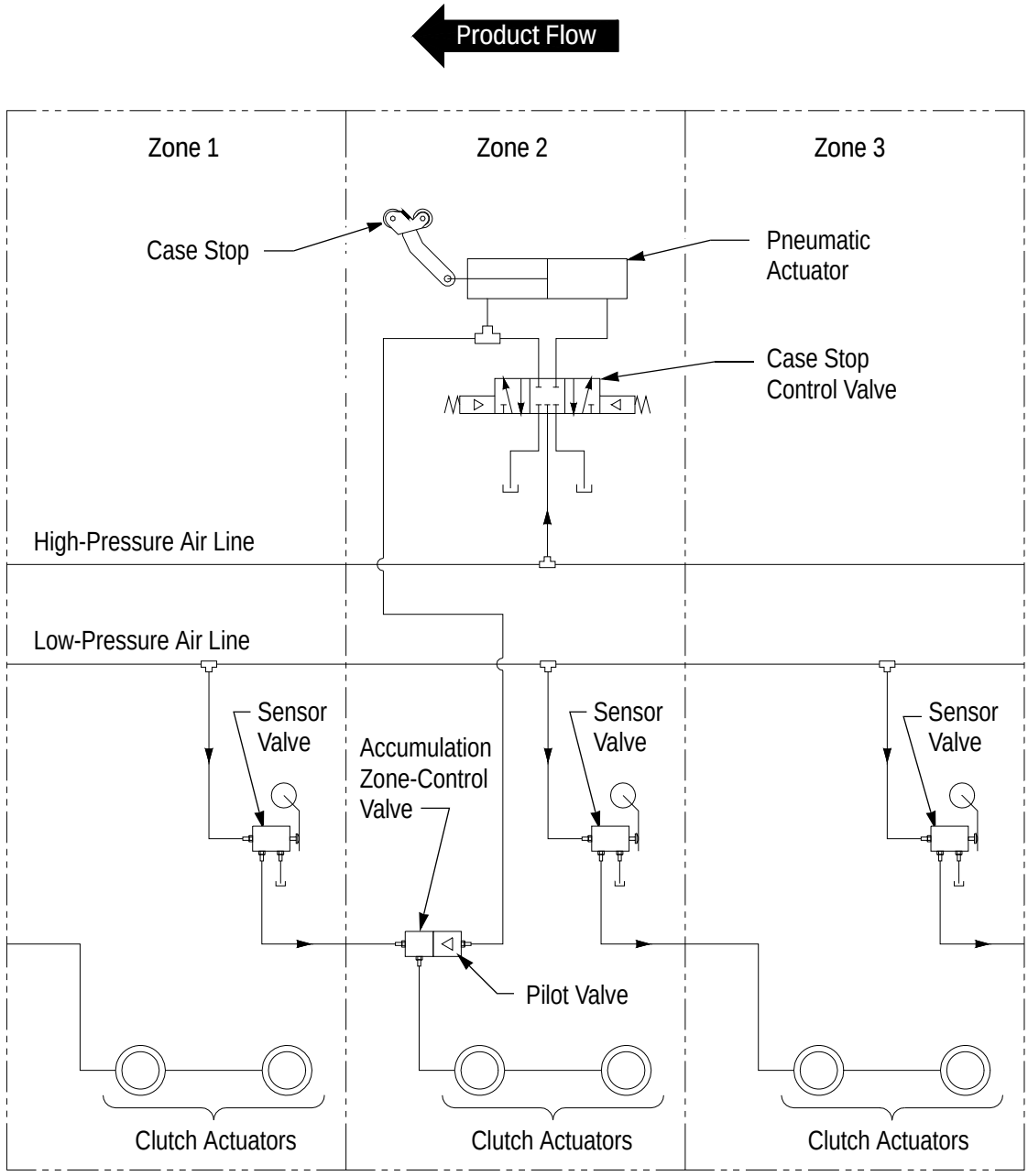


Figure G - 21 – Pneumatic Schematic – Air-Actuated Case Stop With Accumulation Zone Control

Stop Position Sensors (Optional)

If the case stop is furnished with stop-position proximity sensors, connect the sensor wires as shown in the project wiring diagrams. The sensors may be wired to inputs in a control system or to indicators to be monitored by personnel.

Hand- & Foot-Operated Case Stops

On hand- and foot-operated case stops, the stop-position sensors are mounted to a bracket that straddles the operating shaft (see Figure G - 22). A target mounted on the operating shaft rotates with the operating shaft as the case stop is engaged and disengaged. The proximity sensors detect the terminal positions of the target.

Make certain that the sensor circuit is activated. Operate the case stop several times to verify that the sensors are functioning properly. If the proper signal is not received, adjust the position of the proximity sensor and recheck.

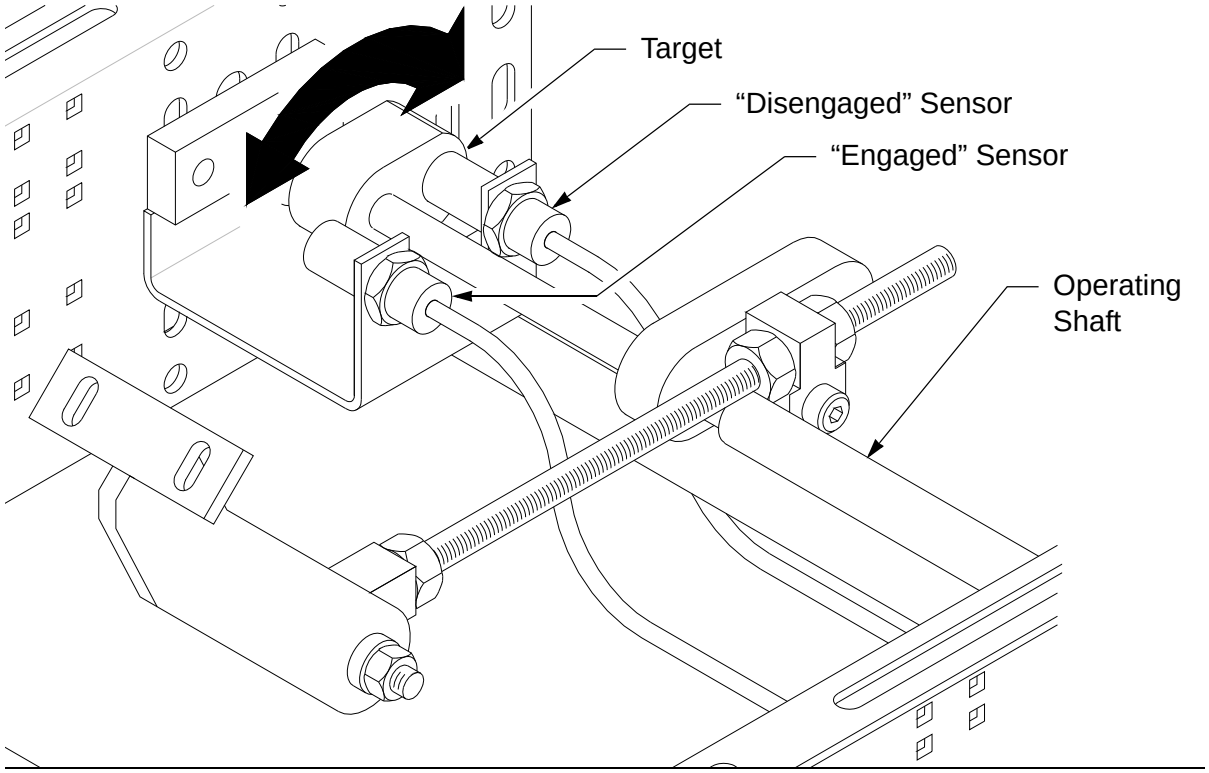


Figure G - 22 – Stop Position Sensors – Hand- & Foot-Operated Case Stops

Air-Actuated Case Stops

On air-actuated case stops, the proximity sensors are mounted to a bracket that is mounted to the side channel by standoffs (see Figure G - 23). The proximity sensors are located in slots in the bracket to permit adjustment. The sensors detect the position of the lever arm, which is connected to the cylinder-rod clevis.

Make certain that the sensor circuit is activated. Operate the case stop several times to verify that the sensors are functioning properly. If the proper signal is not received, adjust the position of the proximity sensor and recheck.

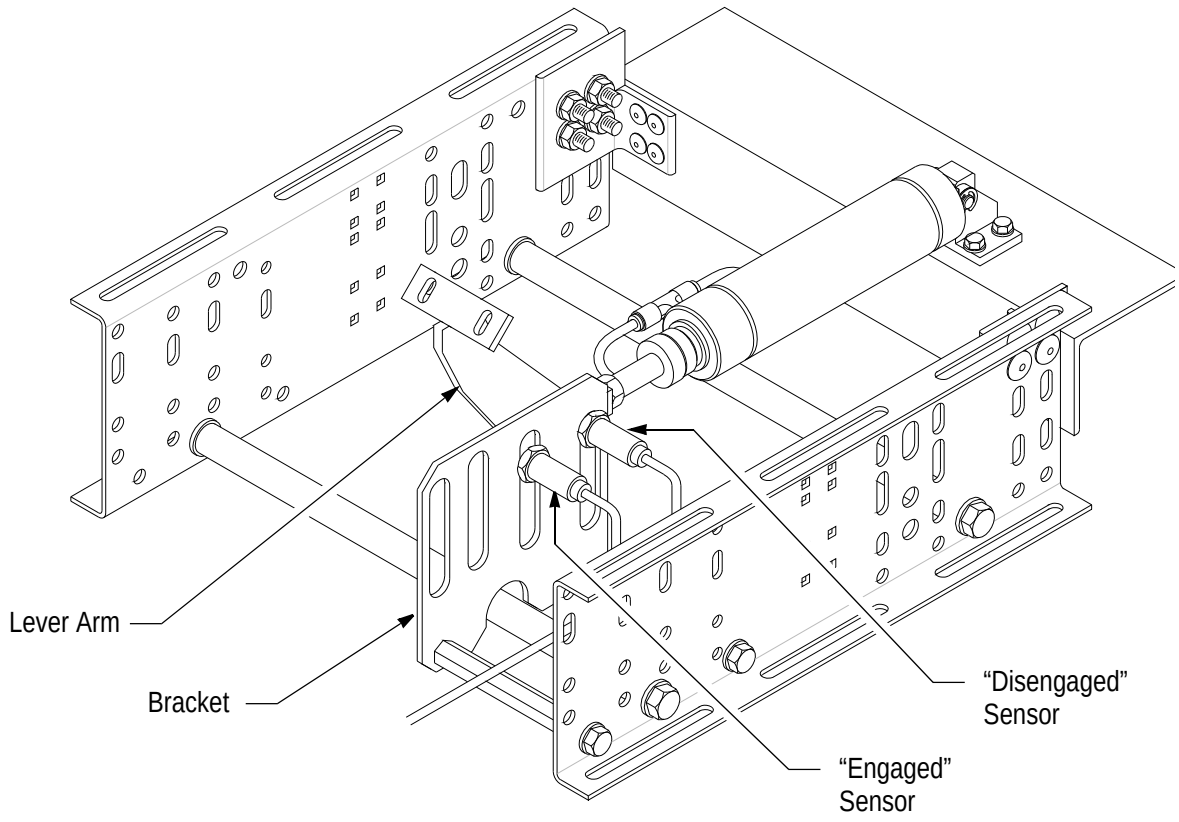


Figure G - 23 – Stop Position Sensors – Air-Actuated Case Stops

Final Check

Make certain that all mounting fasteners are tight. Make certain that all tools and other foreign objects are removed from the case stop before operating the conveyor.

SECTION H:MAINTENANCE

Introduction

Warning Signs

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

Safety Precautions

- Turn off conveyor power sources and affix appropriate lock-out and tag-out devices 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 conveyor is in operation.
- Observe all warning signs, lights, and alarms associated with the conveyor operation and maintenance, and be alert at all times to automatic operation of adjacent equipment.
- Use extreme caution near moving conveyor 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 conveyor at any time except where suitable catwalks, gates, or bridges are provided for personnel travel.
- Do not attempt to repair any equipment while the conveyor is running, replace any conveyor component without appropriate replacement parts, or modify the conveyor system 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 conveyor.
- Do not clear jams or reach into any unit before first turning off the equipment power sources and affixing appropriate lockout and tag-out devices.
- Frequently check safety guards, warning signs, lights, and alarms, and keep them in good condition to ensure the safety of all personnel.

Parts Replacement

Spare Parts

To minimize production downtime, selected parts have been designated as “spare parts” because they are subject to wear, and they are prone to failure. These parts are identified in Section I, “Spare Parts.” To minimize down time, maintain a reserve stock of designated spare parts at the quantities recommended in the spare parts proposal. For further information, contact the Customer Service department.

Replacement Parts

Parts not designated as spare parts may be replaced if necessary. To identify parts not designated as spare parts, refer to the bills of material for the equipment provided.

Factory Assistance

Contact Field Service for installation, operation, or maintenance assistance, or Customer Service for replacement parts.

