

BESSER LITHIBAR

Cuber - Advanced Sensor Setup Guide

TABLE OF CONTENTS

Introduction	3
Patternmaker Single Turntables: Photo Eyes	4
Patternmaker Single Turntables: Limit & Proximity Switches	5
Patternmaker Double Turntables: Photo Eyes	6
Patternmaker Double Turntables: Limit & Proximity Switches	7
Patternmaker Triple Turntables: Photo Eyes	8
Patternmaker Triple Turntables: Limit & Proximity Switches	9
Patternmaker Quad Turntables: Photo Eyes	10
Patternmaker Quad Turntables: Limit & Proximity Switches	11
Patternmaker Turntable: Bar Positioning	12
Overhead Sidefeed – LS-141	13
Overhead Sidefeed – LS-142	14
Overhead Sidefeed – LS-143	15
Overhead Sidefeed – LS-144	16
Overhead Sidefeed – PX-145 LUG #1 Fast Forward	17
Overhead Sidefeed – PX-145 LUG #2 Slow Forward (LUG #4 with Extended Overhead Sidefeed)	18
Overhead Sidefeed – PX-145 LUG #3 Sidefeed Clear (Optional with Extended Sidefeed)	19
Overhead Sidefeed – PX-145 LUGS #5 & 6 Mid Push Slow and Stop (Optional with Multiple Stops)	20
Overhead Sidefeed – PX-145 LUGS #7 & 8 Long Push Slow and Stop (Optional with Multiple Stops)	21
Tier Pusher – Limit Switches	22
Cuber – PX-150 Carriage Locator & LS-151 Carriage Reverse	23
Cuber – LS-158 Gate Closed	24
Cuber – LS-161 Short Clamp Stop	25
Cuber – LS-159 Long Clamp Closed Narrow Tiers (32")	26
Cuber – LS-159 Long Clamp Closed Standard Tiers (40")	27
Cuber – LS-159 Long Clamp Closed Wide Tiers (46")	28
Cuber – LS-159 Long Clamp Closed Super Wide Tiers (49")	29

TABLE OF CONTENTS
(Continued)

Cuber – LS-160 Long Clamps Stop	30
Cuber – Tier Lift: Limit Switches	31
Cuber – Tier Lift: Photo Eyes	32
Cuber – Tier Lift: PX-180 Tier Lift Locator	33
Pallet Dispenser	34
Pallet Dispenser – Mounted on Short Clamp Side of Cuber	35
Pallet Dispenser – Mounted on Long Clamp Side of Cuber	36
Block Dispenser – Mounted on Short Clamp Side of Cuber	37
Block Dispenser – Mounted on Long Clamp Side of Cuber	38

BESSER LITHIBAR

Cuber - Advanced Sensor Setup Guide Introduction

Purpose:

During the life of this equipment it is expected that, in order to achieve optimum performance, sensors like Photo Eyes, Limit Switches and Proximity Switches will need to be adjusted. This guide is intended to inform operators and maintenance personnel, in the factory, of the recommended adjustment of sensors.

*****WARNING*****

This equipment is under Hydraulic and Electric Power. Follow safety and lockout procedures when adjusting sensors.

Hydraulic power can result in personal injury, loss of life and limb!!!

When replacing sensors, or working with the electrical wiring of this equipment, follow electrical lockout procedures.

Electrical power can result in shock, electrocution and death!!!

ADVANCED SENSOR SETUP GUIDE – SINGLE TURNTABLE: PHOTO EYES

PE-119 – Accumulate Eye

Indicates that sufficient block is on the LineShaft, entering the PowerFeed, to help push block onto the Shift Plate without creating gaps. Set 2 feet back (3 feet for 4 block Patternmakers) from the PowerFeed. Mount at angle across 2 rollers.

PE-120 – Shift Plate Clear

Indicates that there is no product above bar gap (between Powerfeed Rollers and Shift Plate when it is forward). Set PE-120 about $\frac{3}{4}$ " beyond edge of last Powerfeed bar. Bar must be able to pass through this gap without block obstructing it.

PE-121 – 8" Eye

Detects presence of 8" of product on the Shift Plate. Set PE-121 8" from the center of last Powerfeed roller.

PE-122 – 10-12" Eye

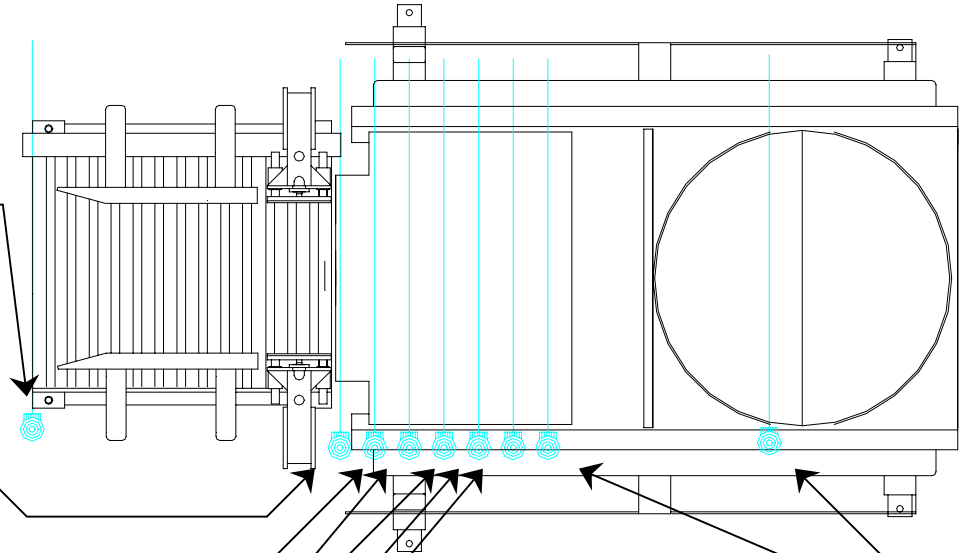
Detects presence of 10" or 12" of product on the Shift Plate. Set PE-122 10" or 12" from center of last Powerfeed roller, depending on Block size.

PE-123 – 16" Eye

Detects presence of 16" of product on the Shift Plate. Set PE-123 16" from center of last Powerfeed roller.

PE-124 – 20" Eye

Detects presence of 20" of product on the Shift Plate. Set PE-124 20" from center of last Powerfeed roller.



PE-126 – 32" Eye

Detects presence of 32" of product on the Shift Plate. Set PE-126 32" from center of last Powerfeed roller.
NOTE: Only available on 4 block Patternmakers

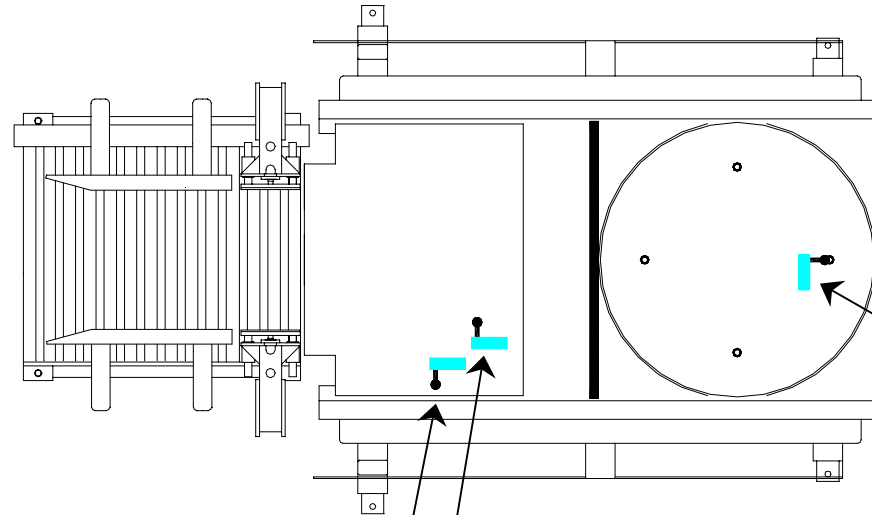
PE-125 – 24" Eye

Detects presence of 24" of product on the Shift Plate. Set PE-125 24" from center of last Powerfeed roller.

PE-127 – Core Hole Eye

Detects core hole of block indicating that a block has been turned for the base course. Set PE-127 about 4" back from the center of the Turntable.
NOTE: Adjust to read center of hole on blocks already turned

ADVANCED SENSOR SETUP GUIDE – SINGLE TURNTABLE: LIMIT & PROXIMITY SWITCHES



LS-129 – Shift Plate Reverse

Indicates that the Shift Plate is reversed.
Set Limit Switch to trip when the Shift Plate is 2" to 3" from full reverse. LS-129 must be held tripped when the Shift plate is at or behind this position.

LS-128 – Shift Plate Forward

Indicates that the Shift Plate is forward.
Set Limit Switch to trip when the Shift Plate has approximately a 3 inch gap on its rear side, for the Bar to clear.

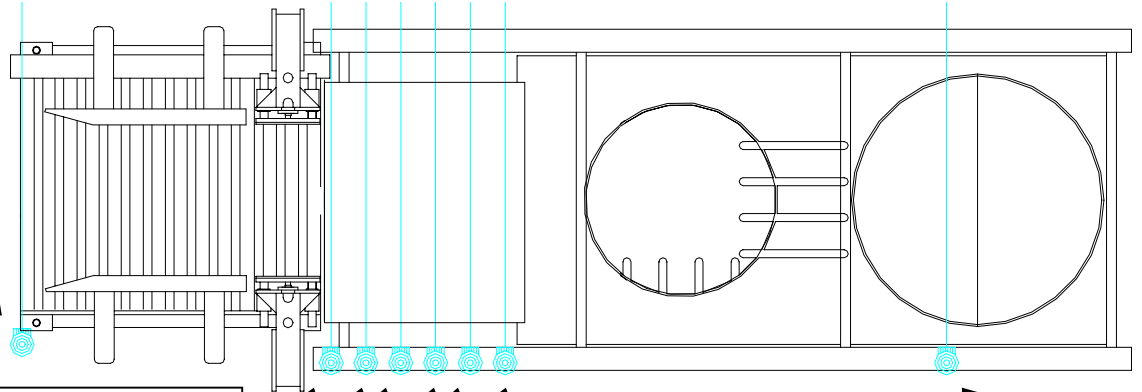
LS-134 – TurnTable #1 Turn

Detects when the TurnTable is home, which is one of 4 positions at 0, 90, -90 and 180 degrees from original position. There are 4 trippers under each TurnTable. Set the actuator of LS-134 to trip on the center of the tripper lugs. Centering the actuator trip point, on the lug, will most accurately turn and stop the TurnTable in either direction.

ADVANCED SENSOR SETUP GUIDE – DOUBLE TURNTABLE: PHOTO EYES

PE-119 – Accumulate Eye

Indicates that sufficient block is on the LineShaft, entering the PowerFeed, to help push block onto the Shift Plate without creating gaps. Set 2 feet from the PowerFeed. Mount at angle across 2 rollers.



PE-120 – Shift Plate Clear

Indicates that there is no product above bar gap (between Powerfeed Rollers and Shift Plate when it is forward).
Set PE-120 about $\frac{3}{4}$ " beyond edge of last Powerfeed bar.
Bar must be able to pass through this gap without block obstructing it.

PE-121 – 8" Eye

Detects presence of 8" of product on the Shift Plate. Set PE-121 8" from the center of last Powerfeed roller.

PE-122 – 10-12" Eye

Detects presence of 10" or 12" of product on the Shift Plate.
Set PE-122 - 10" or 12" from center of last Powerfeed roller, depending on Block size.

PE-123 – 16" Eye

Detects presence of 16" of product on the Shift Plate.
Set PE-123 - 16" from center of last Powerfeed roller.

PE-124 – 20" Eye

Detects presence of 20" of product on the Shift Plate.
Set PE-124 - 20" from center of last Powerfeed roller.

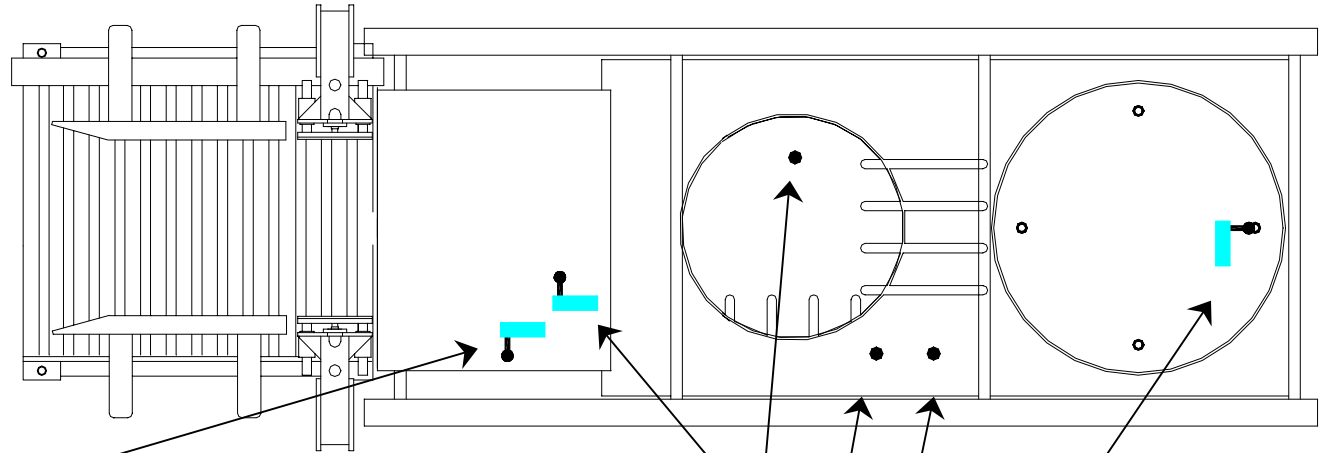
PE-125 – 24" Eye

Detects presence of 24" of product on the Shift Plate. Set PE-125 - 24" from center of last Powerfeed roller.

PE-127 – Core Hole Eye

Detects core hole of block indicating that a block has been turned for the base course. Set PE-127 about 4" back from the center of the Turntable.
NOTE: Adjust to read center of hole on blocks already turned

ADVANCED SENSOR SETUP GUIDE – DOUBLE TURNTABLE: LIMIT & PROXIMITY SWITCHES



LS-129 – Shift Plate Reverse

Indicates that the Shift Plate is reversed. Set Limit Switch to trip when the Shift Plate is 2" to 3" from full reverse. LS-129 must be held tripped when the Shift plate is at or behind this position.

LS-128 – Shift Plate Forward

Indicates that the Shift Plate is forward. Set Limit Switch to trip when the Shift Plate has approximately a 3 inch gap on its rear side, for the Bar to clear.

PX-135 – Index Marker

Detects when the Index Table is in one of 2 positions, Clockwise or Counter Clockwise, from original position. PX-135 reads 2 of the 4 plate mounting bolts to determine the location of the Index Table. Set PX-135 to trip reliably as the table is rotated.

PX-136 – Ejector In

Indicates that the Ejector is in the slots of the first TurnTable. Adjust to read on when the Ejector Fingers are in the TurnTable slots.

PX-137 – Ejector Out

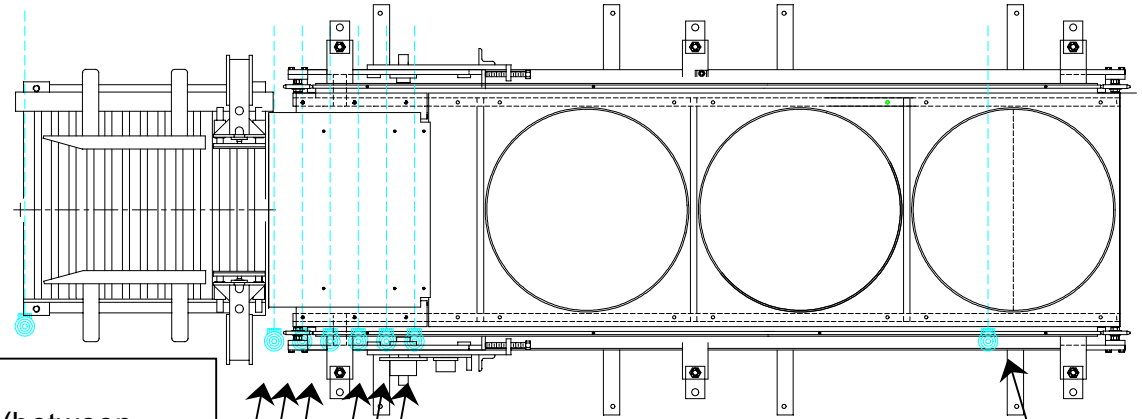
Detects the Ejector when it is out of the Ejector slots in the first TurnTable. Adjust to read on when the Ejector Fingers are out of the TurnTable.

LS-134 – Turntable #1 Turn

Detects when the TurnTable is home, which is one of 4 positions at 0, 90, -90 and 180 degrees from original position.

There are 4 trippers under each TurnTable. Set the actuator of LS-134 to trip on the center of the tripper lugs. Centering the actuator trip point, on the lug, will most accurately turn and stop the TurnTable in either direction.

ADVANCED SENSOR SETUP GUIDE – TRIPLE TURNTABLE: PHOTO EYES



PE-119 – Accumulate Eye

Indicates that sufficient block is on the LineShaft, entering the PowerFeed, to help push block onto the Shift Plate without creating gaps. Set 2 feet from the PowerFeed. Mount at angle across 2 rollers.

PE-120 – Shift Plate Clear

Indicates that there is no product above bar gap (between Powerfeed Rollers and Shift Plate when it is forward). Set PE-120 about $\frac{3}{4}$ " beyond edge of last Powerfeed bar. Bar must be able to pass through this gap without block obstructing it.

PE-121 – 8" Eye

Detects presence of 8" of product on the Shift Plate. Set PE-121 8" from the center of last Powerfeed roller.

PE-122 – 10-12" Eye

Detects presence of 10" or 12" of product on the Shift Plate. Set PE-122 - 10" or 12" from center of last Powerfeed roller, depending on Block size.

PE-123 – 16" Eye

Detects presence of 16" of product on the Shift Plate. Set PE-123 - 16" from center of last Powerfeed roller.

PE-124 – 20" Eye

Detects presence of 20" of product on the Shift Plate. Set PE-124 - 20" from center of last Powerfeed roller.

PE-125 – 24" Eye

Detects presence of 24" of product on the Shift Plate. Set PE-125 - 24" from center of last Powerfeed roller.

PE-127 – Core Hole Eye

Detects core hole of block indicating that a block has been turned for the base course. Set PE-127 about 4" back from the center of the Turntable.
NOTE: Adjust to read center of hole on blocks already turned

ADVANCED SENSOR SETUP GUIDE – TRIPLE TURNTABLE: LIMIT & PROXIMITY SWITCHES

LS-128 – Shift Plate Forward

Indicates that the Shift Plate is forward. Set Limit Switch to trip when the Shift Plate has approximately a 3 inch gap on its rear side, for the Bar to clear.

LS-129 – Shift Plate Reverse

Indicates that the Shift Plate is reversed. Set Limit Switch to trip when the Shift Plate is 2" to 3" from full reverse. LS-129 must be held tripped when the Shift plate is at or behind this position.

LS-134 – Turntable #1 Turn

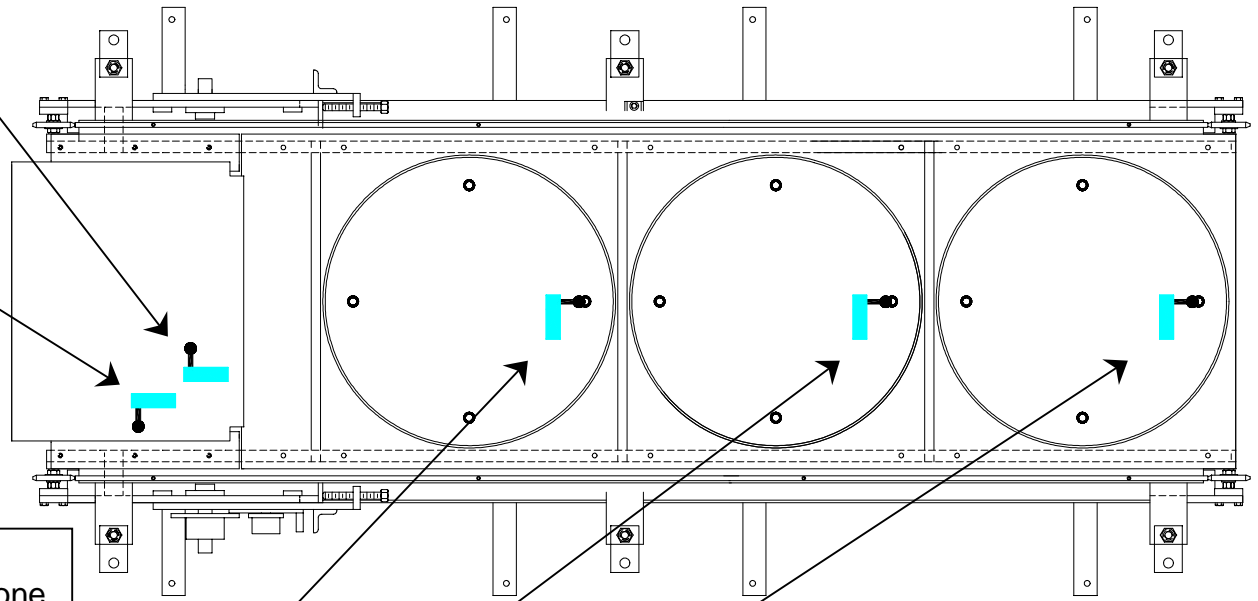
Detects when the TurnTable is home, which is one of 4 positions at 0, 90, -90 and 180 degrees from original position. There are 4 trippers under each TurnTable. Set the actuator of LS-134 to trip on the center of the tripper lugs. Centering the actuator trip point, on the lug, will most accurately turn and stop the TurnTable in either direction.

LS-135 – Turntable #2 Turn

Detects when the TurnTable is home, which is one of 4 positions at 0, 90, -90 and 180 degrees from original position. There are 4 trippers under each TurnTable. Set the actuator of LS-135 to trip on the center of the tripper lugs. Centering the actuator trip point, on the lug, will most accurately turn and stop the TurnTable in either direction.

LS-136 – Turntable #3 Turn

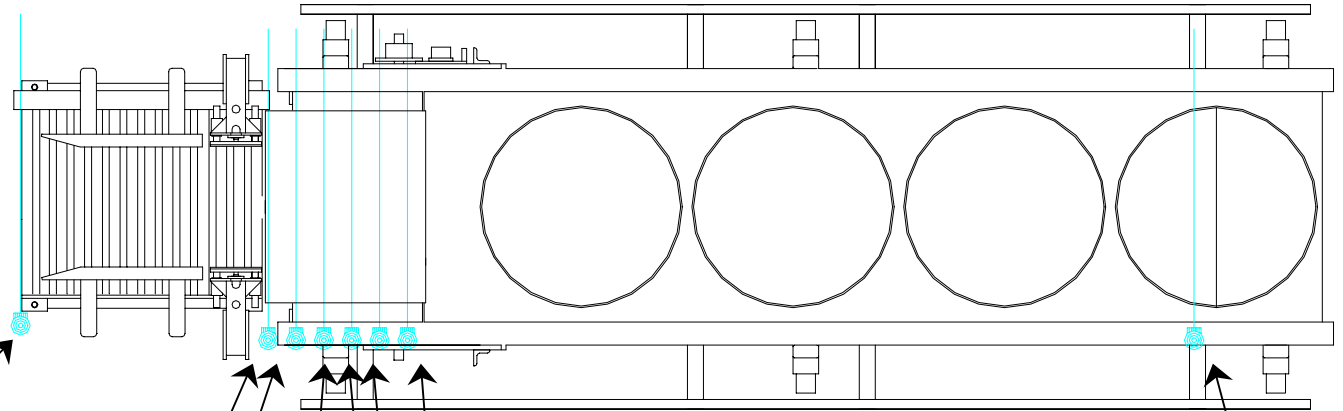
Detects when the TurnTable is home, which is one of 4 positions at 0, 90, -90 and 180 degrees from original position. There are 4 trippers under each TurnTable. Set the actuator of LS-136 to trip on the center of the tripper lugs. Centering the actuator trip point, on the lug, will most accurately turn and stop the TurnTable in either direction.



ADVANCED SENSOR SETUP GUIDE – QUAD TURNTABLE: PHOTO EYES

PE-119 – Accumulate Eye

Indicates that sufficient block is on the LineShaft, entering the PowerFeed, to help push block onto the Shift Plate without creating gaps. Set 2 feet from the PowerFeed. Mount at angle across 2 rollers.



PE-120 – Shift Plate Clear

Indicates that there is no product above bar gap (between Powerfeed Rollers and Shift Plate when it is forward). Set PE-120 about $\frac{3}{4}$ " beyond edge of last Powerfeed bar. Bar must be able to pass through this gap without block obstructing it.

PE-121 – 8" Eye

Detects presence of 8" of product on the Shift Plate. Set PE-121 - 8" from the center of last Powerfeed roller.

PE-122 – 10-12" Eye

Detects presence of 10" or 12" of product on the Shift Plate. Set PE-122 - 10" or 12" from center of last Powerfeed roller, depending on Block size.

PE-123 – 16" Eye

Detects presence of 16" of product on the Shift Plate. Set PE-123 - 16" from center of last Powerfeed roller.

PE-127 – Core Hole Eye

Detects core hole of block indicating that a block has been turned for the base course. Set PE-127 about 4" back from the center of the Turntable.
NOTE: Adjust to read center of hole on blocks already turned

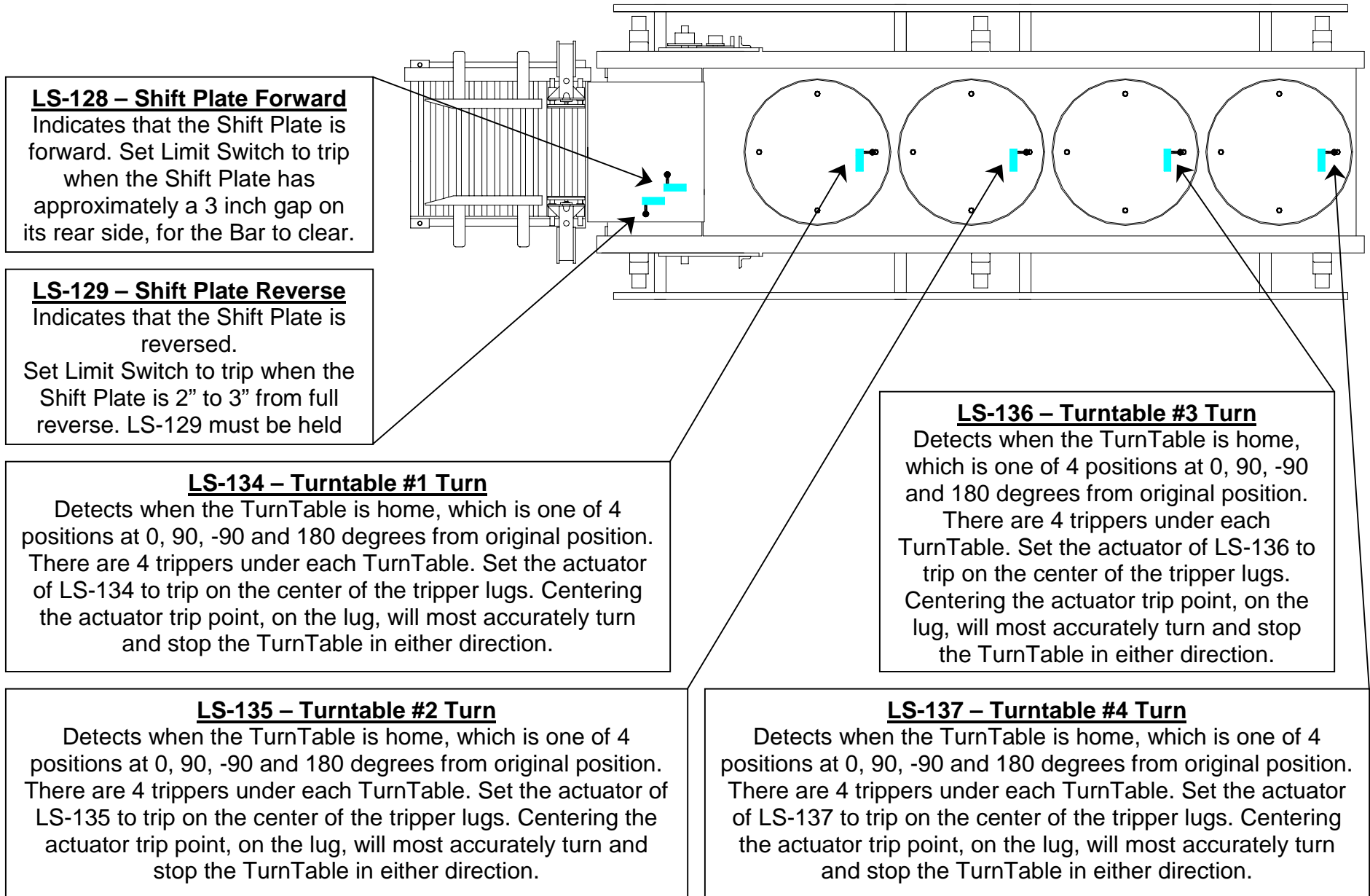
PE-125 – 24" Eye

Detects presence of 24" of product on the Shift Plate. Set PE-125 - 24" from center of last Powerfeed roller.

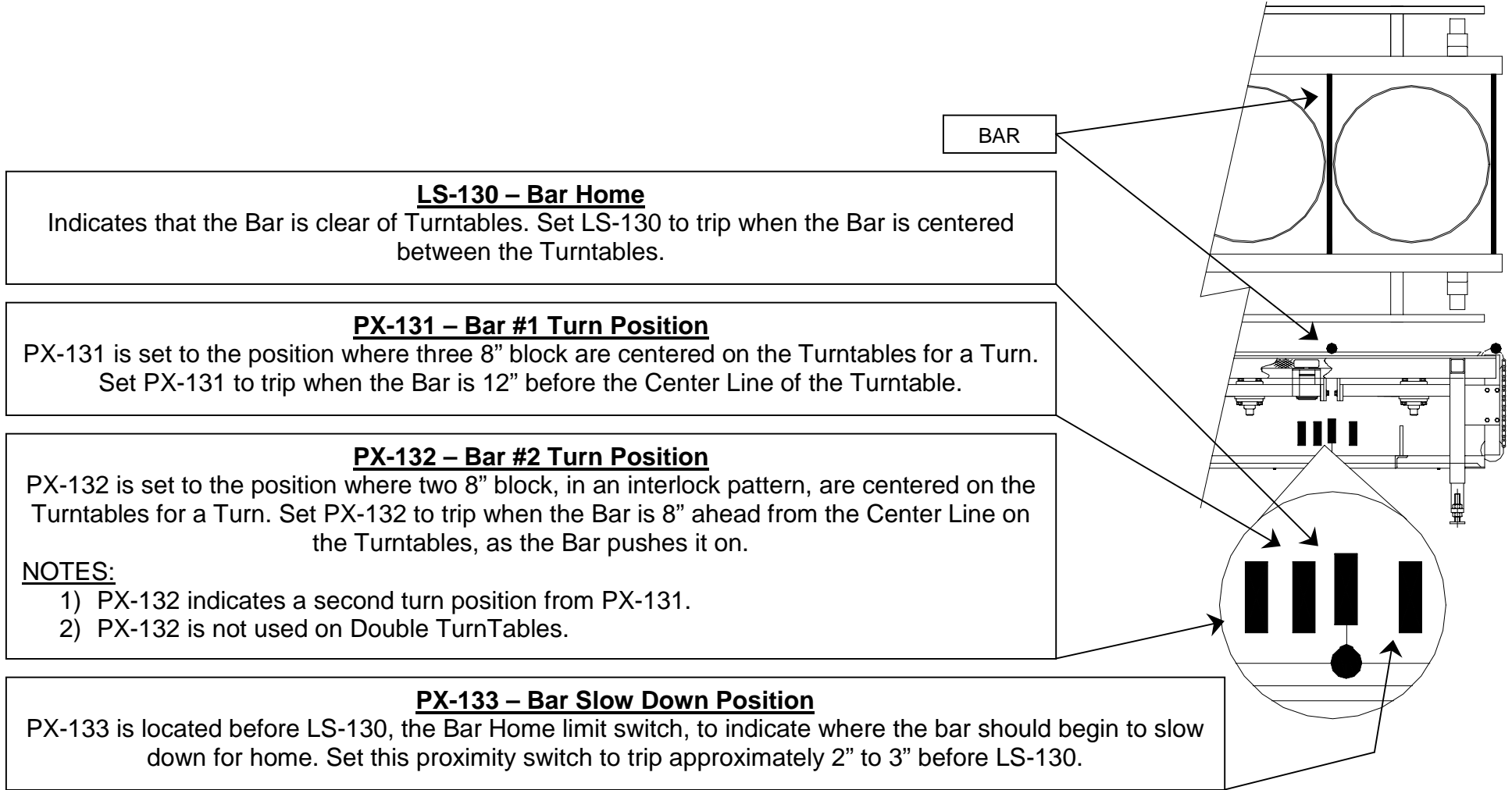
PE-124 – 20" Eye

Detects presence of 20" of product on the Shift Plate. Set PE-124 - 20" from center of last Powerfeed roller.