Scheduled Maintenance

The schedule for recommended service checks and equipment maintenance presented herein are provided as a guide (see Table H.1). These recommendations apply to typical, intermittent-duty (8 hours per day, 5 days per week) operation, above freezing temperature (40°F to 110°F). Continuous-duty operation or extreme environmental conditions may require more frequent maintenance. The ideal maintenance schedule may best be determined by performing maintenance more frequently than recommended when the combiner is first put into operation, and then lengthening the intervals based on experience. In any case, the intervals should not exceed those recommended herein.

Initial Startup & Run-In Period

Before operating the Accuzone conveyor for the first time, make certain that the system has passed all inspections and checks associated with installation. Make certain that tools, rags and other foreign objects have been removed.

Check that all electrical connections are intact. Make certain that all safety devices are in their proper position and that all fasteners are tight.

All newly installed equipment should be inspected frequently and serviced as needed during the first 40 hours of operation. Thereafter the most appropriate maintenance program should be determined and followed.

Table H.1 – Scheduled Maintenance Summary

Interval	Components	Unusual Noises	Cleanliness	Obstructions	Physical Condition	Fasteners	Proper Position	Operation	Lubrication
Daily (8 Hours)	All Operating Parts	X		X	X			X	
Weekly (40 Hours)	Rollers		X				X	X	
	Cross-Machine Blade						X	X	
	General Structure				X	X	X		
	Guards & Safety Devices				X	X	X		
Monthly (160 Hours	Linkage								X
	Operating Mechanism								X

Daily Inspections

Conduct a walk-through inspection daily. For continuous-duty operation, conduct inspections once each shift. Become familiar with the normal behavior of the conveyor, especially with the sounds of normal operation. This familiarity will serve as an invaluable frame of reference for detecting unusual noises that may occur.

Observe the movement of product over the case stop. Verify that product travels smoothly when the case stop is disengaged. On case stops that are controlled automatically, make certain that case-stop engagement and disengagement are synchronized properly with the actions of other equiment.

Report any unusual noise or operational problems immediately, and correct any faulty conditions promptly.

Weekly Maintenance

Remove dirt from rollers.

Check the disengaged position of the pivot assembly. Make certain that the cross-machine blade lies below the conveying surface. On units furnished with an escapement roller, make certain that the top of the escapement roller is flush with the conveying surface.

Check the general structure of the case stop and of the host conveyor. Make certain that all mounting fasteners are tight. Check for signs of wear on and around all operating parts.

Check all side guides, guards and safety devices to ensure that they are in their proper positions and are secure.

Monthly Maintenance

Apply oil lightly to the linkage of hand- and foot operated case stops. On foot-operated case stops, apply oil also to the chain in the operating mechanism.

Troubleshooting

Table H.2 – Troubleshooting

Problem	Possible Causes	Corrective Action
Product “jumps” when moving over disengaged case stop.	Disengaged position of pivot assembly is not adjusted properly.	Adjust disengaged position of pivot assembly. On hand-and foot-operated case stops, adjust the position of the pivot hinge along the threaded rod in the linkage. On air-actuated case stops, adjust the position of the mounting frame along the host conveyor.
Action of automatically controlled case stop is out of synchronization with other equipment.	The air-supply line has a leak.	Inspect the air-supply line to verify the problem. Replace the air-supply line.
	Supply air pressure is set too low.	Adjust supply air pressure to 60 – 80 PSI.
	A control-system setting is not correct.	Check control-system documentation.
The control system is not receiving a stop-position signal	A stop-position sensor is out of position or is defective.	Check the position of the corresponding stop-positiion sensor and adjust as necessary. If the signal remains unreceived, replace the stop-position sensor.
Accumulation zone control is not operating.	Zone-control valve is out of adjustment.	On hand- and foot-operated case stops, adjust the mounting position of the zone-control valve to ensure that the cam mounted on the operating shaft engages the push button of the zone-control valve properly. On air-actuated case stops, make certain that the pilot valve and zone-control valve are connected securely.
	The air-line tubing is loose or leaking.	Check all connections between the tubing and other components to ensure that the connections are secure. Check the tubing for cracks or holes. Replace the tubing if necessary.
	The zone-control valve or pilot valve is defective.	Check the zone-control valve for proper operation. On air-actuated case stops, check the pilot valve as well. Replace if defective.

Problem	Possible Causes	Corrective Action
Air-actuated case stop fails to operate.	The air-line tubing or a fitting is leaking.	Check all fittings and connections between the tubing and other components to ensure that the connections are secure. Check the tubing for cracks or holes, and check all fittings for damage. Replace the tubing or fittings if necessary.
	The actuator is defective	Check the actuator for proper operation, damage, and leaks. Replace if necessary.
	There is a failure in the control system	Refer to the control-system documentation for troubleshooting information.

Selected Maintenance Procedures

Adjusting Disengaged Position Of Pivot Assembly

Hand- And Foot-Operated Case Stops

The lever arm is connected to a threaded rod, which is connected to a link arm with a pivot hinge (see Figure H - 1). There are two jam nuts on the threaded rod, one on each side of the pivot hinge.

To adjust the disengaged position of the pivot assembly, loosen the corresponding jam nut, and tighten the other jam nut, until the correct pivot-assembly position is achieved. When the adjustment is complete, be certain that the jam nuts are tight against the pivot hinge.

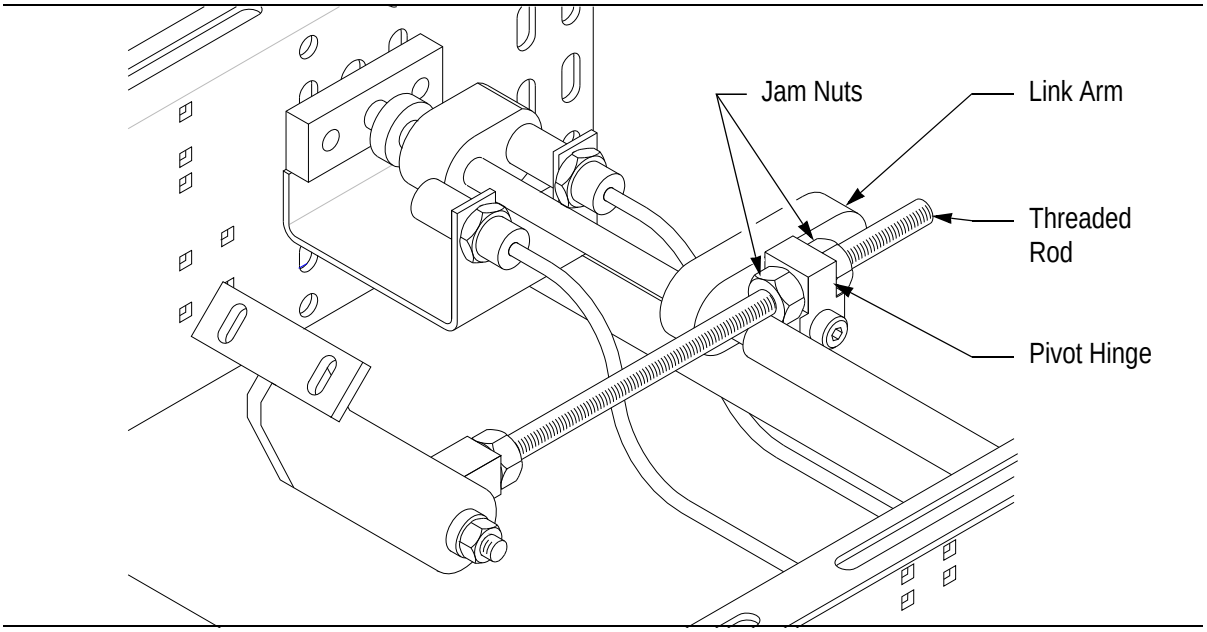


Figure H - 1 – Adjusting Linkage – Hand- & Foot-Operated Case Stops

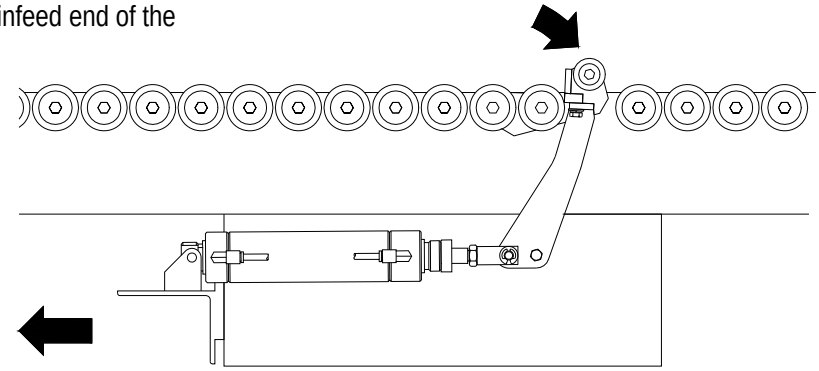
Air-Actuated Case Stops

Adjust the position of the mounting frame as follows:

- If the pivot assembly is too high, shift the mounting frame toward the infeed end of the conveyor.
- If the pivot assembly is too low, shift the mounting frame toward the discharge end of the conveyor.

When the disengaged position of the pivot assembly is as close to the correct height as possible, tighten the mounting hardware connecting the mounting frame to the conveyor side rails.

To lower the disengaged position of the pivot assembly, shift the case-stop frame toward the infeed end of the conveyor.



To raise the disengaged position of the pivot assembly, shift the case-stop frame toward the discharge end of the conveyor.

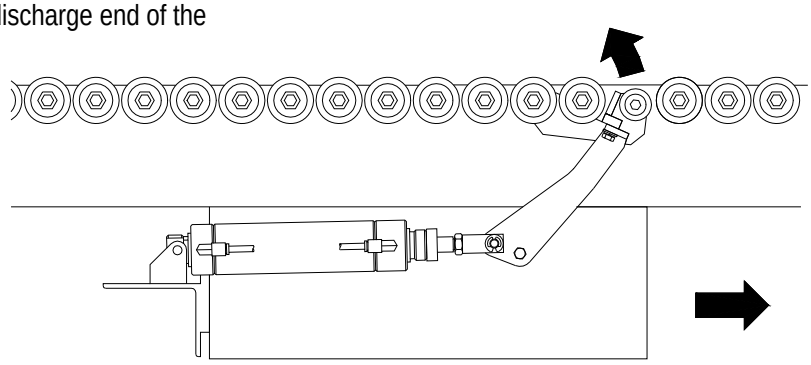


Figure H - 2 – Adjusting The Disengaged Pivot-Assembly Position – Air-Actuated Case Stops

If the disengaged position of the pivot assembly requires additional adjustment after the mounting frame is secured, fine adjustments can be made in the linkage.

On air-actuated case stops, only the disengaged position of the pivot assembly can be adjusted with the linkage. Note that adjusting the disengaged position with the linkage affects the relationship between the disengaged and engaged positions, which is preset in the factory for proper operation. For this reason, every effort should be made to set the

disengaged position by adjusting the position of the mounting frame. The disengaged position should be adjusted with the linkage only as a last resort.

To adjust the disengaged position with the linkage, loosen the collar mounted on the piston rod (see Figure H - 3). Secure the pivot assembly in the disengaged position as necessary. Abut the collar firmly against the cylinder, and tighten the collar.

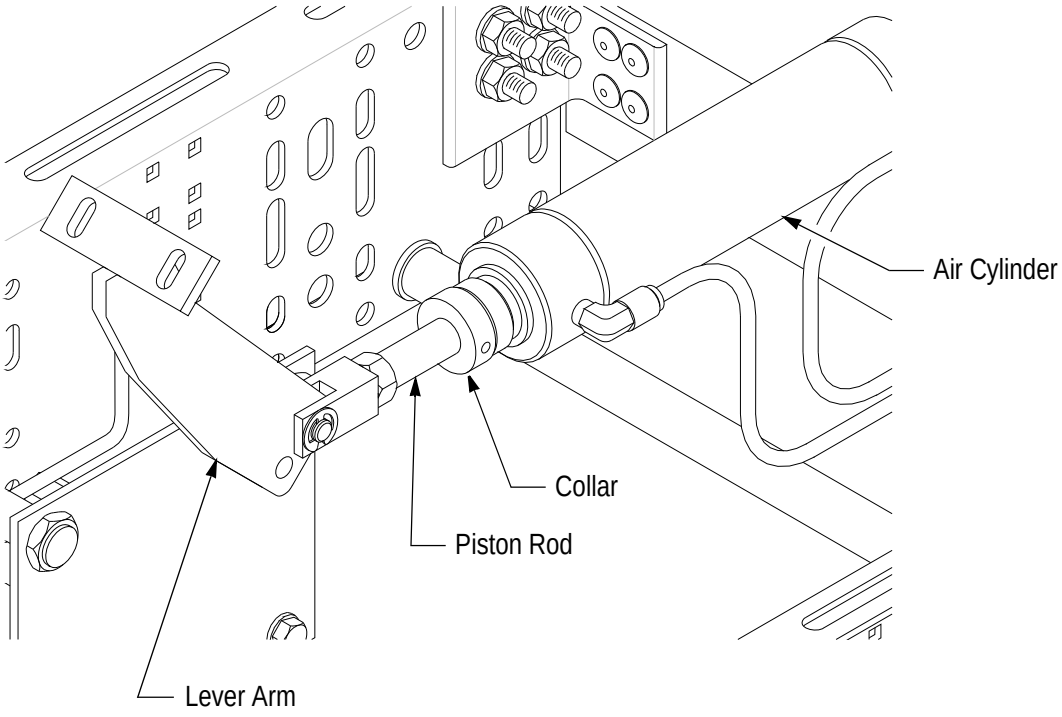


Figure H - 3 – Adjusting Linkage – Air-Actuated Case Stops

Accumulation Control Valve

Hand- & Foot-Operated Case Stops

On hand- and foot-operated case stops, adjust the mounting position of the zone-control valve to ensure that the cam mounted on the operating shaft engages the push button of the zone-control valve properly. Check the valve and all tubing and fittings for leakage. Replace defective parts.

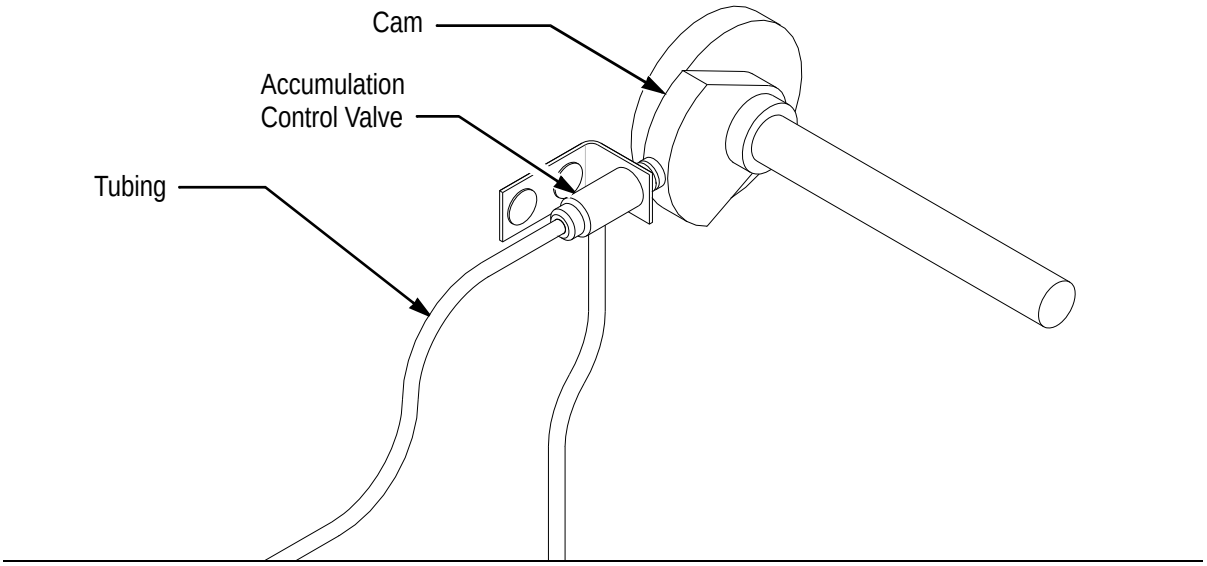


Figure H - 4 – Accumulation Control Valve – Hand- & Foot-Operated Case Stops

Air-Actuated Case Stops

Air-actuated case stops incorporate a push-button accumulation zone-control valve, but, unlike the hand- and foot-operated case stops, the zone-control valve is operated by a pilot valve (see Figure H - 5Figure H - 5). When the case stop is disengaged, the pilot valve depresses the zone-control valve push button, and the zone-control valve remains open. When the case stop is engaged, the pilot valve releases the zone-control valve push button, and the zone-control valve closes.

Pipe the accumulation zone-control valve into the air line extending between the sensor valve of the adjacent downstream zone and the clutch actuators of the zone in which the case stop is installed. Note that the pilot valve is piped to a tee installed in the “disengage” port of the pneumatic cylinder that actuates the case stop.

Make certain that the wiring to the solenoid valves is connected according to the project wiring diagrams. Operate the case stop several times using the control system to ensure that it operates properly.

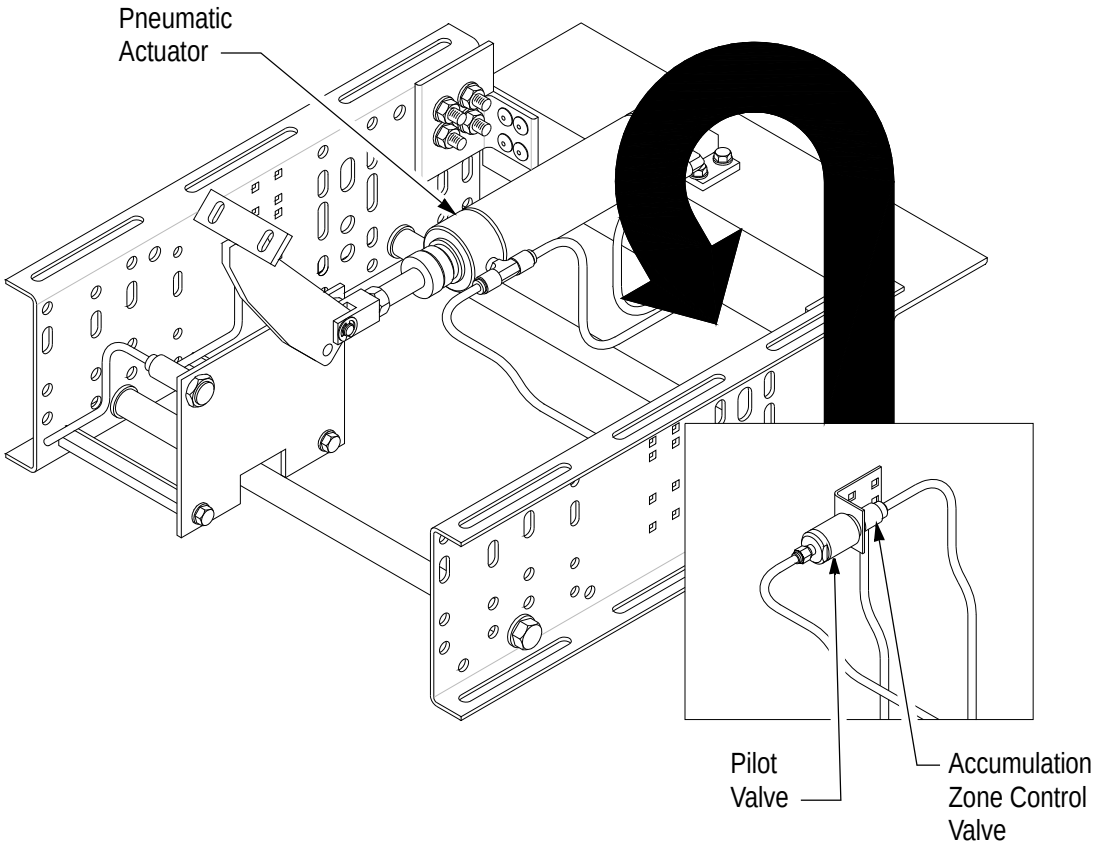


Figure H - 5 – Accumulation Zone Control Valve – Air-Actuated Case Stops

Stop Position Sensors

Hand- & Foot-Operated Case Stops

On hand- and foot-operated case stops, the stop-position sensors are mounted to a bracket that straddles the operating shaft (see Figure H - 6). A target mounted on the operating shaft rotates with the operating shaft as the case stop is engaged and disengaged. The proximity sensors detect the terminal positions of the target.

Make certain that the sensor circuit is activated. Operate the case stop several times to verify that the sensors are functioning properly. If the proper signal is not received, adjust the position of the proximity sensor and recheck.

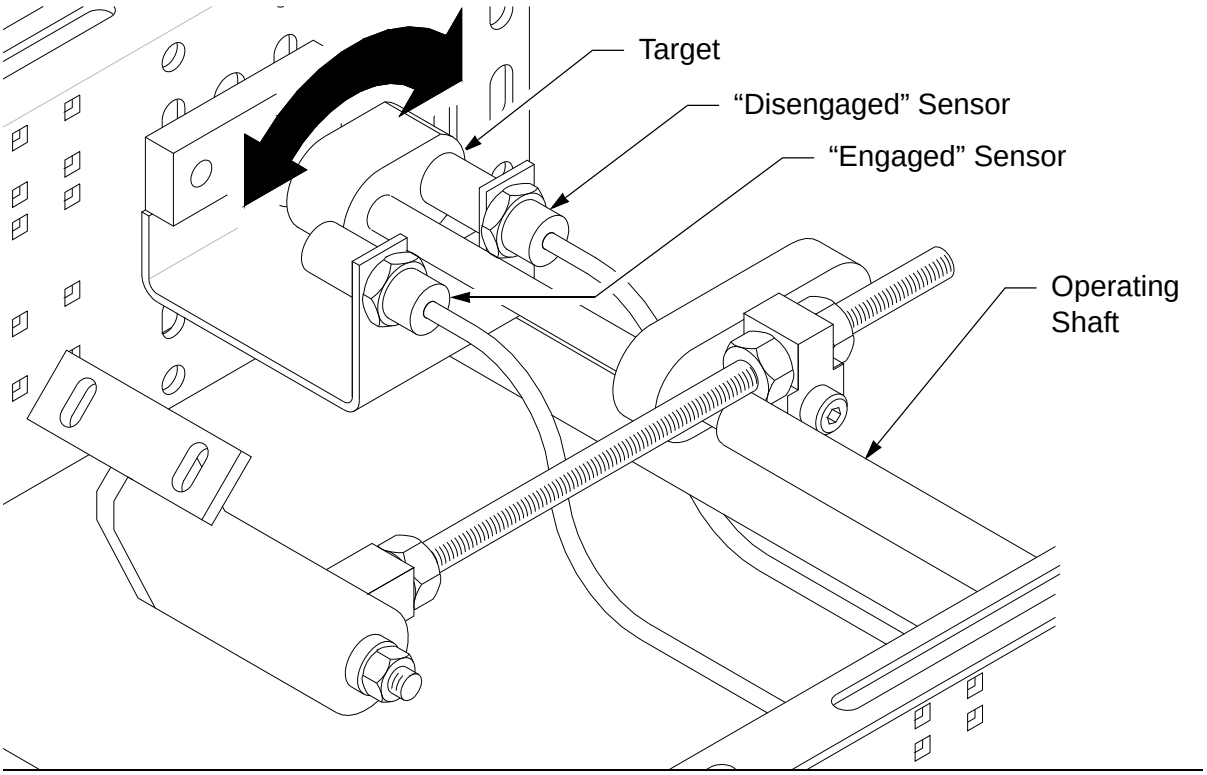


Figure H - 6 – Stop Position Sensors – Hand- & Foot-Operated Case Stops

Air-Actuated Case Stops

On air-actuated case stops, the proximity sensors are mounted to a bracket that is mounted to the side channel by standoffs (see Figure H - 7). The proximity sensors are located in slots in the bracket to permit adjustment. The sensors detect the position of the lever arm, which is connected to the cylinder-rod clevis.

Make certain that the sensor circuit is activated. Operate the case stop several times to verify that the sensors are functioning properly. If the proper signal is not received, adjust the position of the proximity sensor and recheck.