ADVANCED SENSOR SETUP GUIDE – QUAD TURNTABLE: LIMIT & PROXIMITY SWITCHES

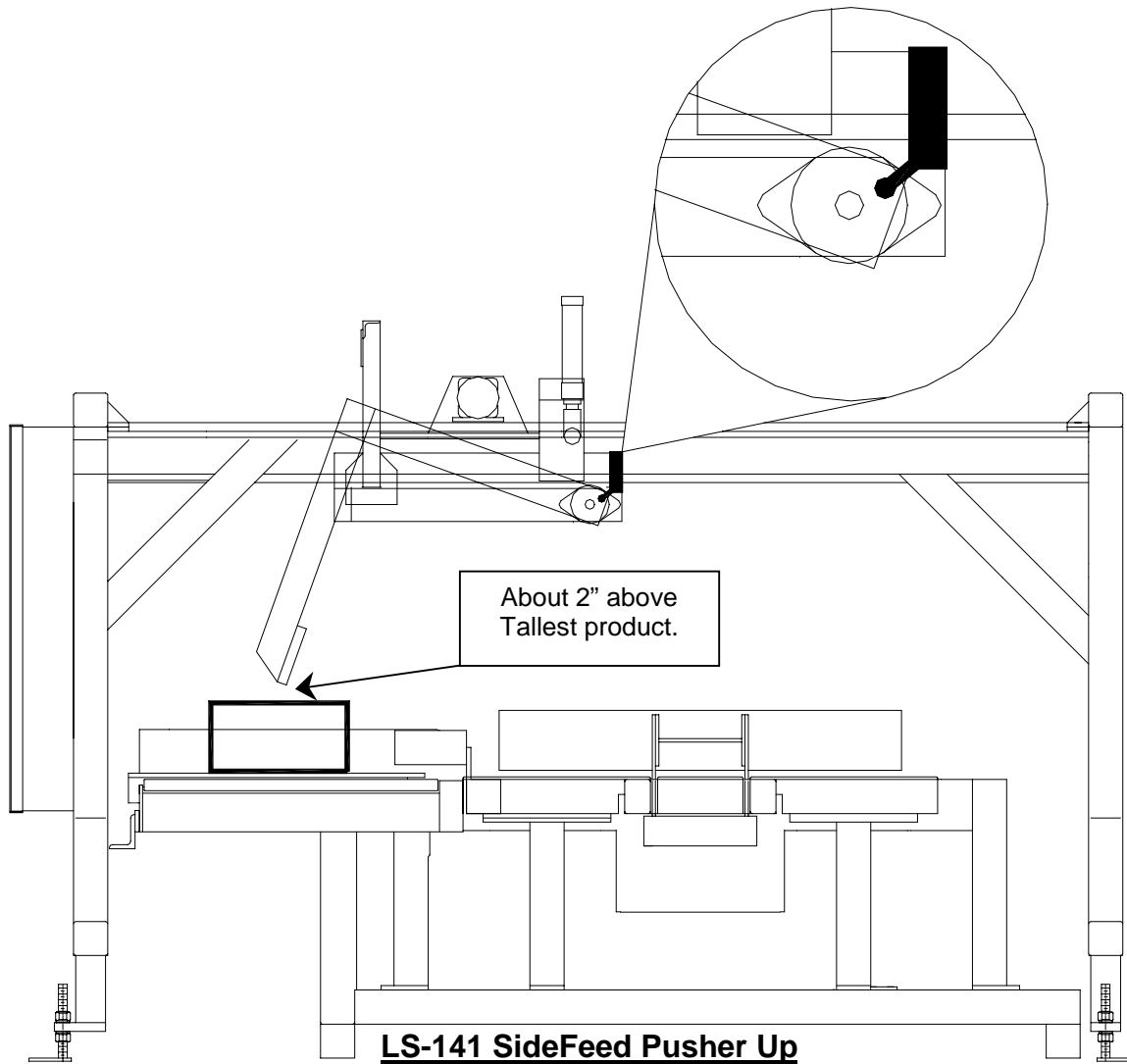


ADVANCED SENSOR SETUP GUIDE – TURNTABLE BAR POSITIONING



TIP: PX-133, Bar Slow Down Position may be moved closer to LS-130, Bar Home, to assist product feed into the Sidefeed.

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEED



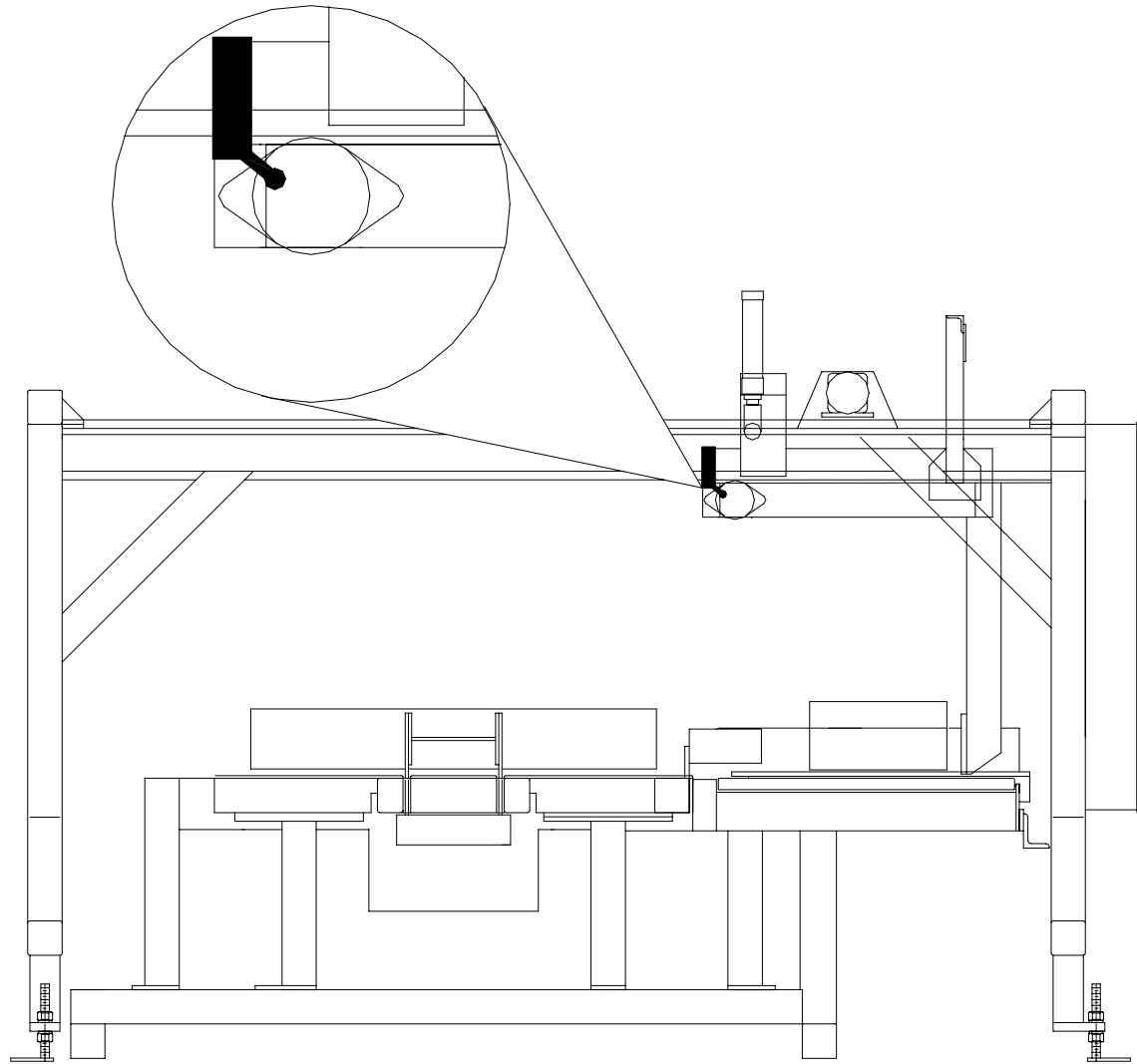
Senses that the SideFeed is fully reversed.

Normal adjustment is to set the limit switch so that it trips about 2" above the **tallest** product height.



TIP: Optionally, to improve cycle time, the limit switch may be adjusted 2 inches above the **current** product height. This saves the time of the OverHead Pusher traveling both up and down.

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEED



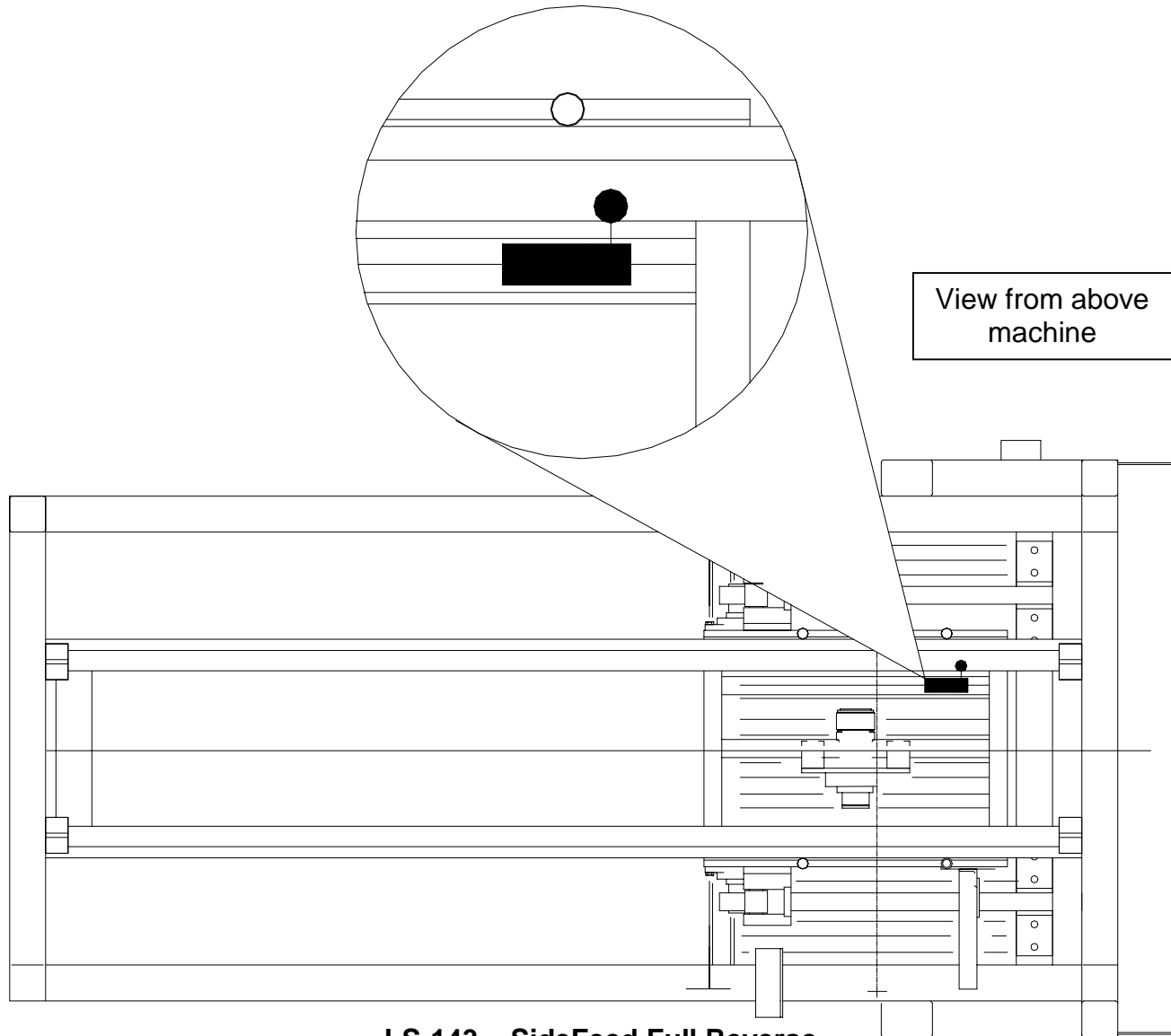
LS-142 SideFeed Pusher Down

Senses when the SideFeed Pusher is in the full down position.

Adjust LS-142 to trip when Pusher is in the fully down position.

NOTE: This Limit Switch does not physically stop the pusher. Adjust the cylinder to prevent pusher from hitting the SideFeed Rollers.

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEED

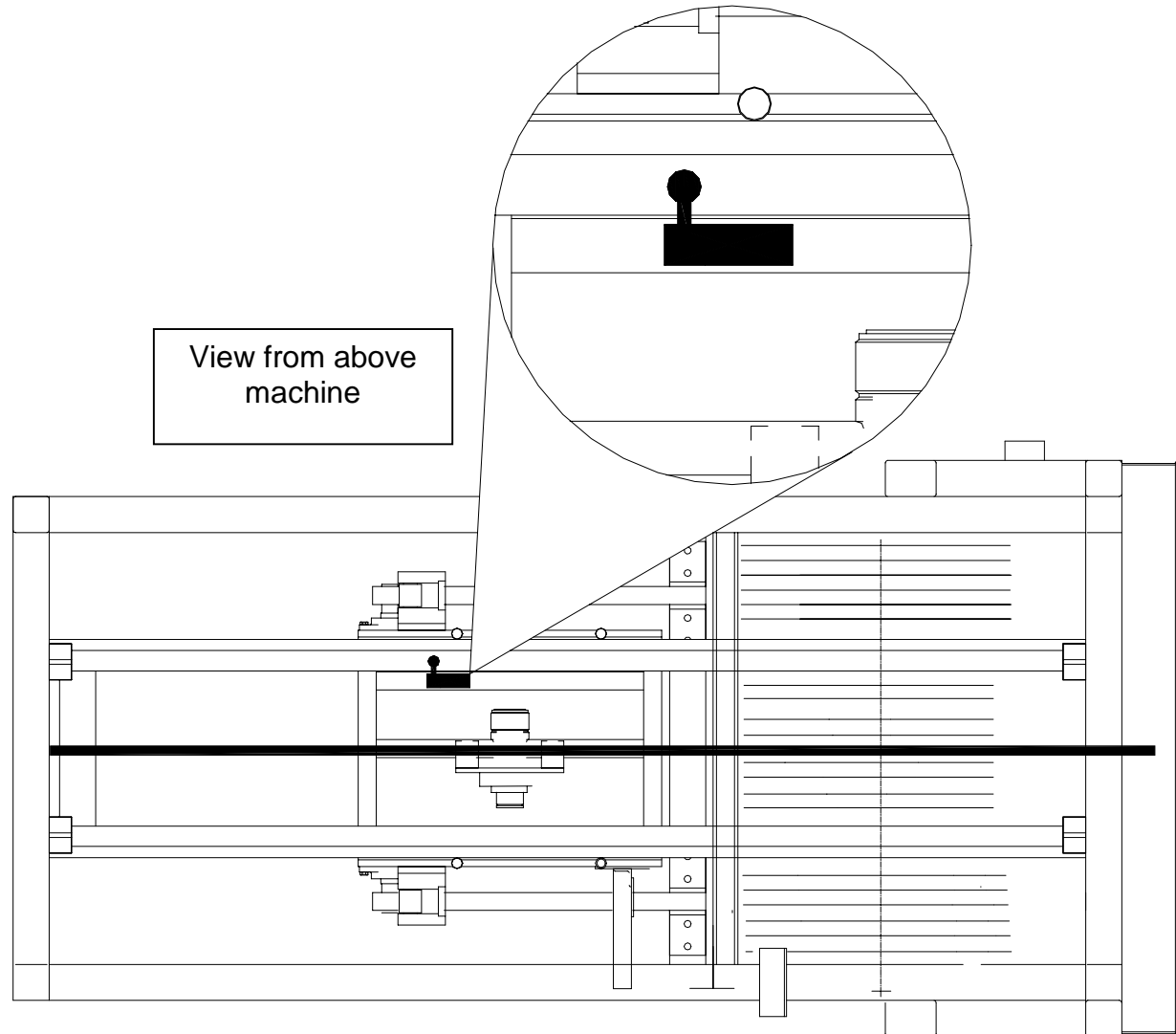


View from above
machine

LS-143 – SideFeed Full Reverse

Senses that the SideFeed is fully reversed. Set this limit switch to trip approximately 2 inches behind the product with the SideFeed fully down.