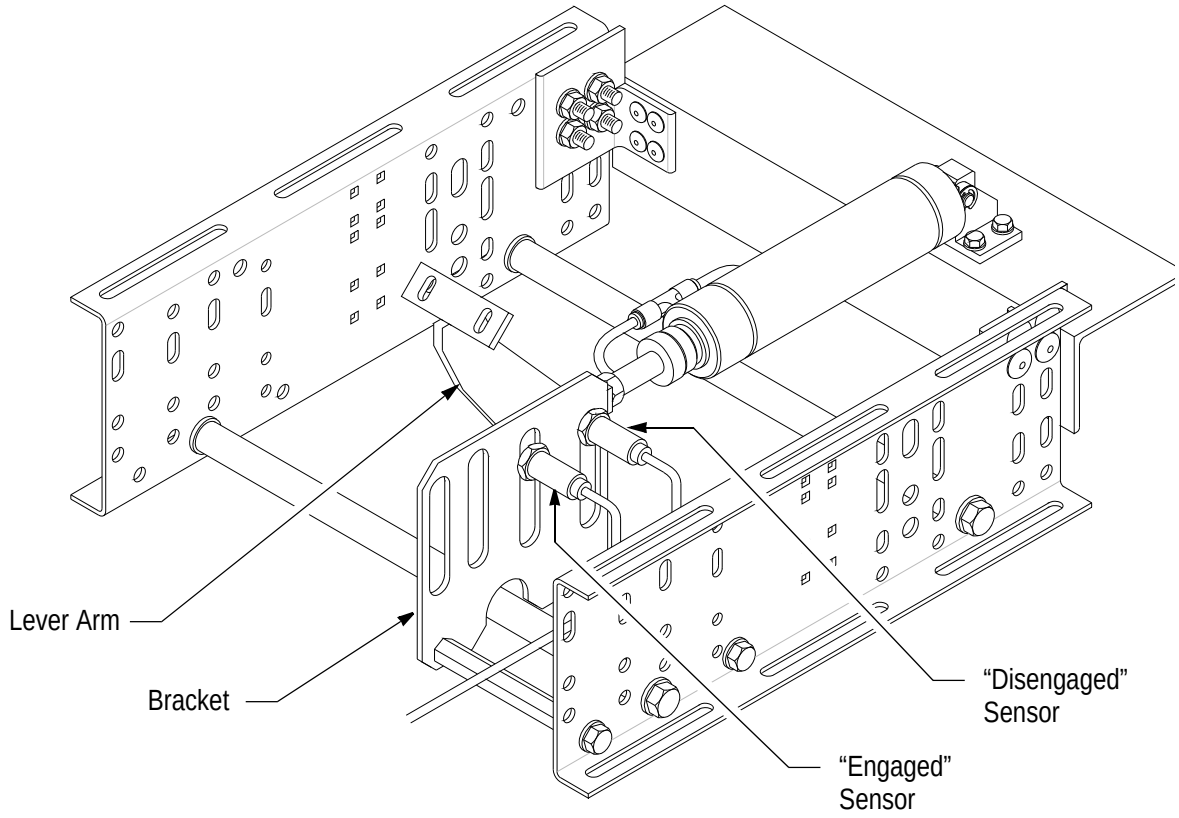


Figure H - 7 – Stop Position Sensors – Air-Actuated Case Stops

SECTION I: SPARE PARTS

Introduction

Selected parts have been designated as “spare parts” because they are crucial for proper operation, and they are subject to wear. To minimize down time, maintain a reserve stock of designated spare parts at the quantities recommended in the spare parts proposal. For further information, contact the Customer Service department. Be certain to replenish spare-part stock as spare parts are used.

In addition to spare parts, the illustrations that follow show many related parts that are not classified as “spare parts.” Callouts are keyed to tables that follow the illustrations. The tables list part numbers and descriptions and indicate whether each part is classified as a spare part.

Pivot Assemblies

1 1/2” & 3” Roller Centers

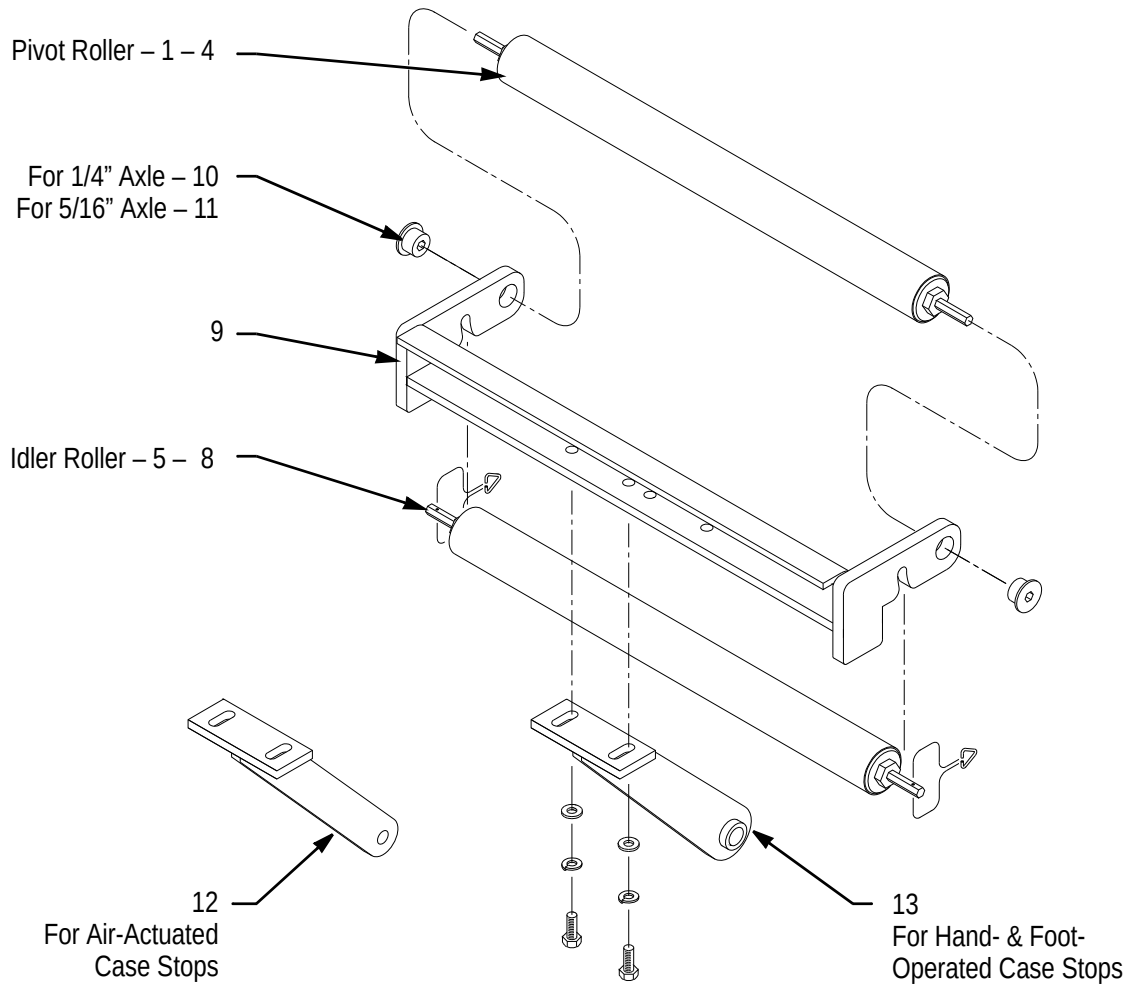


Figure I - 1 – Pivot Assembly – 1 1/2” & 3” Roller Centers

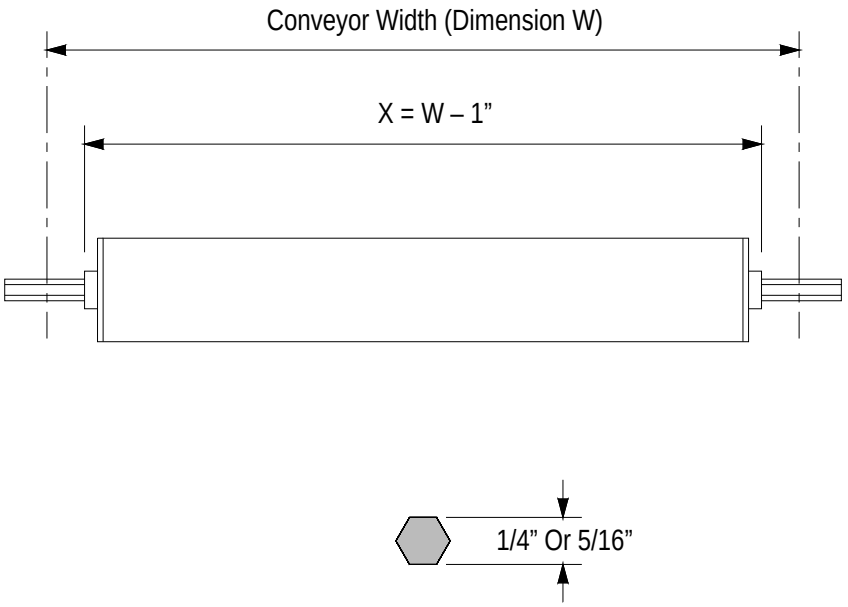


Figure I - 2 – Roller & Axle Size – 1 1/2” & 3” Roller Centers

Table I.1 – Width-Related Parts – 1 1/2" & 3" Roller Centers

Key	Description	Spare Parts	Conveyor Width (Dimension "W")			
			10	16	22	28
1	Roller, G138PL, ¼" Axle, (X) K1-PV	Yes	495966	495967	495968	495969
2	Roller, G139PL, 5/16" Axle, (X) K1-PV	Yes	495978	495979	495980	495981
3	Roller, G138PL, ¼" Axle, (X) K1-CR/PV	Yes	495974	495975	495976	495977
4	Roller, G139PL, 5/16" Axle, (X) K1-CR-PV	Yes	495986	495987	495988	495989
5	Roller, G138PL, ¼" Axle With Hog Rings, (X) K1-ID/HR	Yes	495990	495991	495992	495993
6	Roller, G139PL, 5/16" Axle With Hog Rings, (X) K1-ID/HR	Yes	496002	496003	496004	496005
7	Roller, Cold Room, G139PL, 5/16" Axle With Hog Rings, (X) K1-CR/ID/HR	Yes	495998	–	496000	496001
8	Roller, Cold Room, G139PL, 5/16" Axle With Hog Rings, (X) K1-CR/ID/HR	Yes	496010	496011	–	–
9	Roller Frame, 1 1/2" & 3" Roller Centers	No	749659	749660	749661	749662

Table I.2 – Parts Not Related To Width – 1 1/2" & 3" Roller Centers

Key	Description	Spare Part	Part Number
10	Bushing, HSS Hinge Roller, 1/4" Hex	Yes	749770
11	Bushing, HSS Hinge Roller, 5/16" Hex	Yes	749769
12	CSC Lever Arm, Air-Actuated, 1 1/2" & 3" Roller Spacing	No	749721
13	CSC Lever Arm, Hand- & Foot-Operated, 1 1/2" & 3" Roller Spacing	No	749718

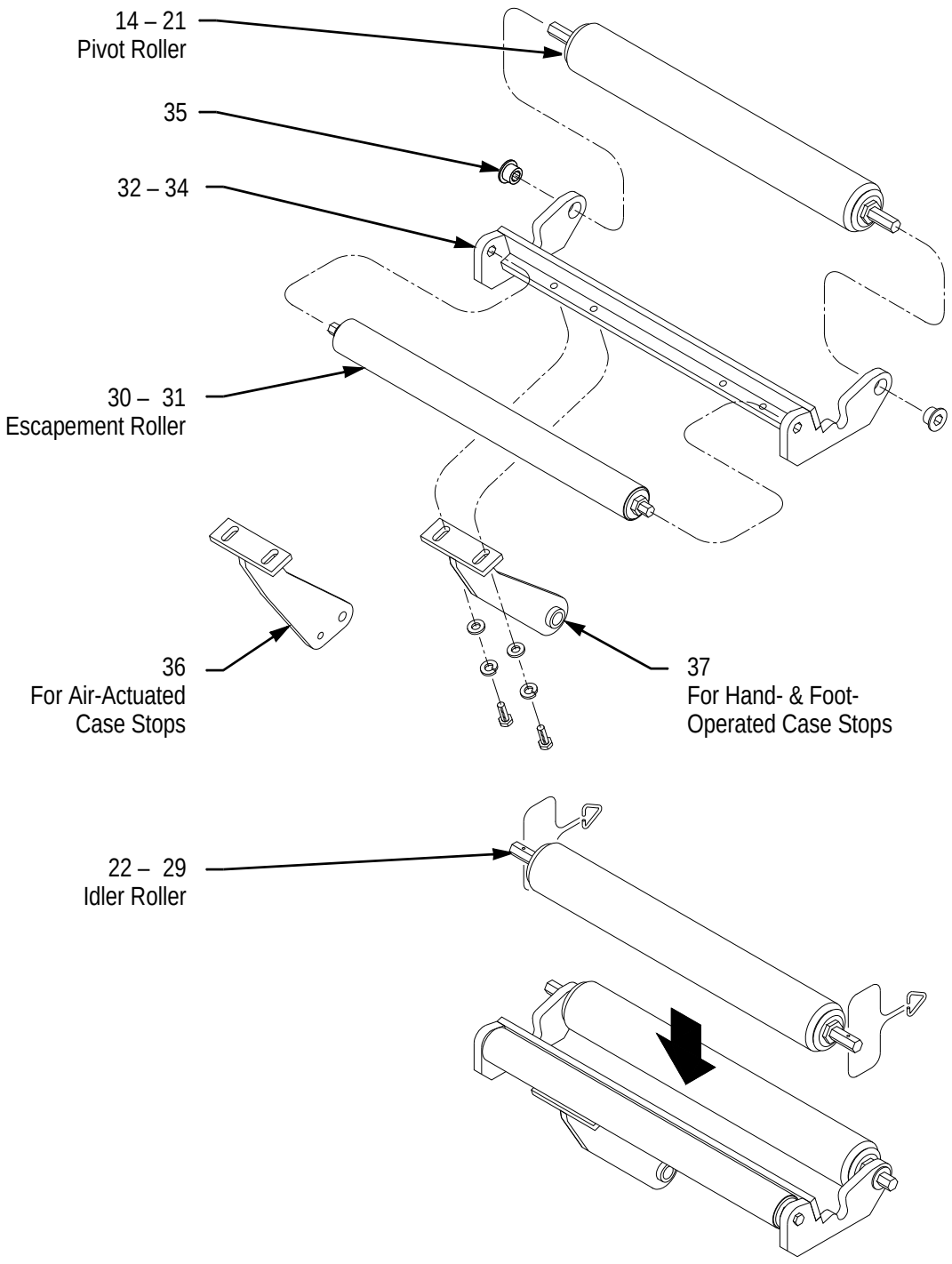


Figure I - 3 – 2” & 4” Roller Spacing

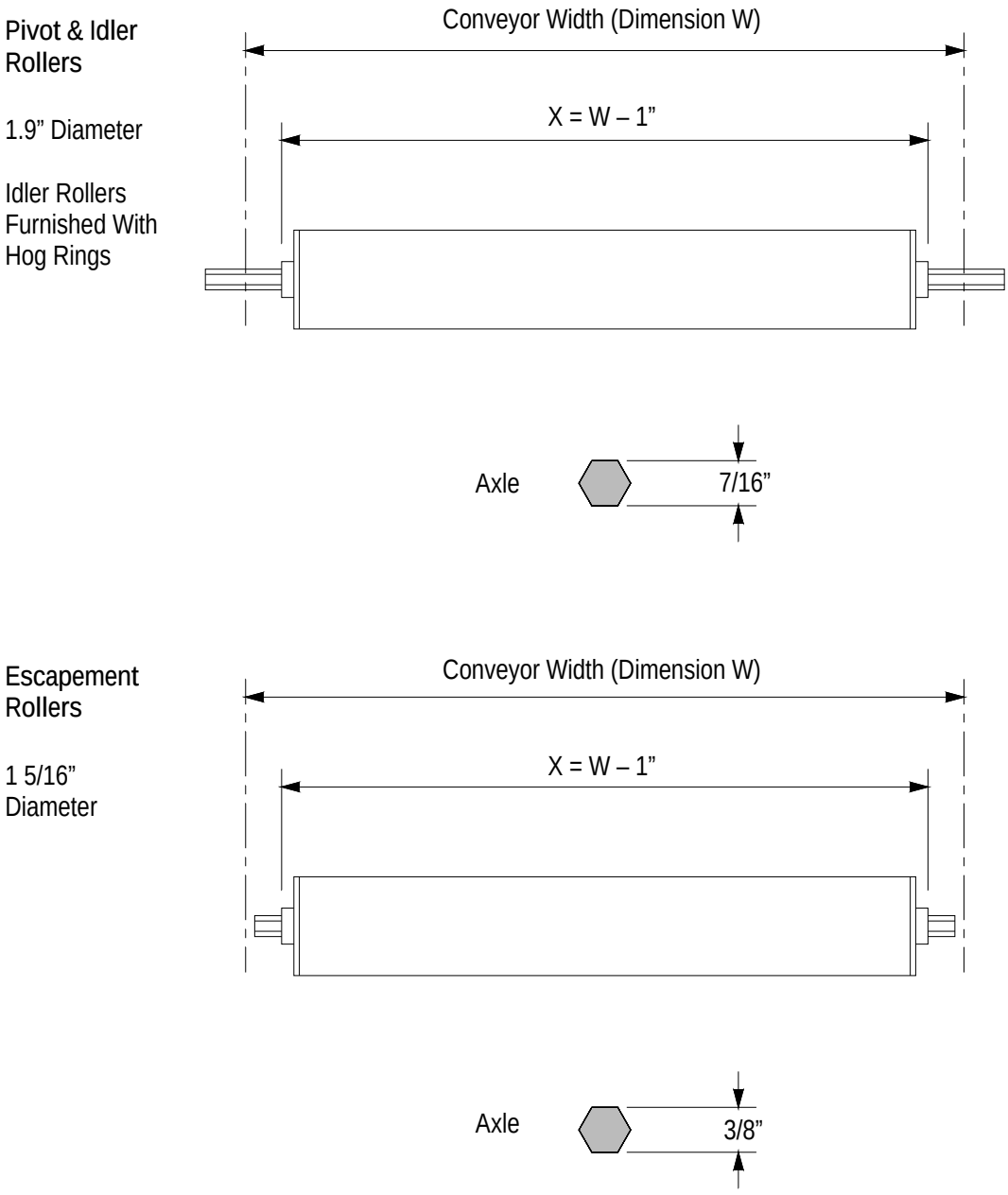


Figure I - 4 – Roller & Axle Size – 2” & 4” Roller Centers

Table I.3 – Width-Related Parts – 2” & 4” Roller Centers

Key		Spare Part	Host Conveyor Width (Dimension “W”)				
			16	22	28	34	40
14	Roller, G196GH, (X) FY-PV	Yes	495875	495876	495877	495878	495879
15	Roller, G196AB, (X) BU-PV	Yes	495888	495889	495890	495891	495892
16	Roller, G196GH With 1 Groove, (X) FY-G1/PV	Yes	495880	495881	495882	495883	495884
17	Roller, G196AB With 1 Groove, (X) BU-G1/PV	Yes	495893	495894	495895	495896	495897
18	Roller, Cold Room, G196GH, (X) FY-CR/FV	Yes	499992	499993	499994	–	–
19	Roller, Cold Room, G196AB, (X) BU-CR/PV	Yes	499995	499996	499997	–	–
20	Roller, Cold Room, Short Axle, G196GH, (X) BU-CR/SH	Yes	495885	495886	495887	–	–
21	Roller, Cold Room, G196AB With 1 Groove, (X) BU-G1/PV	Yes	495898	495899	495900	–	–
22	Roller, G196GH With Hog Rings, (X) FY-ID/HR	Yes	495927	495928	495929	495930	495931
23	Roller, G196AB With Hog Rings, (X) BU-ID/HR	Yes	495940	495941	495942	495943	495944
24	Roller, G196GH With 1 Groove & Hog Rings, (X) FY-G1/ID/HR	Yes	495932	495933	495934	495935	495936
25	Roller, G196AB With 1Groove & Hog Rings, (X) BU-G1/ID/HR	Yes	495945	495946	495947	495948	495949
26	Roller, Cold Room, G196GH With Hog Rings, (X) FY-CR/ID/HR	Yes	499986	499987	499988	–	–
27	Roller, Cold Room, G196AB With Hog Rings, (X) BU-CR/ID/HR	Yes	499989	499990	499991	–	–
28	Roller, Cold Room, G196GH With Hog Rings, (X) FY-G1/CR/ID/HR	Yes	495937	495938	495939	–	–
29	Roller, Cold Room, G196AB With Hog Rings, (X) BU-G1/CR/ID/HR	Yes	495950	495951	495952	–	–
30	Roller, G131PL With Short Axle, (X) F2-SH	Yes	495953	495954	495955	495956	495957
31	Roller, Cold Room, G131PL With Short Axle, (X) F2-CR/SH	Yes	499998	499999	499979	–	–
32	Roller Frame, 2” & 4” Roller Centers	No	749670	749672	749673	749674	749675
33	Roller Frame, 2” & 4” Centers, EZ LH	No	749676	749672	749673	749674	749675
34	Roller Frame, 2” & 4” Centers, EZ RH	No	749671	749672	749673	749674	749675

Table I.4 – Parts Not Related To Width – 2” & 4” Roller Centers

Key	Description	Spare Part	Part Number
35	Bushing, HSS Hinge Roller, 7/16” Hex	Yes	230624
36	CSC Lever Arm, Air-Actuated, 2” & 4” Roller Spacing	No	749723
37	CSC Lever Arm, Hand- & Foot-Operated, 3” & 6” Roller Spacing	No	749720

Note: On roller frames for installation on 10-inch wide E-Z Set conveyors, the lever arm is integral to to the roller-frame weldment.