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEED

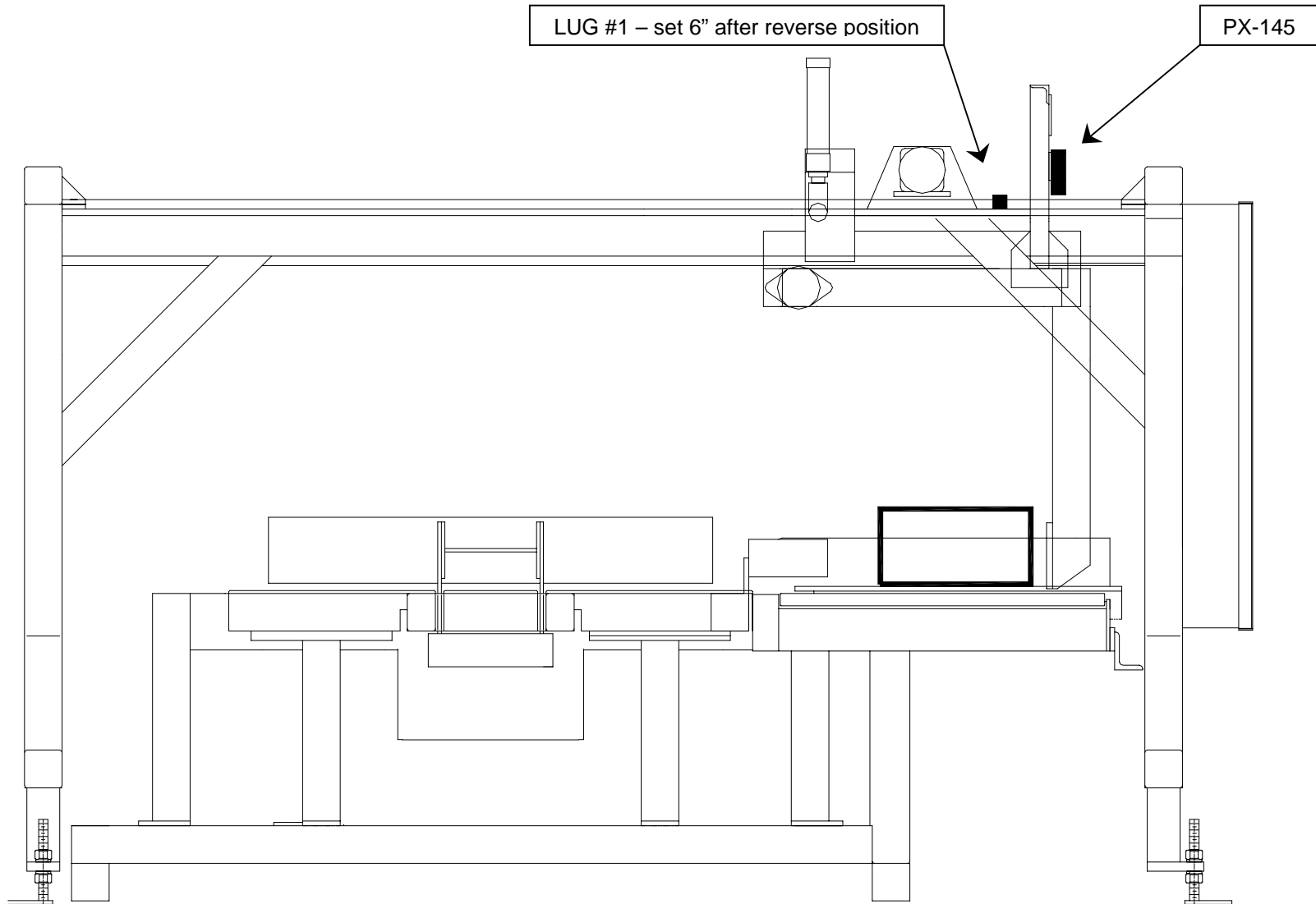


View from above
machine

LS-144 - SideFeed Short Push Stop

Senses that the SideFeed Pusher has pushed product fully onto the Tier Table. This limit switch should be adjusted to trip when the SideFeed Pusher is aligned with the Cuber Short Clamp in its extended position. Manually extend Short Clamp, and move SideFeed Pusher forward until it lines up with the Cuber Short Clamp. Mount LS-144 to trip at this point.

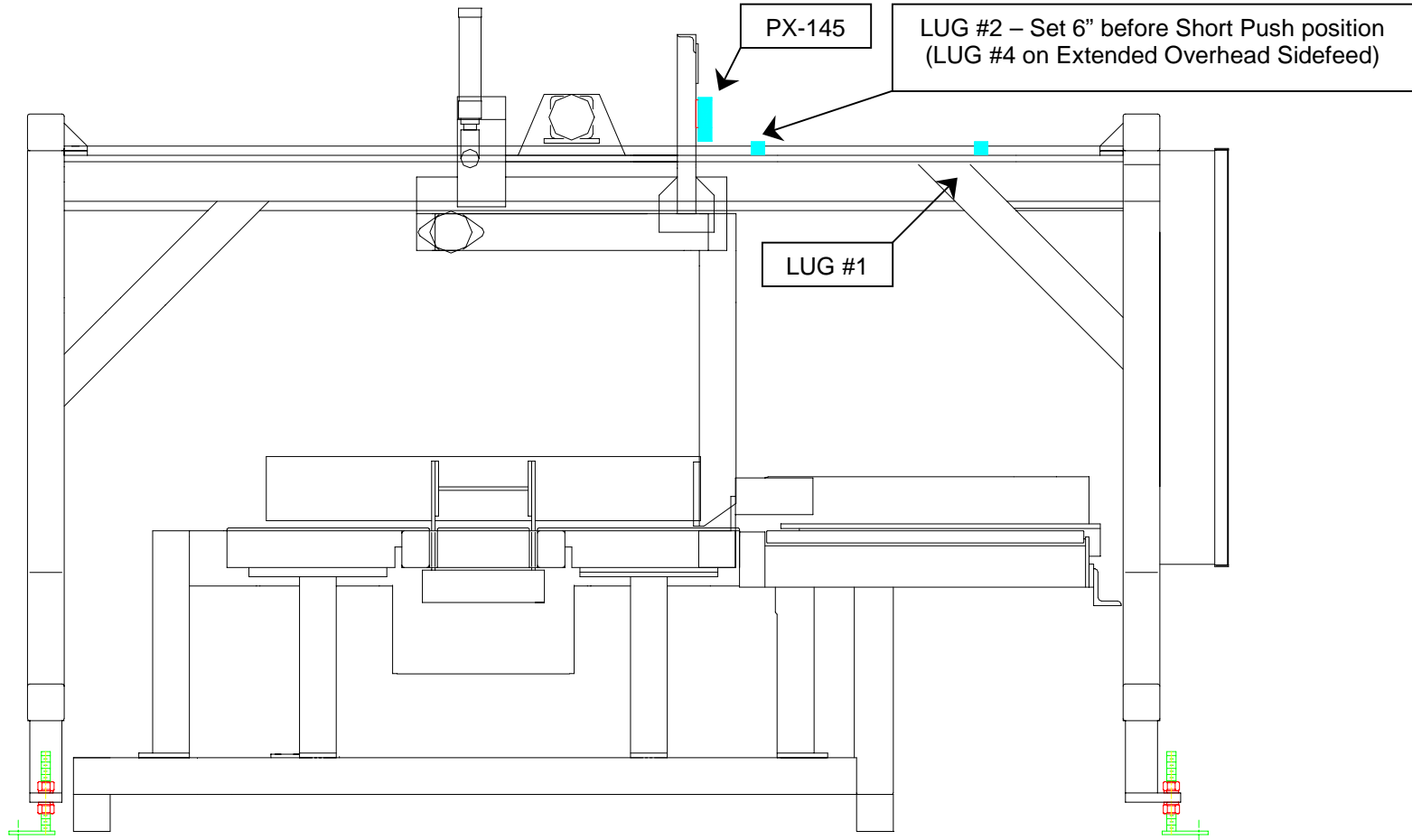
ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEED



LUG #1 – Fast Forward Lug

Located 6-inches forward of the LS-143 position. This location is where the SideFeed will start fast speed when moving forward. When the SideFeed is moving in reverse it slows as PX-145 passes this lug. Manually move SideFeed 6 inches forward from LS-143 position. Mount Lug #1 to trip PX-145.

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEEED

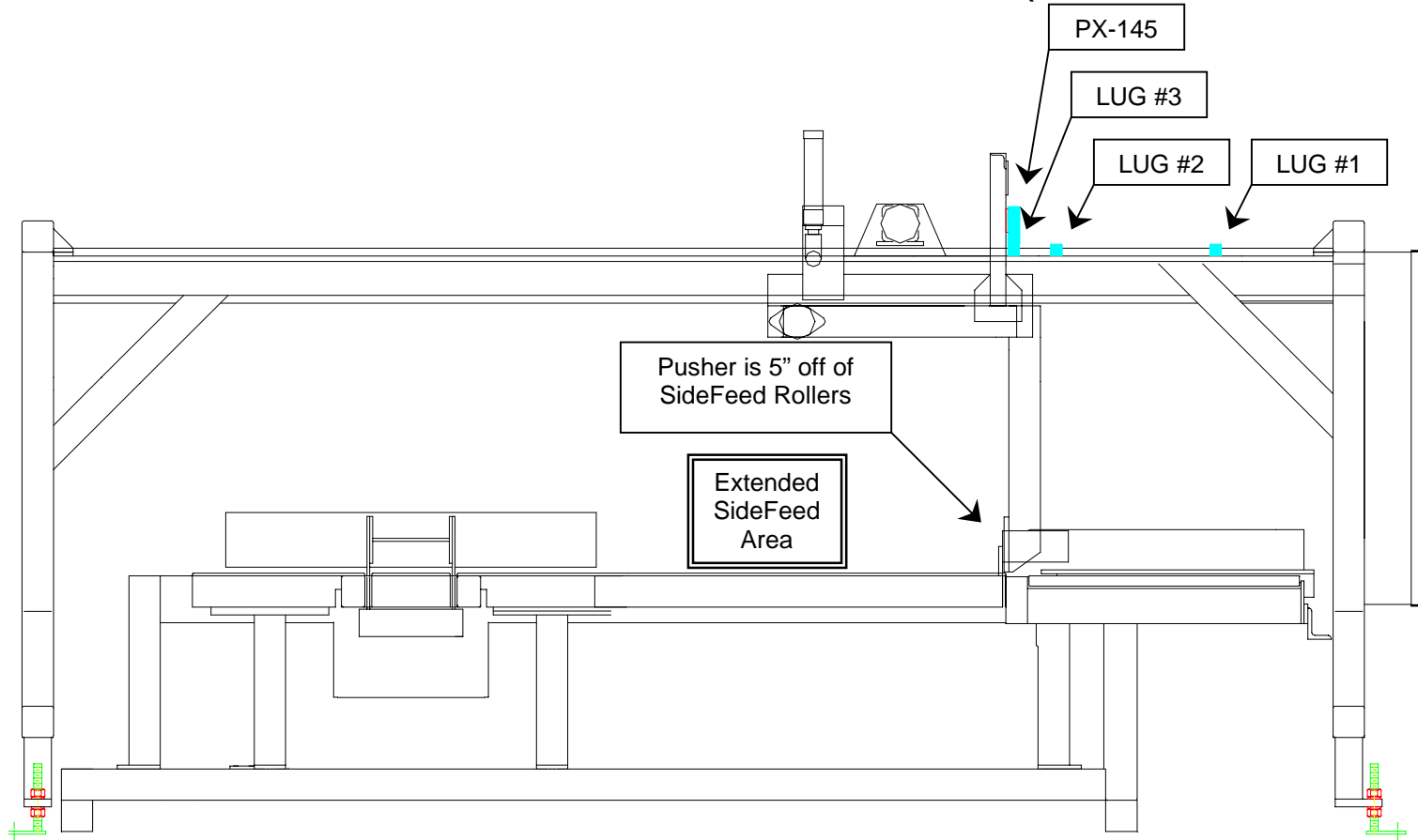


LUG#2 – Short Push Slow Forward **(LUG#4 – On Extended Overhead Sidefeed)**

Located 6 inches before the LS-144 position. When moving forward the Sidefeed will slow as PX-145 passes this lug. When moving in reverse the Sidefeed Pusher will speed to fast as it passes this lug. Manually move the SideFeed 6 inches reverse from the Short Push position, LS-144. Mount Lug #2 to trip PX-145.

**NOTE: Slow Forward Lug is LUG #2 on Standard OverHead Sidefeed systems.
On Extended Overhead Sidefeed this is LUG #4.**

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEED (EXTENDED SIDEFEED ONLY)



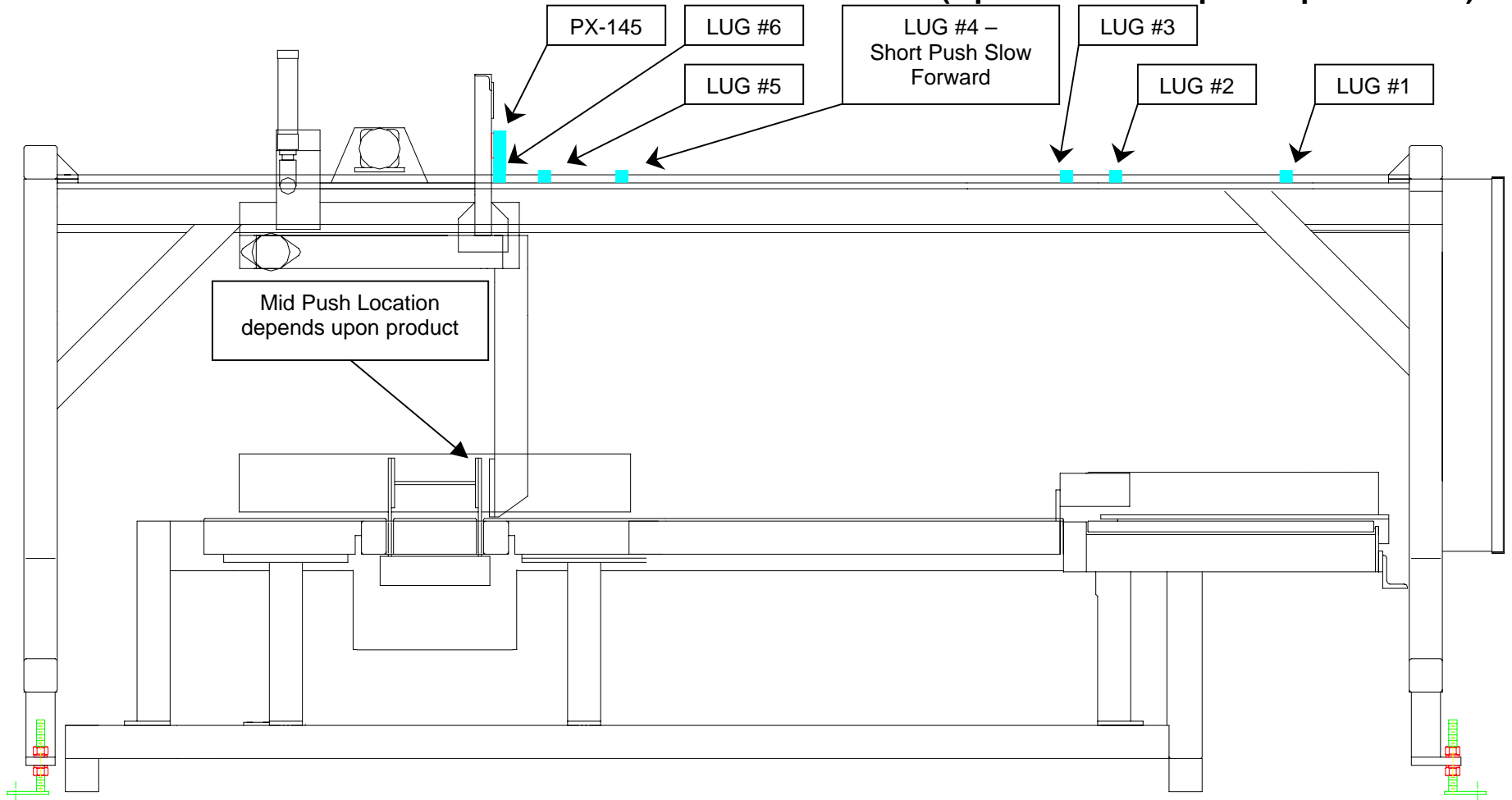
LUG #3 – SideFeed Clear Lug (Extended SideFeed Only)

Intended to permit feed from the Patternmaker into the Sidefeed, with Extended Sidefeed, this position is the location where product from the Patternmaker can feed into the Sidefeed rollers without hitting the back of the Pusher.