3” & 6” Roller Centers

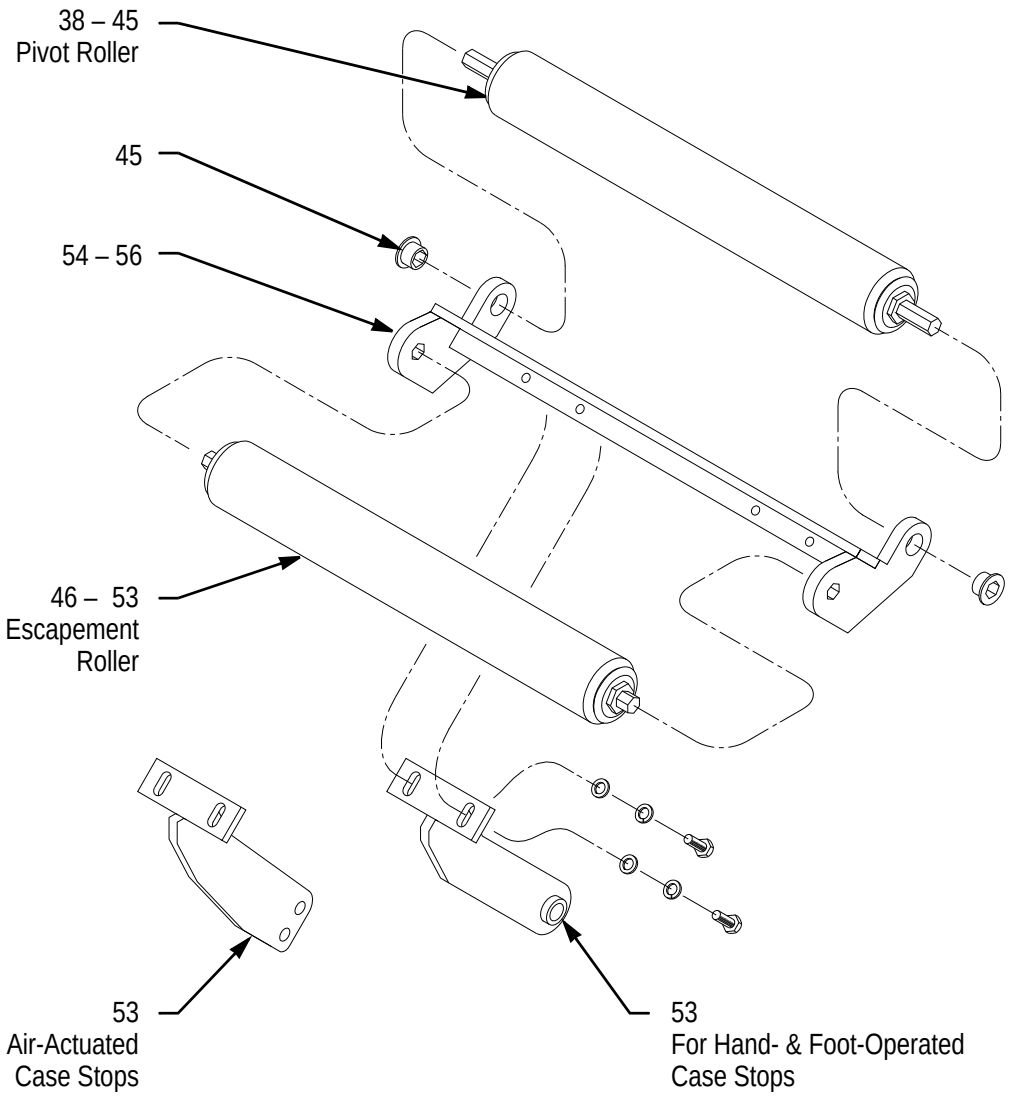


Figure I - 5 – Pivot Assembly – 3” & 6” Roller Spacing

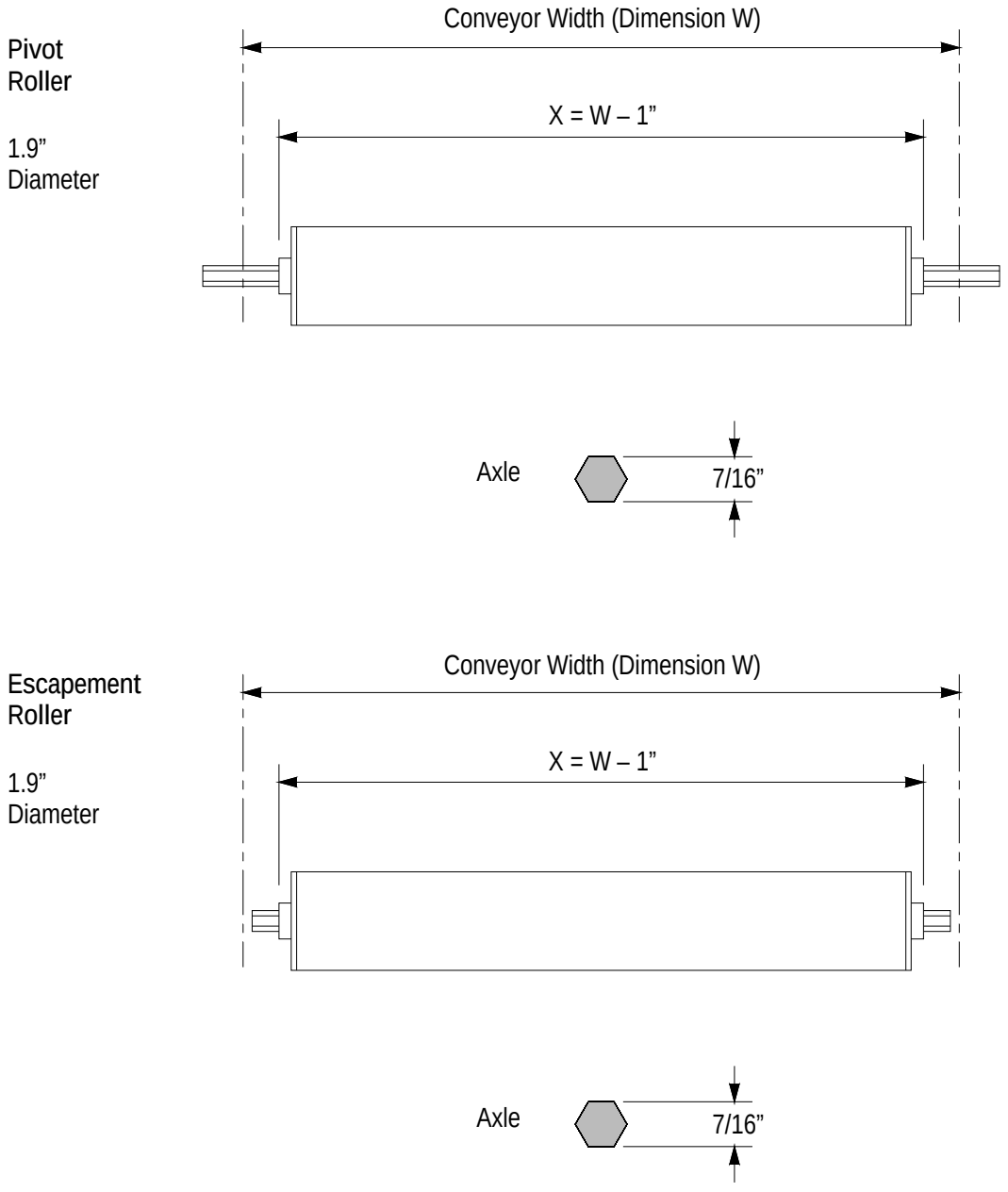


Figure I - 6 – Roller & Axle Size – 3" & 6" Roller Centers

Table I.5 – Width-Related Parts – 3” & 6” Roller Centers

Key	Description	Spare Part	Conveyor Width (Dimension “W” In Inches)				
			16	22	28	34	40
38	Roller, G196GH, (X) FY-PV	Yes	495875	495876	495877	495878	495879
39	Roller, G196AB, (X) BU-PV	Yes	495888	495889	495890	495891	495892
40	Roller, G196GH With 1 Groove, (X) FY-G1/PV	Yes	495880	495881	495882	495883	495884
41	Roller, G196AB With 1 Groove, (X) BU-G1/PV	Yes	495893	495894	495895	495896	495897
42	Roller, Cold Room, G196GH, (X) FY-CR/FV	Yes	499992	499993	499994	–	–
43	Roller, Cold Room, G196AB, (X) BU-CR/PV	Yes	499995	499996	499997	–	–
44	Roller, Cold Room, Short Axle, G196GH, (X) BU-CR/SH	Yes	495885	495886	495887	–	–
45	Roller, Cold Room, G196AB With 1 Groove, (X) BU-G1/PV	Yes	495898	495899	495900	–	–
46	Roller, G196GH With Short Axle, (X) FY-SH	Yes	495901	495902	495903	495904	495905
47	Roller, G196AB With Short Axle, (X) BU-SH	Yes	495914	495915	495916	495917	495918
48	Roller, G196GH With 1 Groove & Short Axle, (X) FY-G1/SH	Yes	495906	495907	495908	495909	495910
49	Roller, G196AB With 1 Groove & Short Axle, (X) BU-G1/SH	Yes	495919	495920	495921	495922	495923
50	Roller, Cold Room, G196GH With Short Axle, (X) FY-CR/SH	Yes	499980	499981	499982	–	–
51	Roller, Cold Room, G196AB With Short Axle, (X) BU-CR/SH	Yes	499983	499984	499985	–	–
52	Roller, Cold Room, G196GH With 1 Groove & Short Axle, (X) FY-G1/CR/SH	Yes	495911	495912	495913	–	–
53	Roller, Cold Room, G196AB With 1 Groove & Short Axle, (X) BU-G1/CR/SH	Yes	495924	495925	495926	–	–
54	Roller Frame, 2” & 4” Roller Centers	No	749670	749672	749673	749674	749675
55	Roller Frame, 2” & 4” Centers, EZ LH	No	749676	749672	749673	749674	749675
56	Roller Frame, 2” & 4” Centers, EZ RH	No	749671	749672	749673	749674	749675

Table I.6 – Parts Not Related To Width – 2” & 4” Roller Centers

Key	Description	Spare Part	Part Number
57	Bushing, HSS Hinge Roller, 7/16” Hex	Yes	230624
58	CSC Lever Arm, Air-Actuated, 2” & 4” Roller Spacing	No	749722
59	CSC Lever Arm, Hand- & Foot-Operated, 3” & 6” Roller Spacing	No	749719

Note: On roller frames for installation on 10-inch wide E-Z Set conveyors, the lever arm is integral to to the roller-frame weldment.

Operating Mechanisms

Hand- & Foot-Operated Case Stops

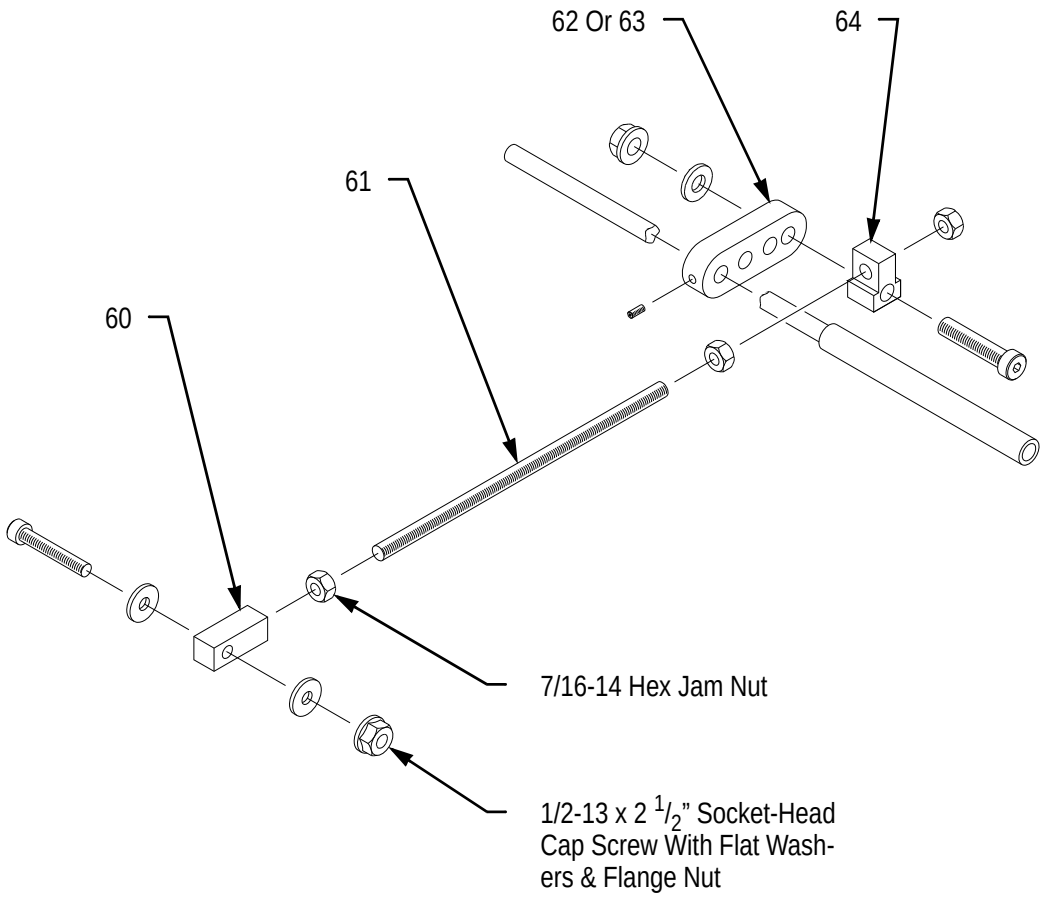


Figure I - 7 – Multiple-Bar Linkage – Hand- & Foot-Operated Case Stops

Hand-Operated Mechanism

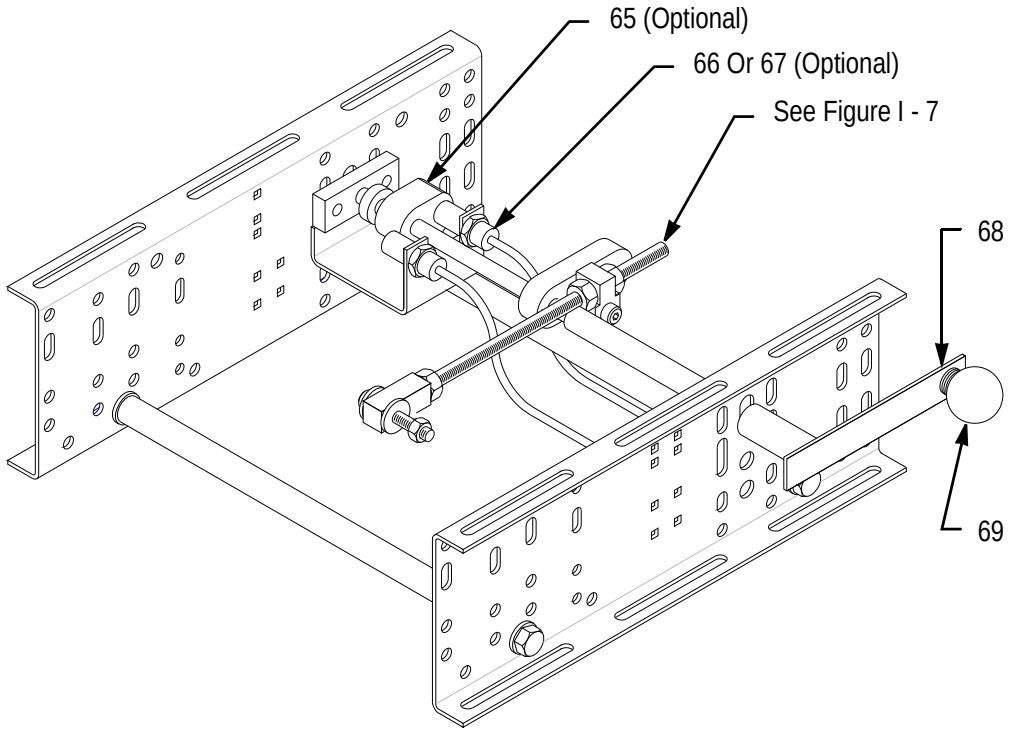


Figure I - 8 – Hand-Operated Mechanism

Foot-Operated Mechanism

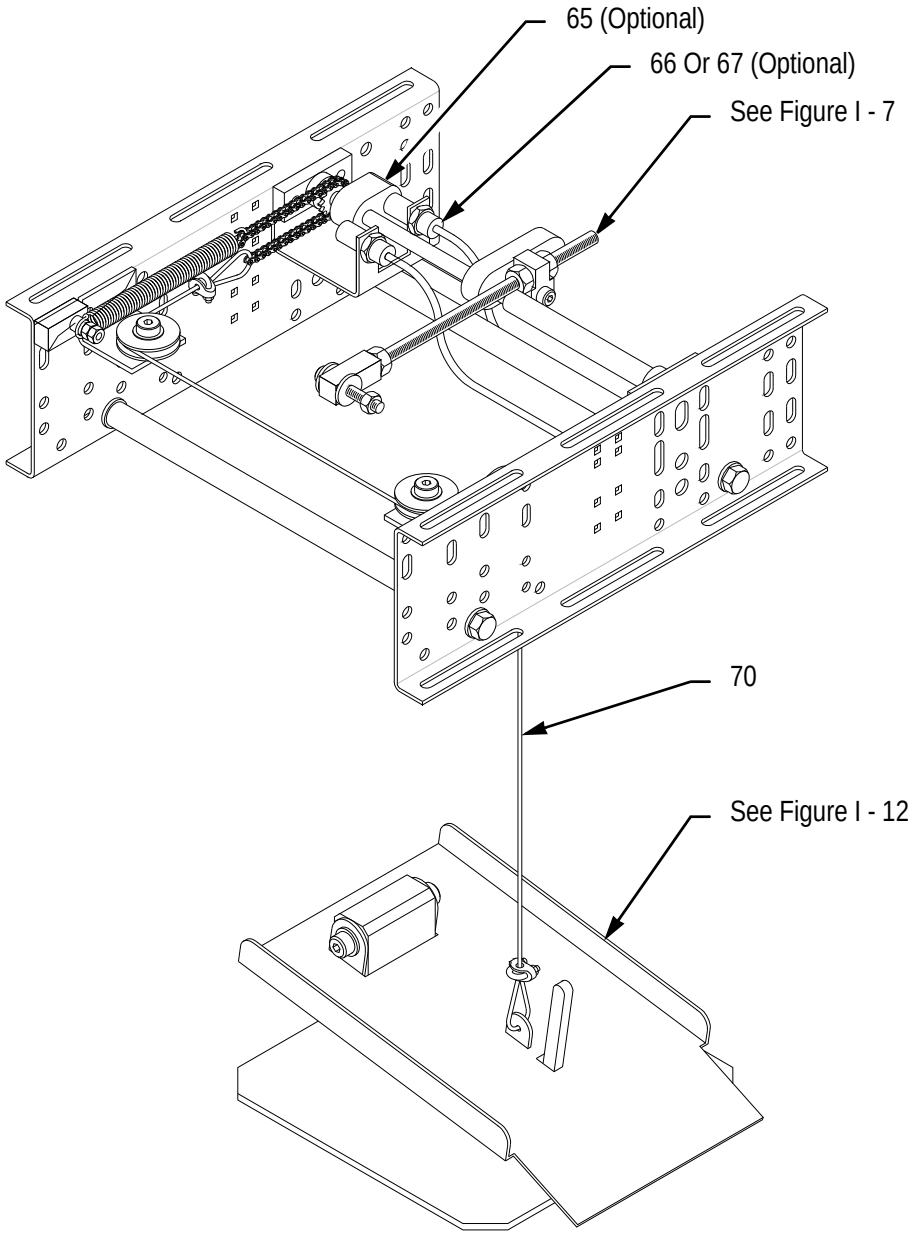


Figure I - 9 – Foot-Operated Operating Mechanism (Direct Drop Location Shown)

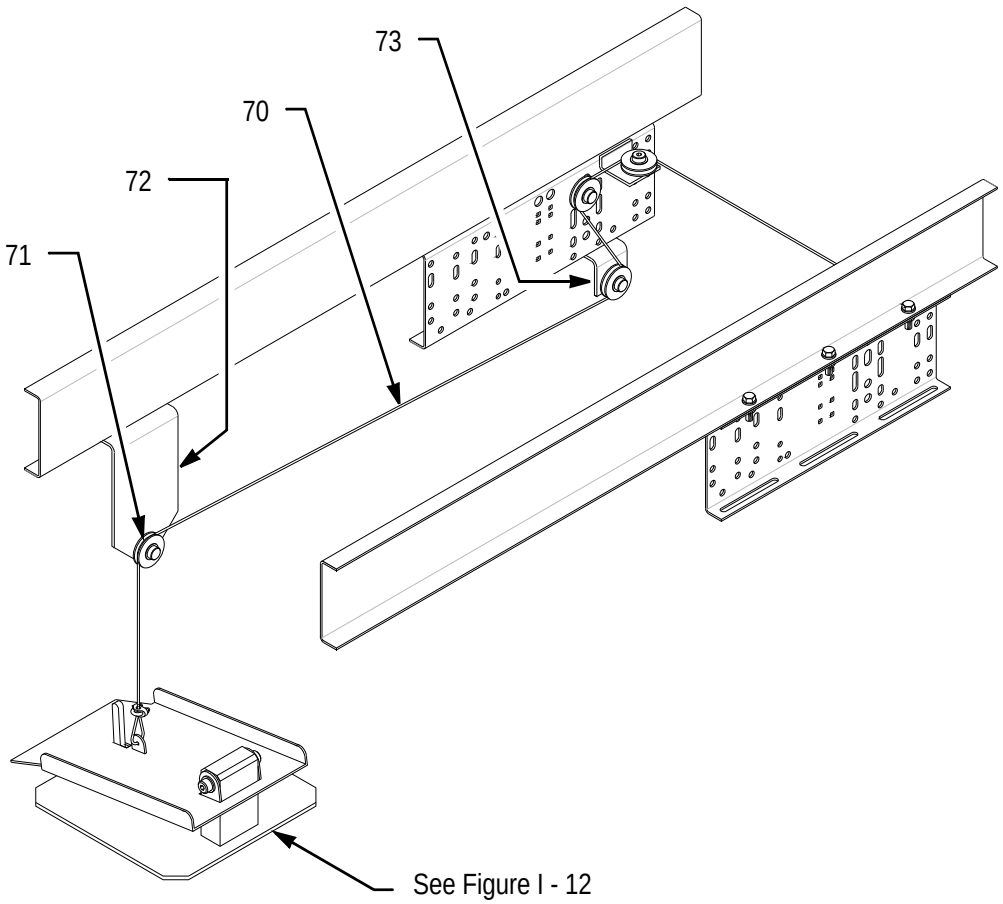


Figure I - 10 – Foot-Operated Operating Mechanism – Offset Pedal Location

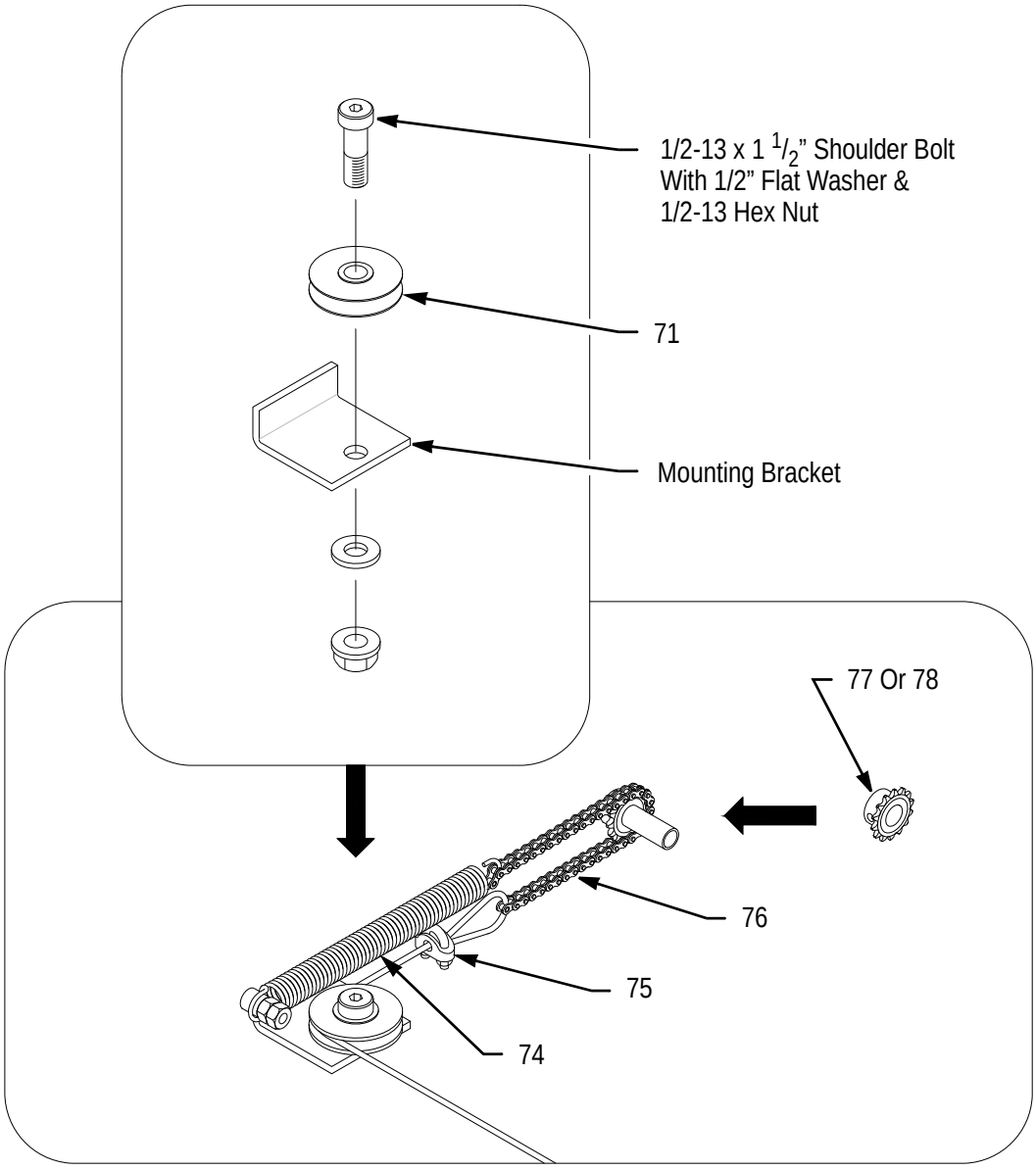


Figure I - 11 – Foot-Operated Linkage Details

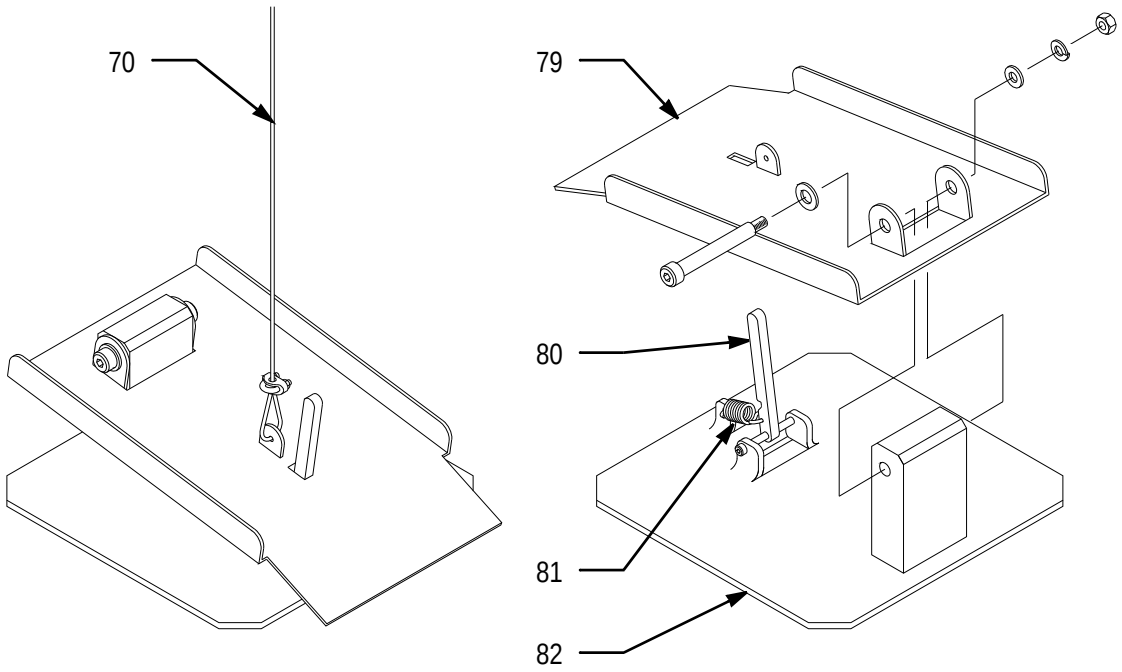


Figure I - 12 – Foot-Pedal Details

Accumulation Control Valve

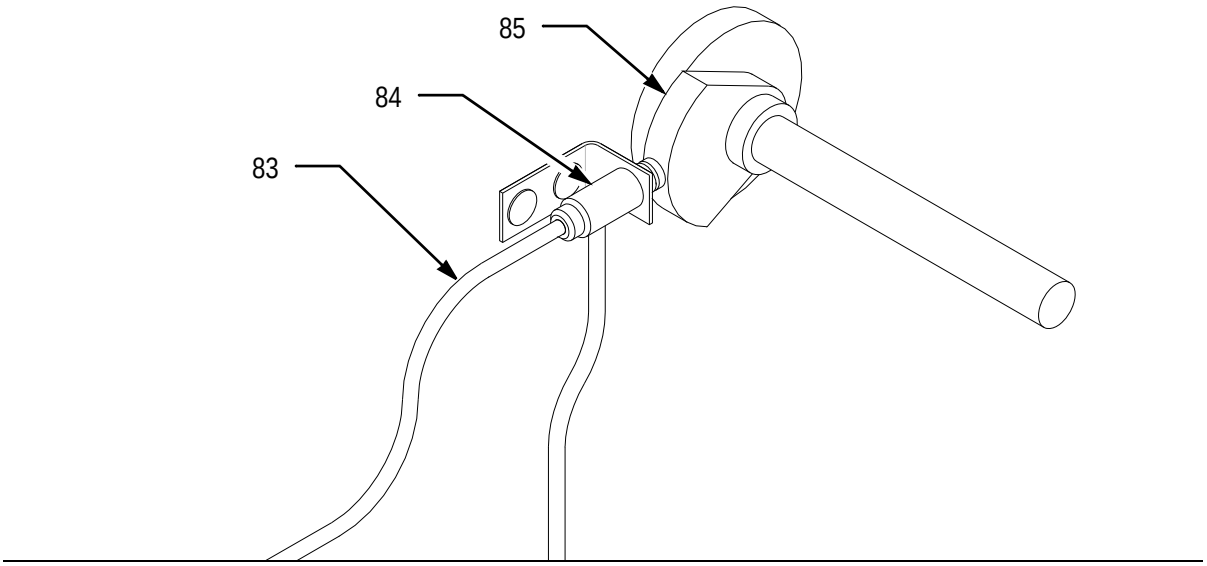


Figure I - 13 – Accumulation Control Valve – Hand- & Foot-Operated Case Stops

Table I.7 – Hand- & Foot-Operated Mechanisms

Key	Description	Spare Part	Part Number
60	Rod Eye	Yes	749787
61	Intermediate Linkage, 7/16-14 x 10 1/4” Threaded Rod	Yes	749650
62	Linkage Arm, Shaft-Mounted, 1 1/2” & 3” And 3” & 6” Roller Centers	Yes	749649
63	Linkage Arm, Shaft-Mounted, 2” & 4” Roller Centers	Yes	749812
64	Pivot Hinge, Hand- & Foot-Operated Linkage	Yes	749651
65	Proximity Sensor “Actuator” (Target)	Yes	749647
66	Proximity Sensor, 18mm DC 24 Volt	Yes	270272
67	Proximity Sensor, 18mm AC 115 Volt	Yes	270271
68	Hand Lever (Without #)	Yes	749652
69	Plastic Ball Knob, #B-31 Reid	Yes	749772
70	Cable, 7 x 7, 1/8” Diameter, #3125, Sava Industries, Per Foot	Yes	749780
71	Steel Pulley, #OP0150, Sava Industries	Yes	749744
72	Offset Bracket #2	No	749706
73	Offset Bracket #1	No	749705
74	Extension Spring, Foot-Operated Case Stop	Yes	749813
75	Wier Rope Clip, Crosby, 1/8”	Yes	280120
76	Roller Chain, No. 25 – 1/4” Pitch, 10” Long	Yes	749777
77	Steel Sprocket, Martin #25B14	Yes	745557
78	Steel Sprocket, Martin #25B14SS, Cold Room	Yes	745558
79	Foot Pedal, Tread Plate	Yes	749742
80	Foot Pedal Latch	Yes	749744
81	Cot Extension Spring, 9628K24, McMaster Carr	Yes	749776
82	Foot Pedal Base	Yes	749743
83	Tubing, Yellow, 5/32” I. D., Urethane, Per Foot	Yes	271436
84	Sensor Valve, Standard AG Singulation	Yes	271618
85	Valve Actuator Cam	Yes	749645

Air-Actuated Case Stops

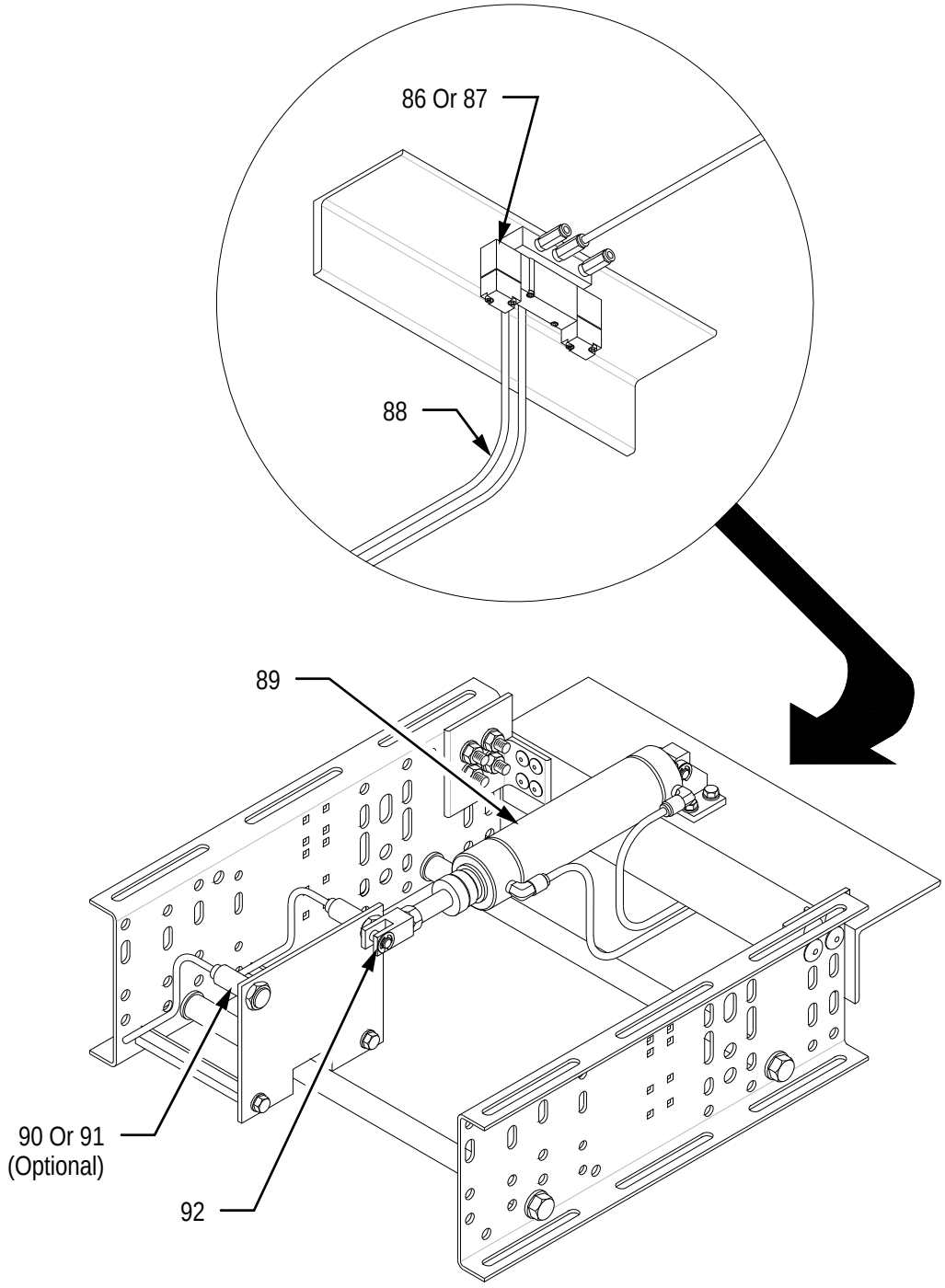


Figure I - 14 – Air-Actuated Mechanisms

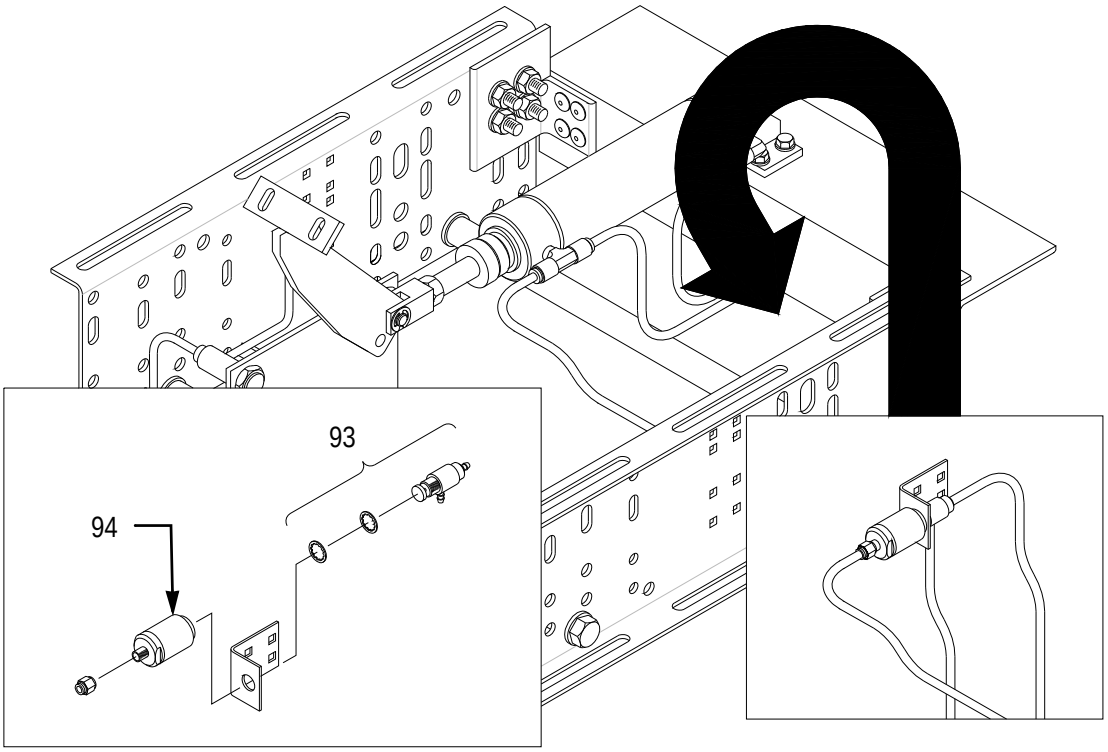


Figure I - 15 – Accumulation Control Valve – Air-Actuated Case Stops