Manually move the Sidefeed Pusher face 5" past the Sidefeed Rollers. Mount LUG #3 to trip PX-145 at this point.

NOTE: This position must permit product into the Sidefeed from the Patternmaker, with the Sidefeed Pusher able to move up without touching the product behind it.

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEED (Option with Multiple Stop Positions)



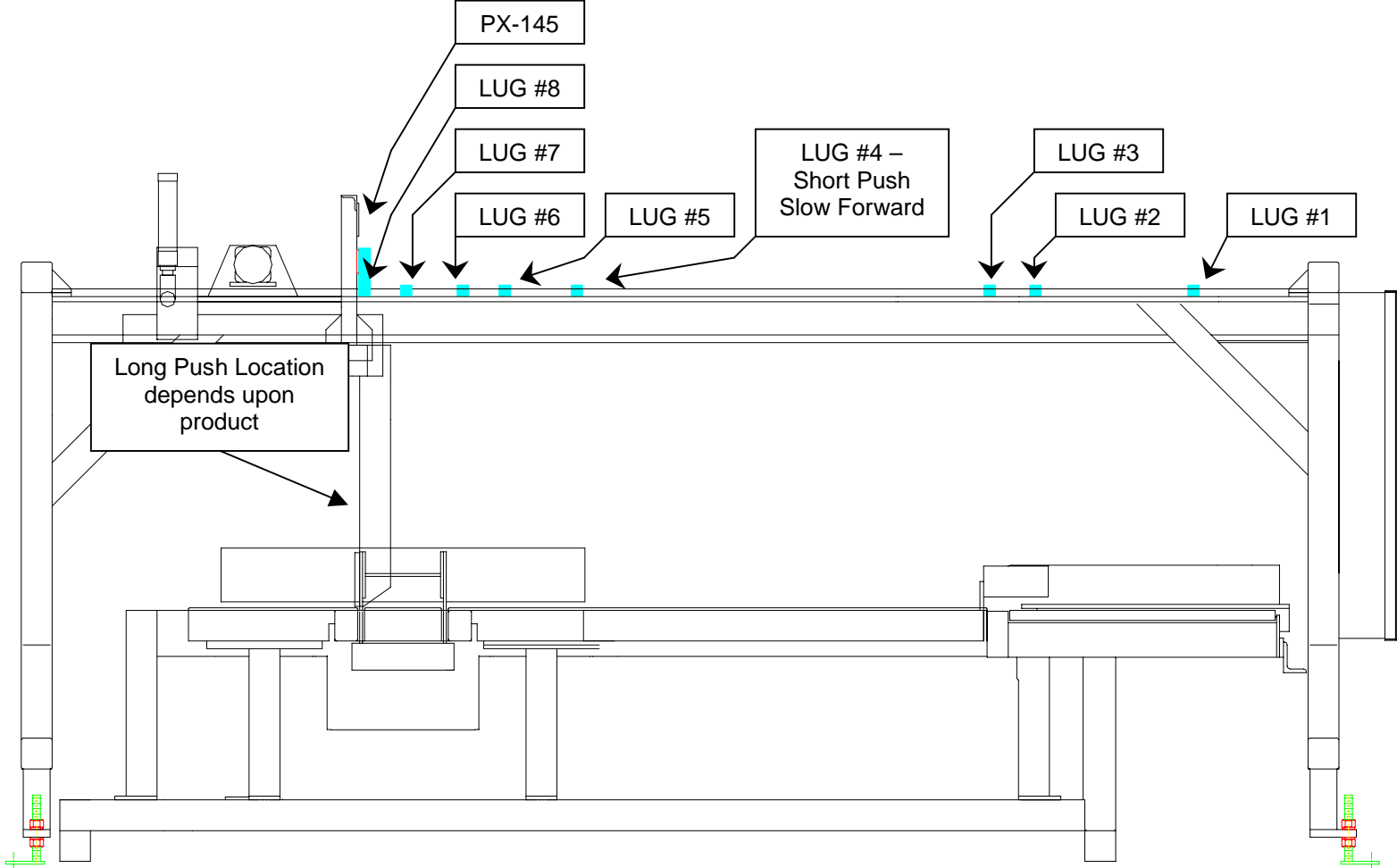
Lug #5 - SideFeed Mid Push Slow & Lug #6 - SideFeed Mid Push Stop (Optional)

Another stop position like the Short Push. Lug location varies with product. Mid Push must be after Short Push. Manually move the SideFeed Pusher to the desired Mid Push stop position. Mount Lug #6 to trip PX-145. Manually move the SideFeed Pusher about 6 inches reversed from Lug #6. Mount Lug #5 to trip PX-145.



TIPS: To improve cycle time
Slow down Lug #5 can be adjusted closer to the Mid Push stop position Lug #6.
Lug positions and valves forward valves should be adjusted to prevent “throwing” block.

ADVANCED SENSOR SETUP GUIDE – OVERHEAD SIDEFEEED (Option with Multiple Stop Positions)

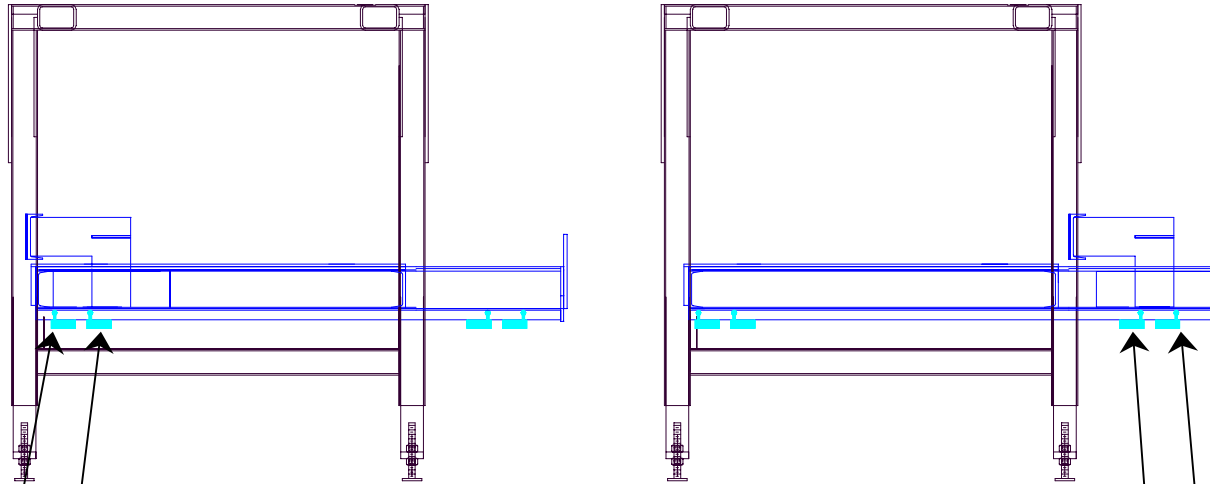


Lug #7 - SideFeed Long Push Slow & Lug #8 - SideFeed Long Push Stop

Another stop position like the Short Push. Lug location varies with product. Long Push must be after Mid Push.
 Manually move the SideFeed Pusher to the desired Long Push stop position. Mount Lug #8 to trip PX-145.
 Manually move the SideFeed Pusher about 6 inches reversed from Lug #8. Mount Lug #7 to trip PX-145.

	<p>TIPS: To improve cycle time Slow down Lug #7 can be adjusted closer to the Long Push stop position Lug #8. Lug positions and valves forward valves should be adjusted to prevent “throwing” block.</p>
--	--

ADVANCED SENSOR SETUP GUIDE – TIER PUSHER



LS-149 Tier Pusher Slow Forward

Indicates that the Tier Pusher is in position to begin slowing in the forward direction. LS-149 should be adjusted to trip approximately 6" from full forward (LS-146).

LS-146 Tier Pusher Full Forward

Indicates that the Tier Pusher is fully forward. Adjust to trip when Tier Pusher is about ¼" onto the Carriage Plate.

NOTE: This position must push the Tier onto the Carriage enough so that, when the Carriage is forward, the Gate can come fully down without hitting the back of the Tier.

LS-148 Tier Pusher Slow Reverse

Indicates that the Tier Pusher is in position to begin slowing in the reverse direction. LS-148 should be adjusted to trip approximately 6" from full reverse (LS-147).

LS-147 Tier Pusher Full Reverse

Indicates that the Tier Pusher is fully reversed. Adjust to trip when Tier Pusher is all the way back.

ADVANCED SENSOR SETUP GUIDE – CUBER

LS-151 – Carriage Reverse

Indicates that the Carriage Plate is reversed. This switch should be adjusted to provide a ½-inch gap between the Carriage Plate and the Tier Table. Remove the Chain Guard over the Carriage Reverse Limit Switch. Manually reverse the Carriage Plate until it is within ½ inch of the Tier Table. Adjust LS-151 to trip against the Carriage Plate Cam Roll Assembly.



TIPS: The measure of ½ inch is for normal speeds and operations. This spacing, between the Carriage Plate and the Tier Table, may need to be increased to accommodate faster Carriage Reverse speeds. Too large a gap may cause block to catch in the gap. Too small a gap will cause Carriage Plate to hit the Tier Table.

PX-150 – Carriage Locator

Indicates, by counting Carriage Chain Lugs, the position of the Carriage Plate as it travels horizontally.

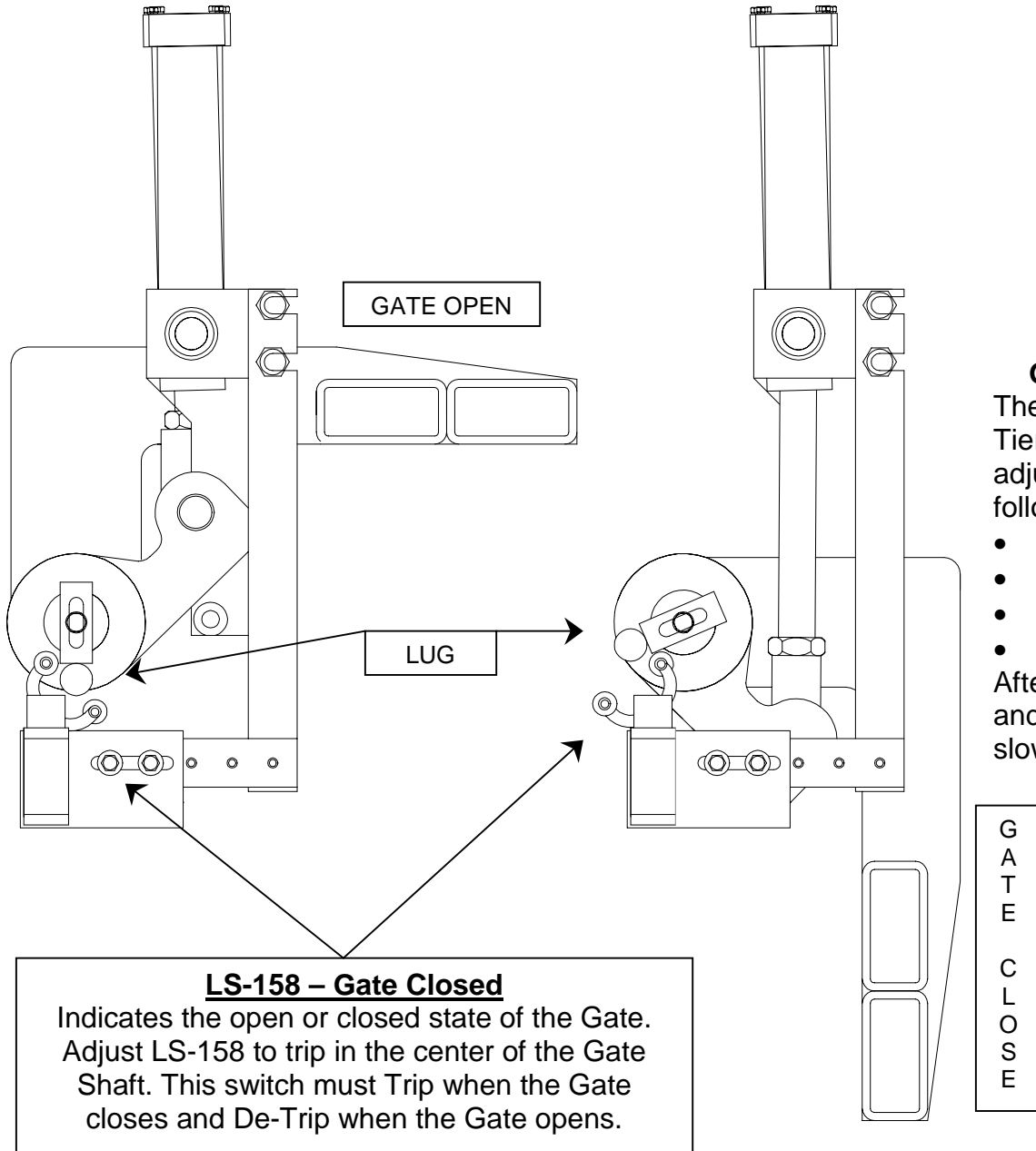
- Lug #1 - Forward = Fast Forward
- Reverse = Slow Reverse
 - Lug #2 - Forward = Slow to Clamp position
- Reverse = Fast Reverse
 - Lug #3 - Carriage 1-inch past Gate & Clamp position
 - Lug #4 - Carriage Full Forward
- Adjust PX-150 to read Lug #3 when the Carriage Plate is 1-inch past Gate. While the Proximity Switch can read as far away as ½-inch away from the lugs, the most reliable performance is with a 3/8-inch gap between the lug and the head of the Proximity Switch.



TIPS:

- 1) While the Carriage may operate with PX-150 poorly adjusted, erratic operation, like speed control, is an indication that adjustment is needed.
- 2) Tier Pusher Forward must be properly adjusted before performing this adjustment.

ADVANCED SENSOR SETUP GUIDE – CUBER GATE

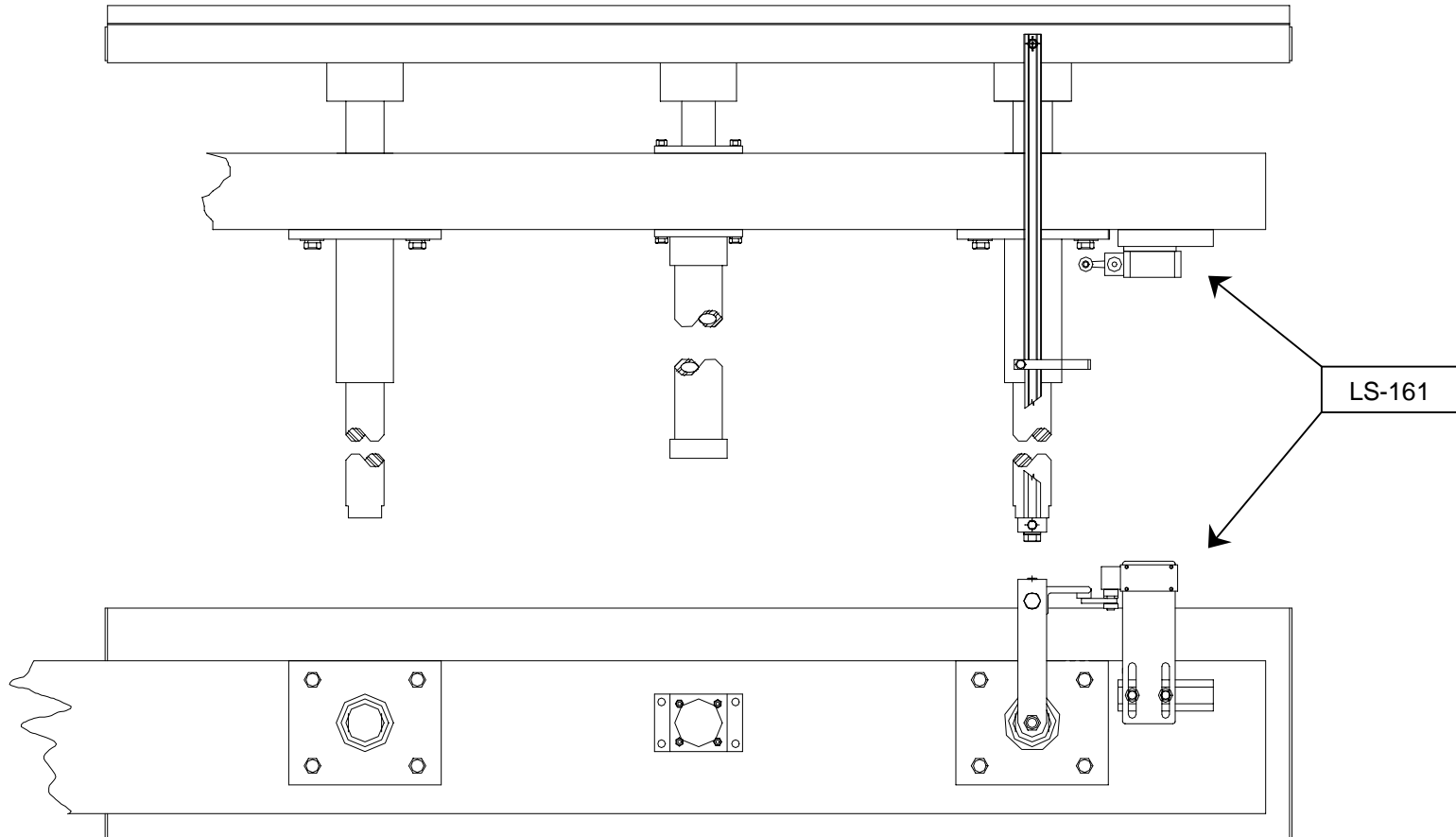


Gate and Clamp Hydraulic Valve Adjustment

The steps, and their proper sequence in placing a Tier on the Cube, require not only good sensor adjustment but Valve adjustment as well. The following steps should be expected in this order:

- Tier Lift is above Cube
 - Gate and Clamps begin to close around Tier
 - Gate closes and Carriage reverses
 - Tier contacts Gate as Clamps contact Tier
- After Adjusting the Gate and Clamp sensors Gate and Clamp Valves should be adjusted, faster or slower to match this sequence.

ADVANCED SENSOR SETUP GUIDE – CUBER SHORT CLAMP

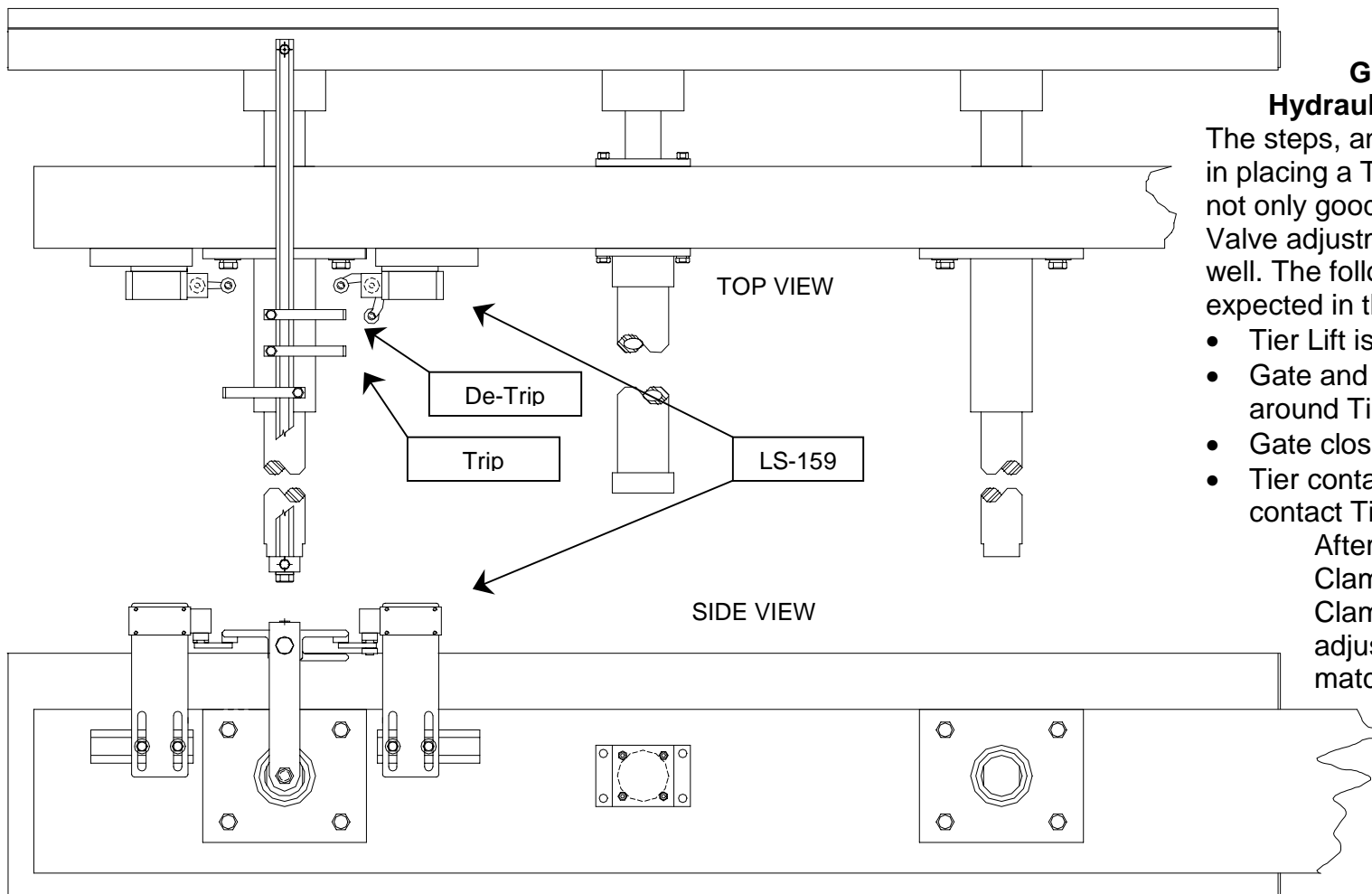


LS-161 – Short Clamp Stop

Indicates that the Short Clamp has stroked into the Cube edge. The Short Clamp normally strokes 3.5" but may stroke as little as 1.5" for special product.

Adjust LS-161 to touch edge of the Tier between 3.5" and 1.5".

ADVANCED SENSOR SETUP GUIDE – CUBER LONG CLAMP



Gate and Clamp Hydraulic Valve Adjustment

The steps, and their proper sequence in placing a Tier on the Cube, require not only good sensor adjustment but Valve adjustment and Cube Codes as well. The following steps should be expected in this order:

- Tier Lift is above Cube
- Gate and Clamps begin to close around Tier
- Gate closes and Carriage reverses
- Tier contacts Gate as Clamps contact Tier

After Adjusting the Gate and Clamp sensors Gate and Clamp Valves should be adjusted, faster or slower to match this sequence.

LS-159 – Clamps Closed – Setup for Narrow (32”) Tiers

Indicates that the Clamps have closed the desired distance. Adjust trippers to set and reset LS-159 with the clamps.

TRIP LUG: Trips LS-159 as Long Clamp travels towards Cube. Set to trip LS-159 2-3 inches before Tier.

DE-TRIP LUG: De-Trips LS-159 as Long Clamp travels away from Cube. Set to de-trip LS-159 when clear of both Cube and Pallet.

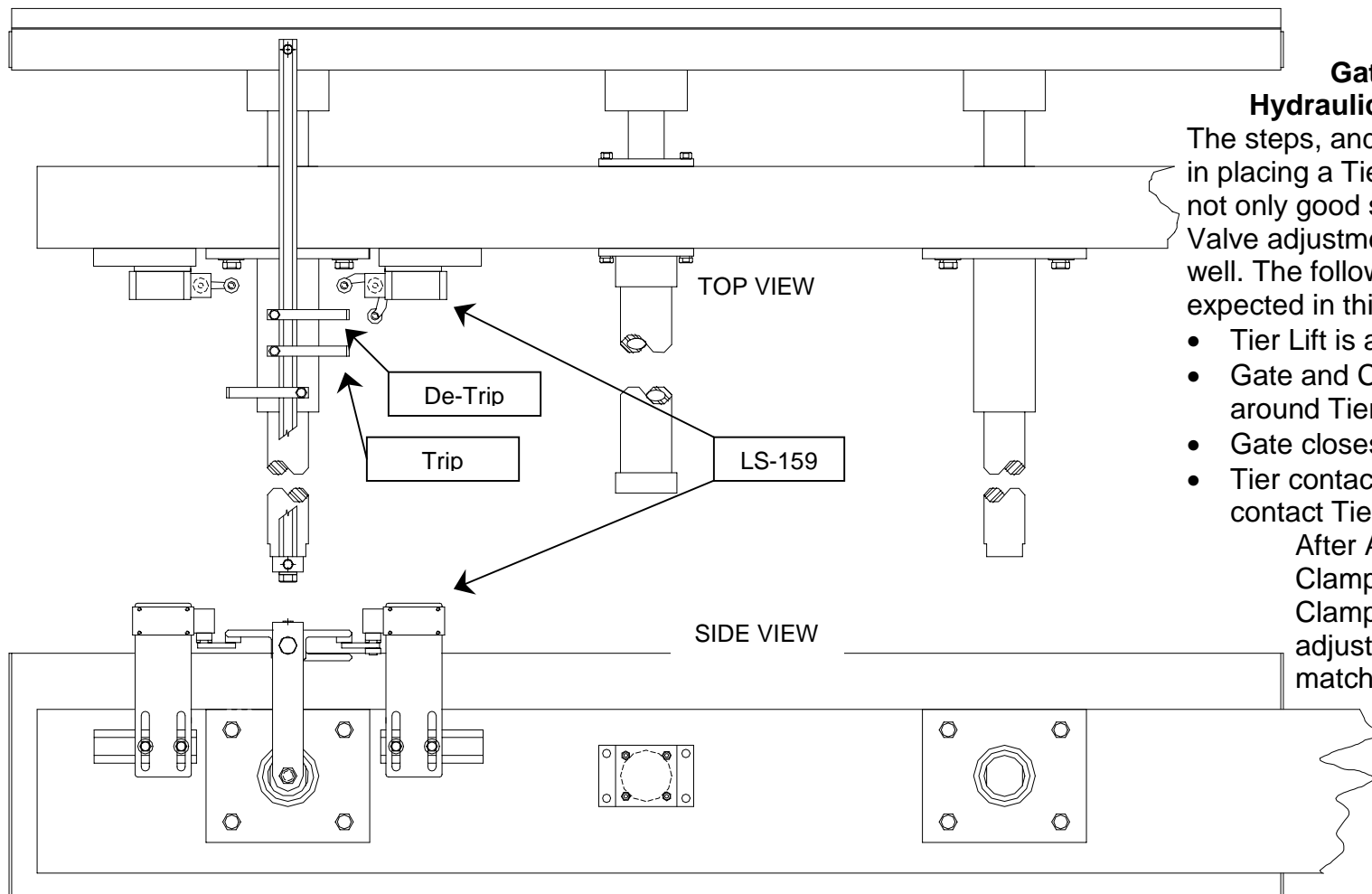
NOTE: Care should be taken to assure lugs do not contact LS-159 fork arms except upon above conditions.



TIPS:

To speed cycle time use Cube Code “Long Clamp Stop Opening at LS-159.”

ADVANCED SENSOR SETUP GUIDE – CUBER LONG CLAMP



Gate and Clamp Hydraulic Valve Adjustment

The steps, and their proper sequence in placing a Tier on the Cube, require not only good sensor adjustment but Valve adjustment and Cube Codes as well. The following steps should be expected in this order:

- Tier Lift is above Cube
- Gate and Clamps begin to close around Tier
- Gate closes and Carriage reverses
- Tier contacts Gate as Clamps contact Tier

After Adjusting the Gate and Clamp sensors Gate and Clamp Valves should be adjusted, faster or slower to match this sequence.

LS-159 – Clamps Closed – Setup for Standard (40”) Tiers

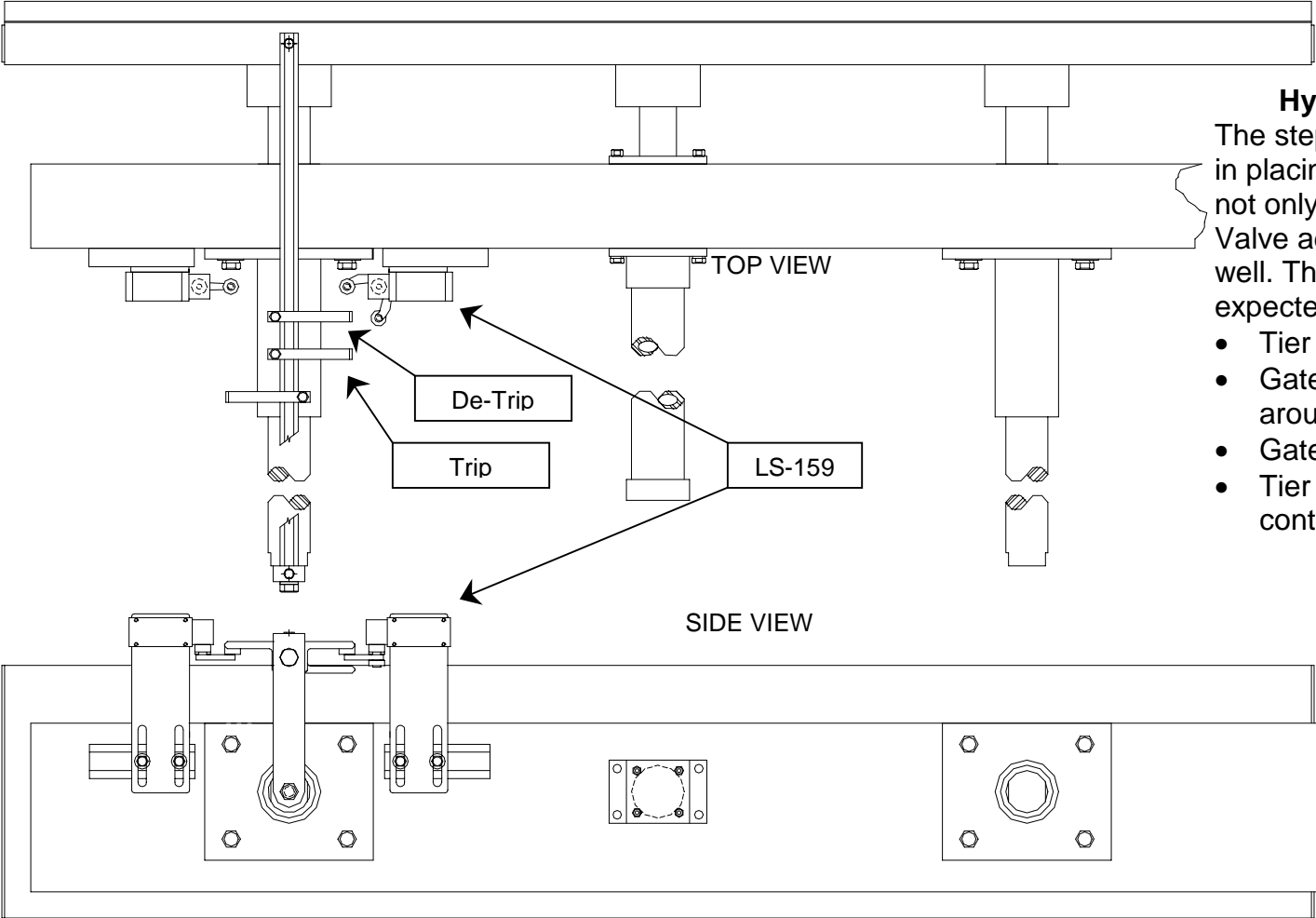
Indicates that the Clamps have closed the desired distance. Adjust trippers to set and reset LS-159 with the clamps.

TRIP LUG: Trips LS-159 as Long Clamp travels towards Cube. Set to trip LS-159 2-3 inches before Tier.