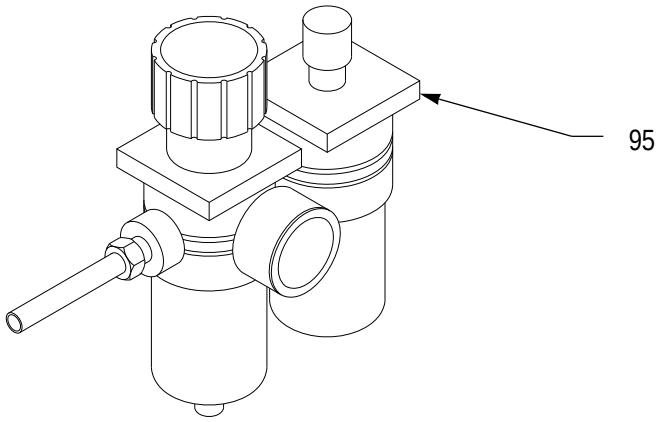


Figure I - 16 – Air Filter-Regulator-Lubricator-Gauge

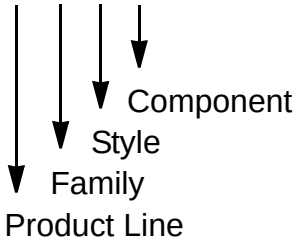
Table I.8 – Parts Not Related To Width

Key	Description	Spare Part	Part Number
86	Valve, Mac, 453A-ABA-DM-DJAJ-KJ (120VAC)	Yes	749689
87	Valve, Mac, 453A-ABA-DM-DDDB-1KJ (24VDC)	Yes	749783
88	Tubing, Yellow, 5/32” I. D., Urethane, Per Foot	Yes	271436
89	Cylinder, Bimba, 2” Bore x 5” Stroke, 315-DXPB	Yes	749781
90	Proximity Sensor “Actuator” (Target)	Yes	749647
91	Proximity Sensor, 18mm DC 24 Volt	Yes	270272
92	Rod Clevis, #D231-3, With Lock Nut & Pin, Bimba	Yes	749782
93	Sensor Valve, Standard AG Singulation	Yes	271618
94	Clippard Pilot Valve Actuator MPA-7	Yes	271783
95	Air Filter-Regulator-Lubricator-Gauge (Accessory)	Yes	7035528

SECTION J: PRODUCT INDEX

Case Stop

Item Class D 4 2 1



(F1) Hand Assy
(F2) Mounting Depth
(F3) CSC Pivot Roller
(F4) CSC Idler Roller
(F5) CSC Short Roller
(F6) Proximity Switc
(F7) Accumulation Valve
(F8) CSA Solenoid Valve

Description	Drawing Number	Width of Mainline Conveyor (W)					
		10”	16”	22”	28”	34”	40”
CSH CASE STOP HAND 196 3&6C	19696	NA	749600	749601	749602	749603	749604
CSH CASE STOP HAND 196 2&4C	19697	NA	749615	749616	749617	749618	749619
CSH CASE STOP HAND 138 1.5&3C	19698	749630	749631	749632	749633	NA	NA

Item Class D 4 2 5

Description	Drawing Number	Width of Mainline Conveyor (W)					
		10”	16”	22”	28”	34”	40”
CSF CASE STOP FOOT 196 3&6C	19700	NA	749605	749606	749607	749608	749609
CSF CASE STOP FOOT 196 2&4C	19701	NA	749620	749621	749622	749623	749624
CSF CASE STOP FOOT 138 1.5&3C	19702	749634	749635	749636	749637	NA	NA

Item Class D 4 2 3

Description	Drawing Number	Width of Mainline Conveyor (W)					
		10”	16”	22”	28”	34”	40”
CSA CASE STOP AIR 196 3&6C	19703	NA	749610	749611	749612	749613	749614
CSA CASE STOP AIR 196 2&4C	19704	NA	749625	749626	749627	749628	749629
CSA CASE STOP AIR 138 1.5&3C	19705	749638	749639	749640	749641	NA	NA