DE-TRIP LUG: De-Trips LS-159 as Long Clamp travels away from Cube. Set to de-trip LS-159 when clear of both Cube and Pallet.

NOTE: Care should be taken to assure lugs do not contact LS-159 fork arms except upon above conditions.

ADVANCED SENSOR SETUP GUIDE – CUBER LONG CLAMP



Gate and Clamp Hydraulic Valve Adjustment

The steps, and their proper sequence in placing a Tier on the Cube, require not only good sensor adjustment but Valve adjustment and Cube Codes as well. The following steps should be expected in this order:

- Tier Lift is above Cube
- Gate and Clamps begin to close around Tier
- Gate closes and Carriage reverses
- Tier contacts Gate as Clamps contact Tier

After Adjusting the Gate and Clamp sensors Gate and Clamp Valves should be adjusted, faster or slower to match this sequence.


LS-159 – Clamps Closed – Setup for Wide (Greater than or equal to 46”) Tiers

Indicates that the Clamps have closed the desired distance. Adjust trippers to set and reset LS-159 with the clamps.

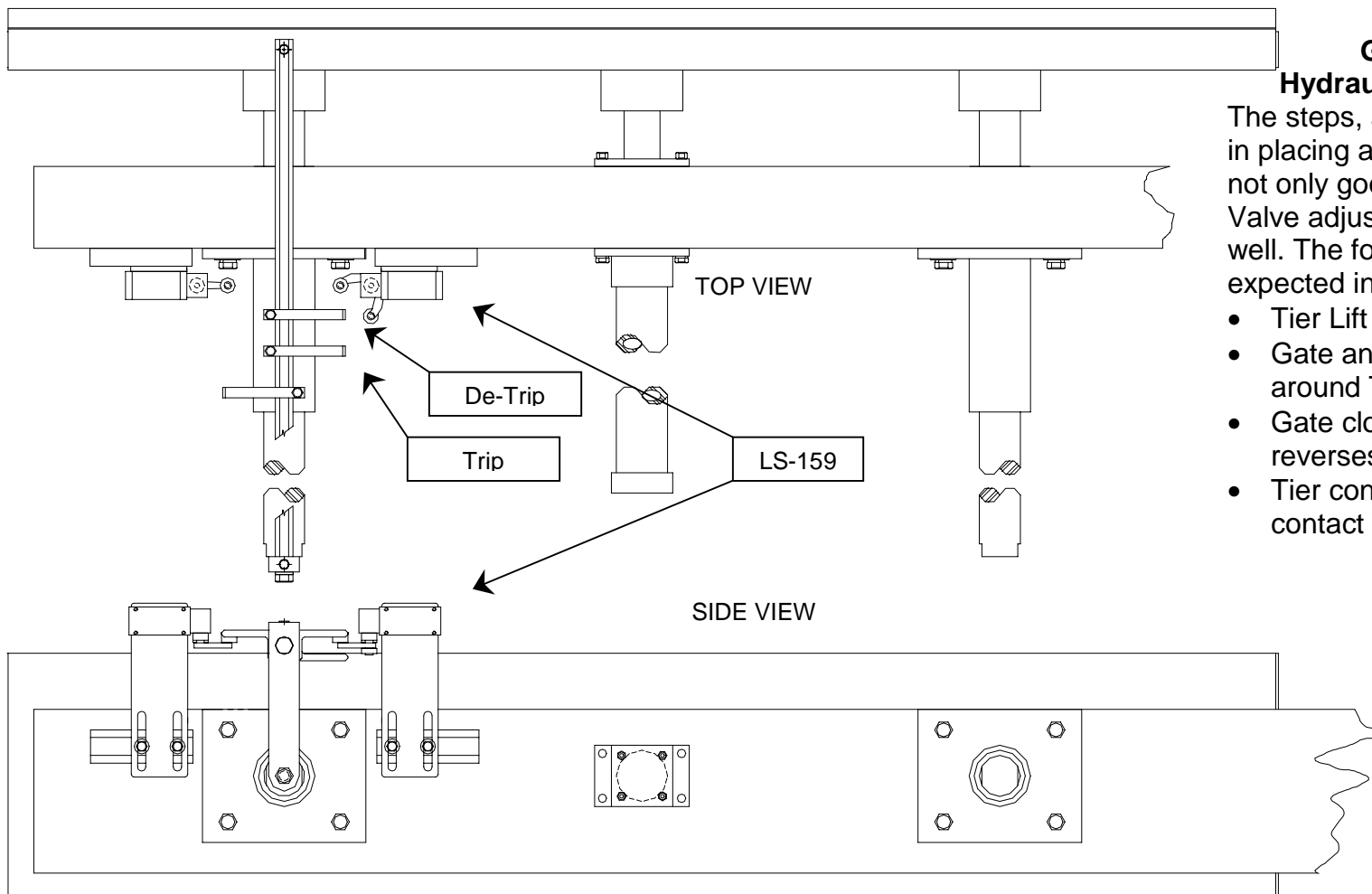
TRIP LUG: Trips LS-159 as Long Clamp travels towards Cube. Set to trip LS-159 immediately as Long Clamp begins to close.

DE-TRIP LUG: De-Trips LS-159 as Long Clamp travels away from Cube. Set to de-trip LS-159 when clear of both Cube and Pallet.

NOTE: Care should be taken to assure lugs do not contact LS-159 fork arms except upon above conditions.

	<p>TIPS: To assure that the gate closes before the Carriage reverses, use the Cube Code “Delay Closing on Long Clamp.”</p>
---	---

ADVANCED SENSOR SETUP GUIDE – CUBER LONG CLAMP



Gate and Clamp Hydraulic Valve Adjustment

The steps, and their proper sequence in placing a Tier on the Cube, require not only good sensor adjustment but Valve adjustment and Cube Codes as well. The following steps should be expected in this order:

- Tier Lift is above Cube
- Gate and Clamps begin to close around Tier
- Gate closes and Carriage reverses
- Tier contacts Gate as Clamps contact Tier

After Adjusting the Gate and Clamp sensors Gate and Clamp Valves should be adjusted, faster or slower to match this sequence.

LS-159 – Clamps Closed – Setup for Super Wide (Greater than or equal to 49”) Tiers

Indicates that the Clamps have closed the desired distance. Adjust trippers to set and reset LS-159 with the clamps.

TRIP LUG: Trips LS-159 as Long Clamp travels towards Cube. Not used with this width Tier.

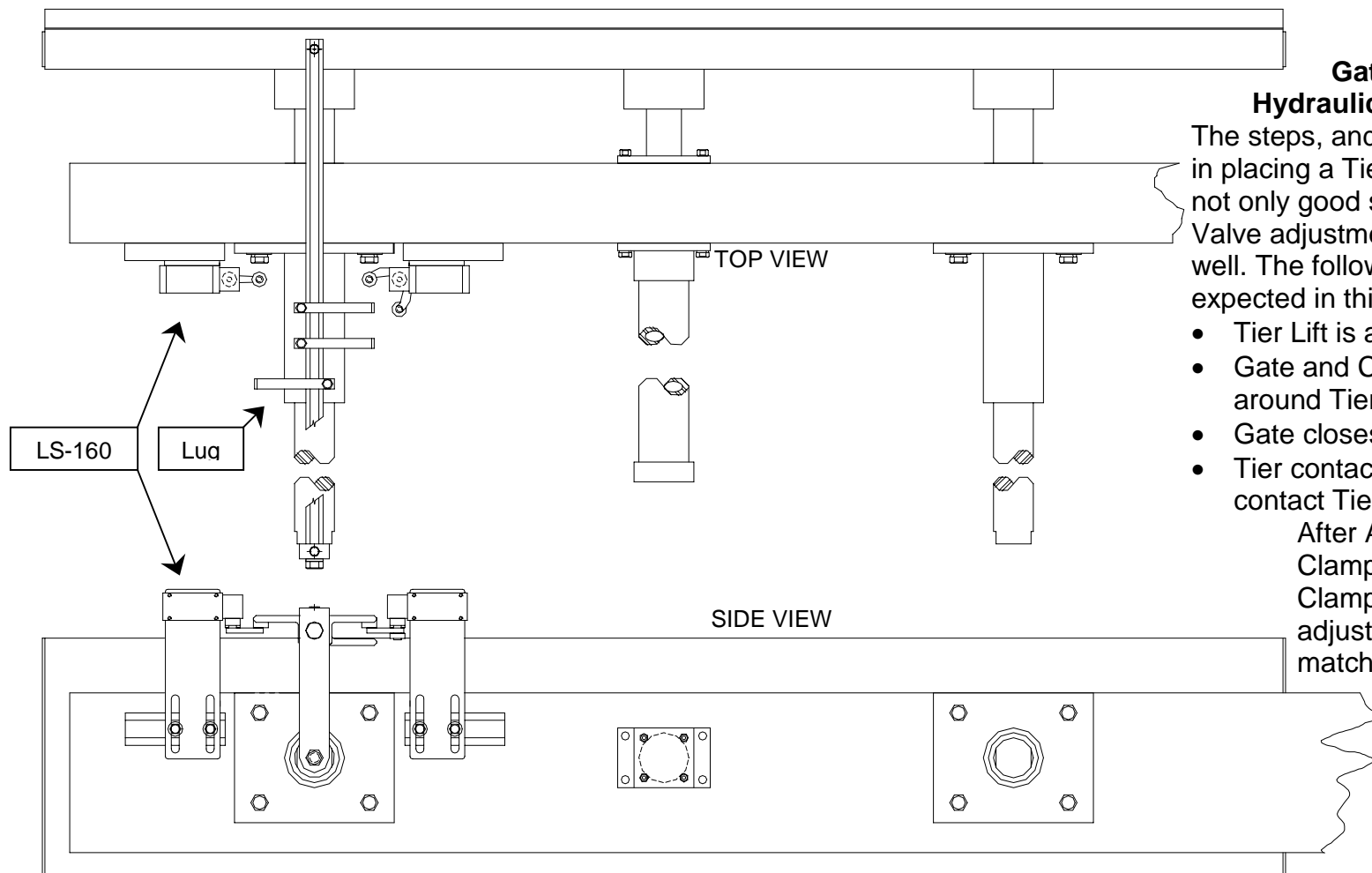
DE-TRIP LUG: De-Trips LS-159 as Long Clamp travels away from Cube. Not used with this width Tier.

NOTES: Care should be taken to assure lugs do not contact LS-159 fork arms except upon above conditions.



TIPS: With Super Wide Tiers it is recommended that the Cube Code “ByPass Long Clamp Limit LS-159” be turned on. Additionally Cube Code “Delay Closing on Long Clamp” should be on to give the Gate time to close before the Carriage reverses.

ADVANCED SENSOR SETUP GUIDE – CUBER LONG CLAMP



Gate and Clamp Hydraulic Valve Adjustment

The steps, and their proper sequence in placing a Tier on the Cube, require not only good sensor adjustment but Valve adjustment and Cube Codes as well. The following steps should be expected in this order:

- Tier Lift is above Cube
- Gate and Clamps begin to close around Tier
- Gate closes and Carriage reverses
- Tier contacts Gate as Clamps contact Tier

After Adjusting the Gate and Clamp sensors Gate and Clamp Valves should be adjusted, faster or slower to match this sequence.

LS-160 – Long Clamp Stop

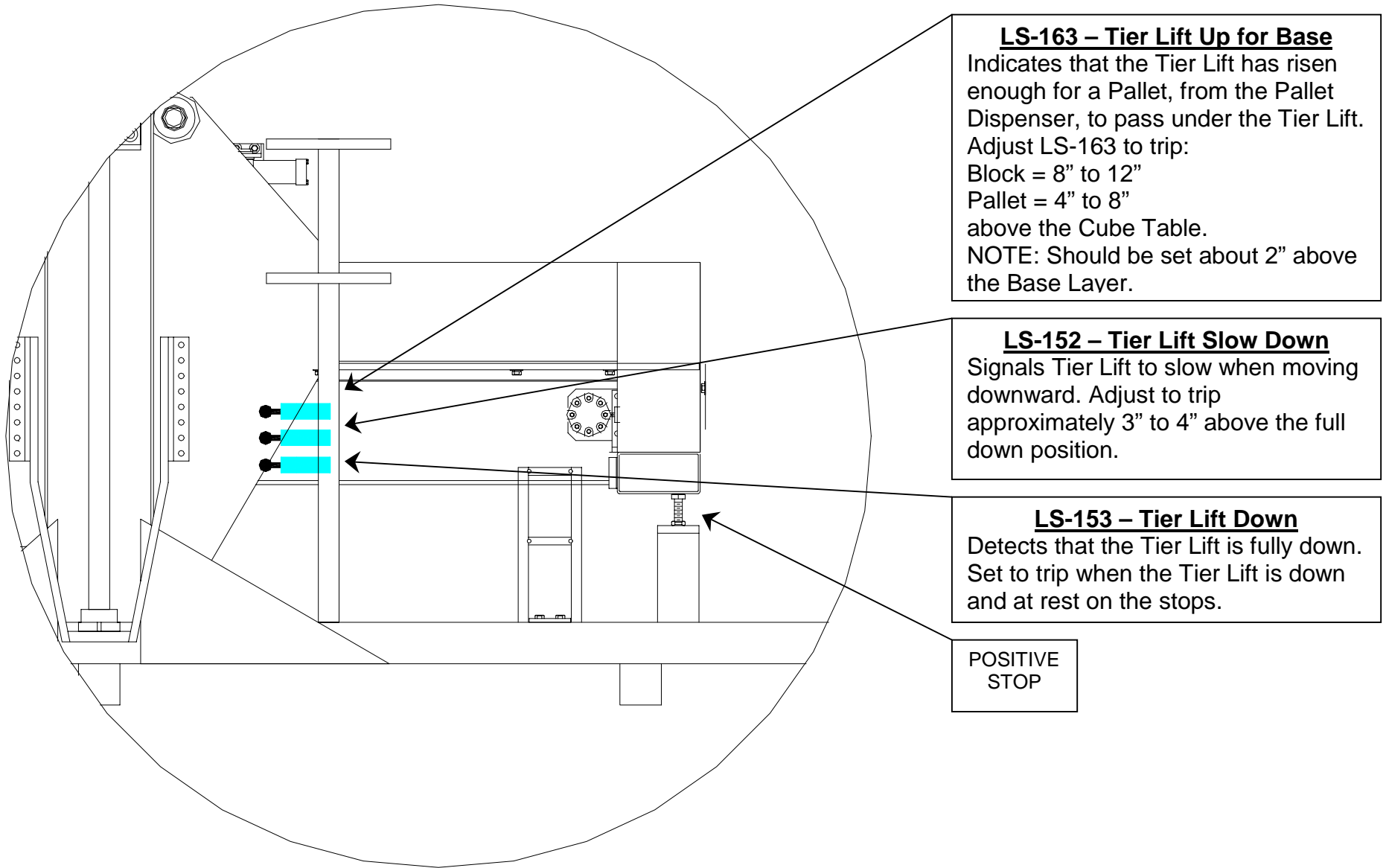
Indicates the desired stop point for the Long Clamp. When this switch trips it stops the Long Clamp from extending any further.

There are two ways to adjust the Lug for LS-160:

Clamps as Guides: Set at Tier edge so that Clamp stops without compressing Tier.

Clamps as Clamps: Set 2 inches inside Tier edge by clamping Tier and moving Lug 2 inches beyond LS-160. This will stop the Long Clamp when there is no Tier Present, without it traveling further over the Cube. Proper adjustment saves time and avoids the Clamp catching on a partial Cube as it is reversing and the Lift is lowering.

ADVANCED SENSOR SETUP GUIDE – CUBER: TIER LIFT



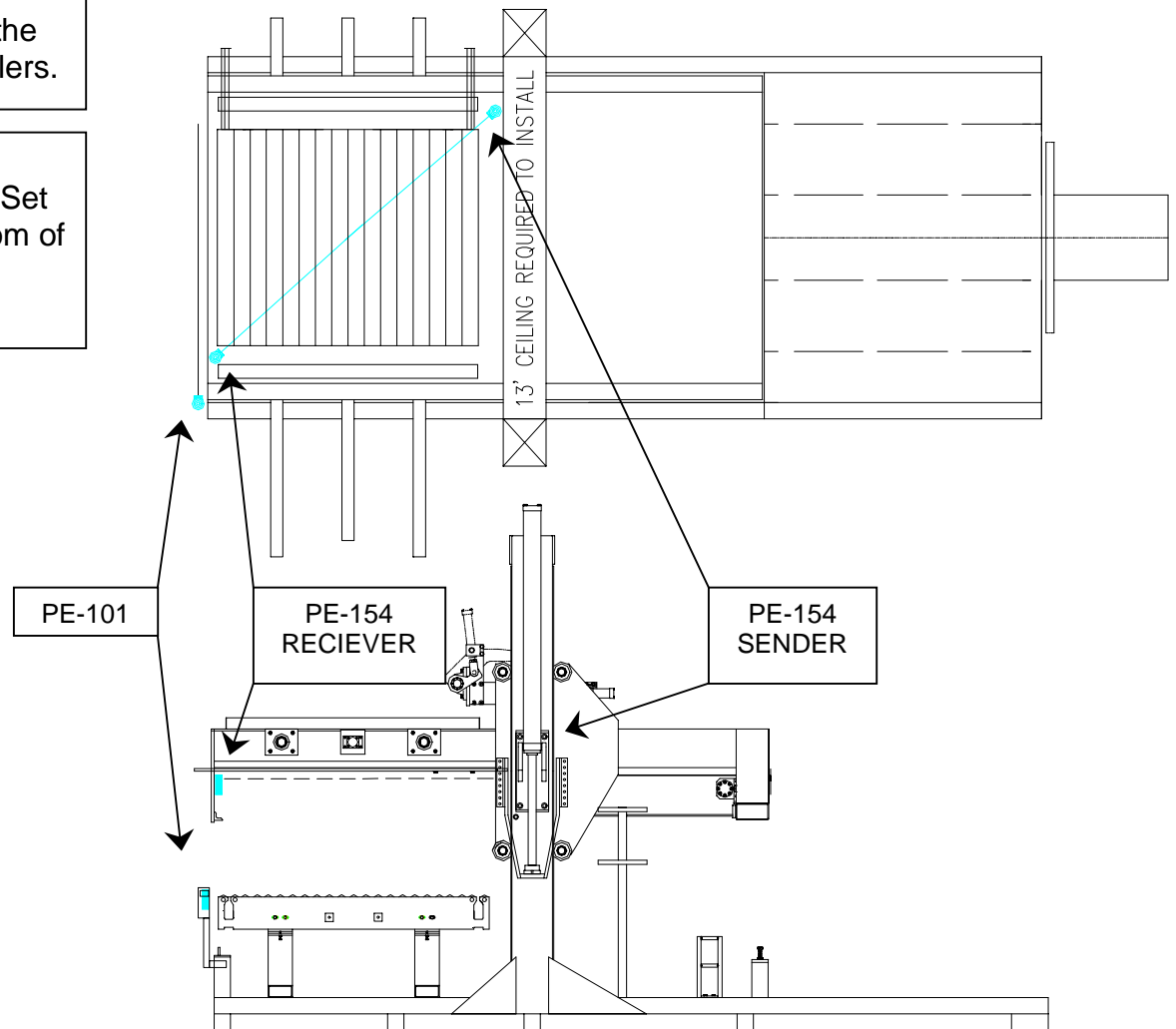
ADVANCED SENSOR SETUP GUIDE – CUBER: TIER LIFT

PE-101 – Block Tip Out Eye

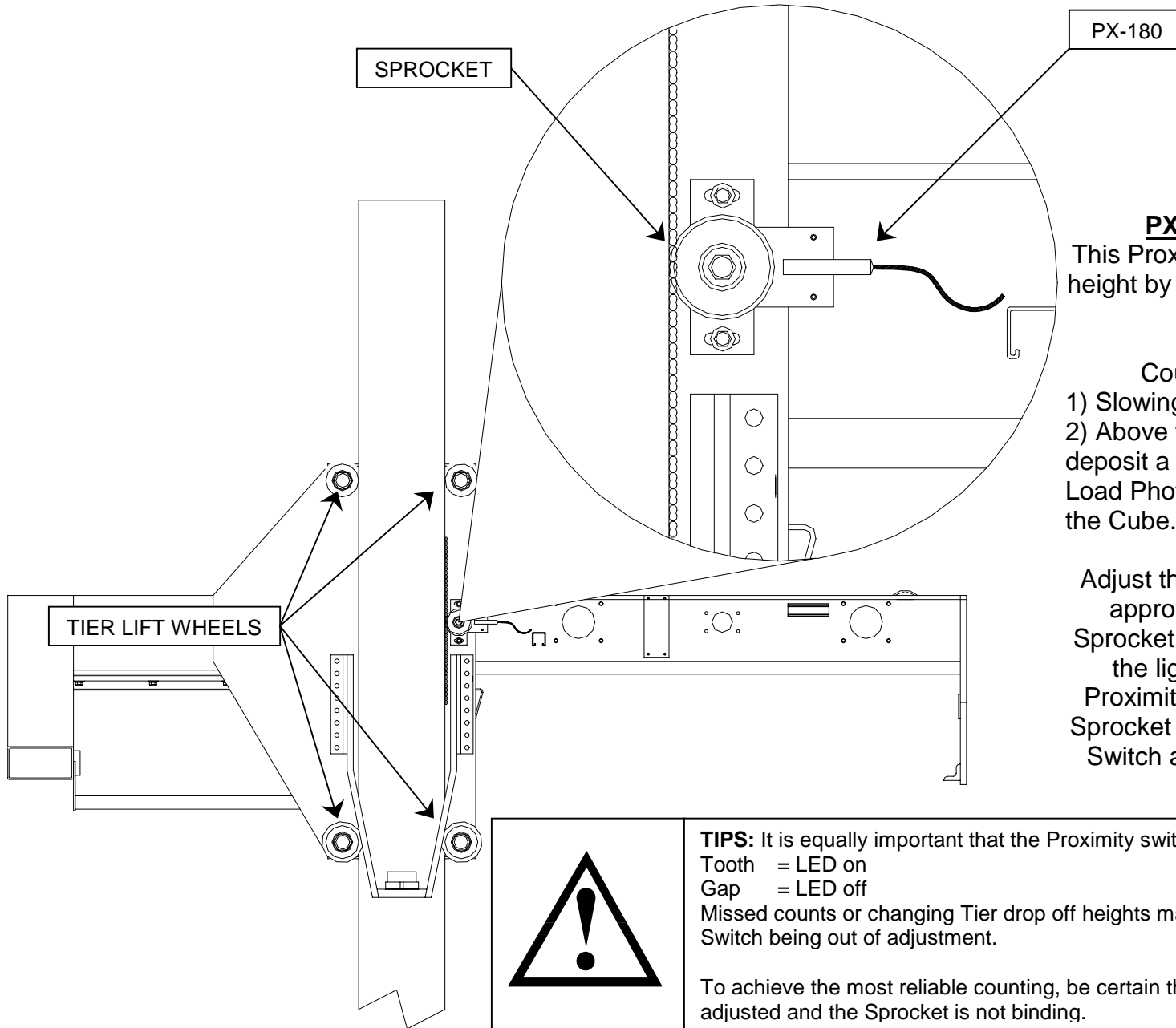
Detects objects in front of the Cube in the path of the Tier Lift face. Set PE-101 - 1" above Discharge rollers.

PE-154 – Tier Lift Clear Load Eye

Detects the top of the product on the Cube Table. Set PE-154 Receiver approximately 1" below the bottom of the Carriage Plate, reading the light signal from PE-154 Sender.



ADVANCED SENSOR SETUP GUIDE – CUBER: TIER LIFT



PX-180

SPROCKET

PX-180 – Tier Lift Locator

This Proximity Switch measures Tier Lift height by counting both the teeth and the gaps of the sprocket.

Counting occurs both when:

- 1) Slowing to a stop above the Cube.
- 2) Above the Cube and moving down to deposit a Tier, as PE-154 (Tier Lift Clear Load Photo Eye) becomes blocked by the Cube.

Adjust the head of Proximity Switch for approximately 3/16-inch gap from Sprocket tooth. To test proper operation the light (LED) on the back of the Proximity Switch should be on when a Sprocket tooth is in front of the Proximity Switch and off when a gap is present.



TIPS: It is equally important that the Proximity switch reads both the teeth and the gaps.

Tooth = LED on

Gap = LED off

Missed counts or changing Tier drop off heights may be the result of this Proximity Switch being out of adjustment.

To achieve the most reliable counting, be certain that the Tier Lift Wheels are properly adjusted and the Sprocket is not binding.

ADVANCED SENSOR SETUP GUIDE – PALLET DISPENSER

PE-171 – Dispenser Latch Eye Reflector

PE-171 – Dispenser Latch Eye

Detects when objects or personnel are in the path of the Dispenser Latches. Adjust Photo Eye to see reflector, all 3 LED's on, with nothing in its path.

LS-167 – Dispenser Lift Up

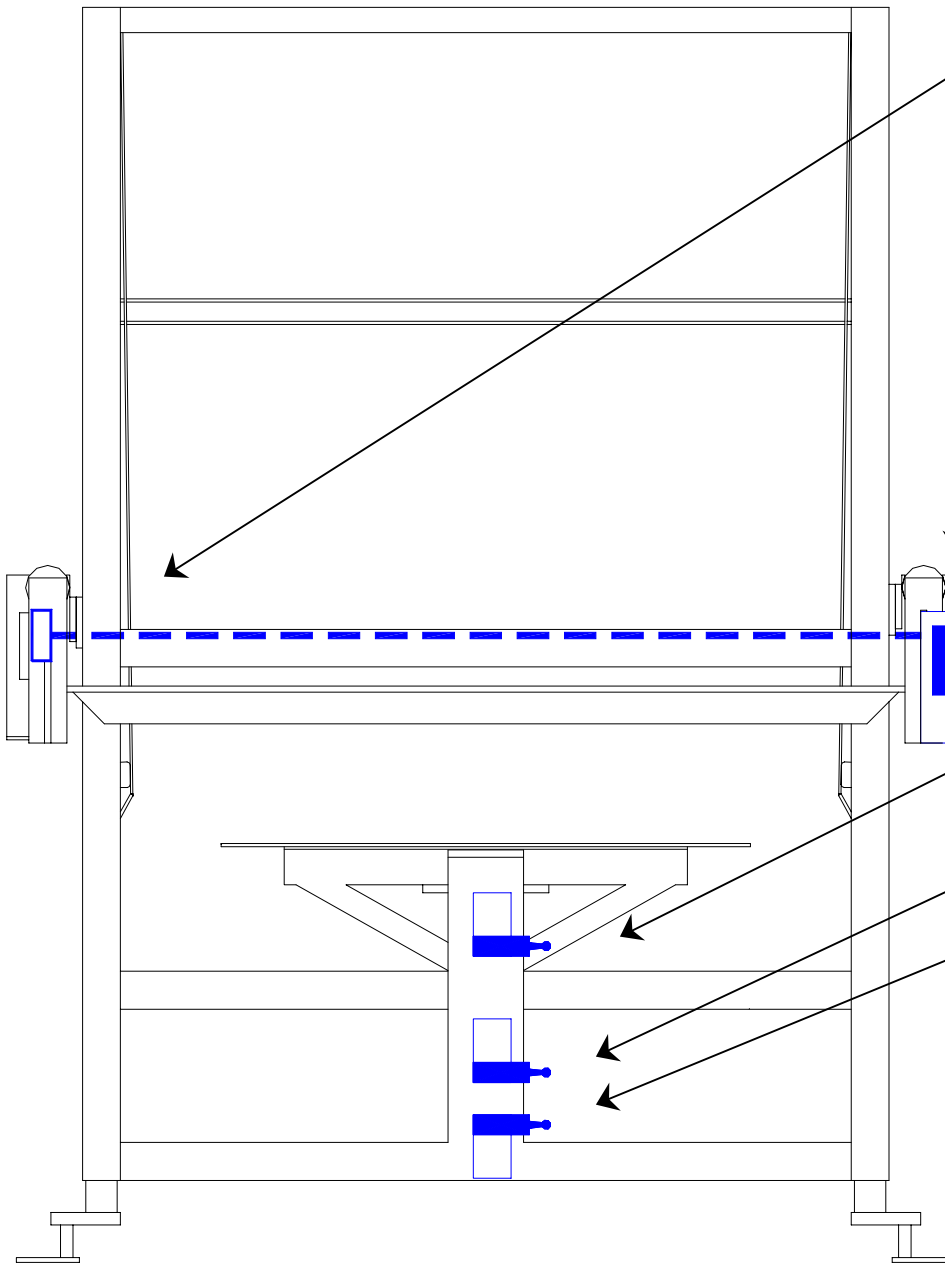
Indicates that Dispenser or Lift is up.
Adjust to trip when lift has raised fully up.
Recommended adjustment should trip "heavy".

LS-168 – Dispenser Lift in Latch Position

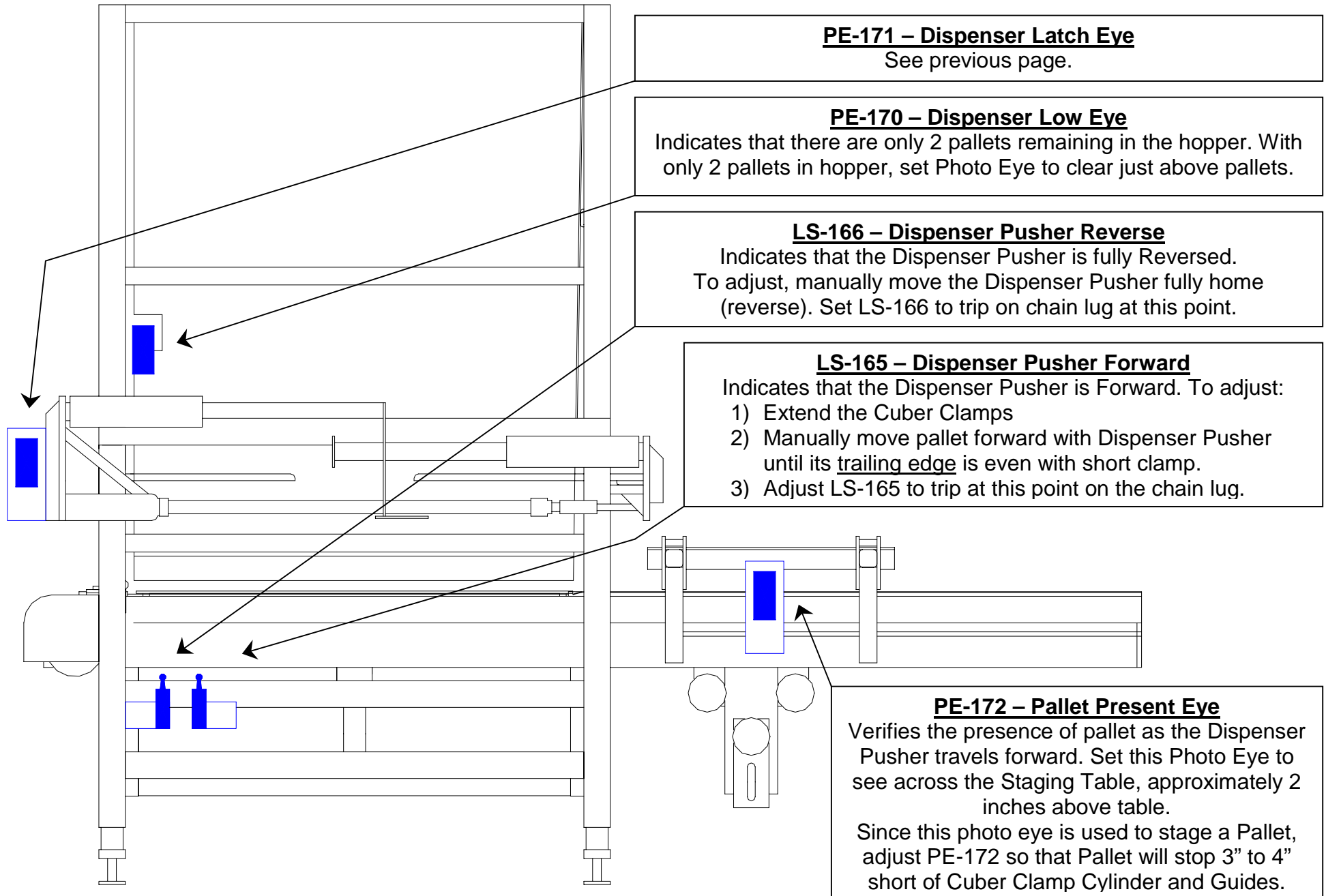
Indicates that Dispenser Latches are in the center of the second pallet from the bottom of the stack.
Manually move Dispenser Lift until Latches are centered in second pallet at the point where the Latches close. Adjust LS-168 to trip at this point.

LS-169 – Dispenser Lift Down

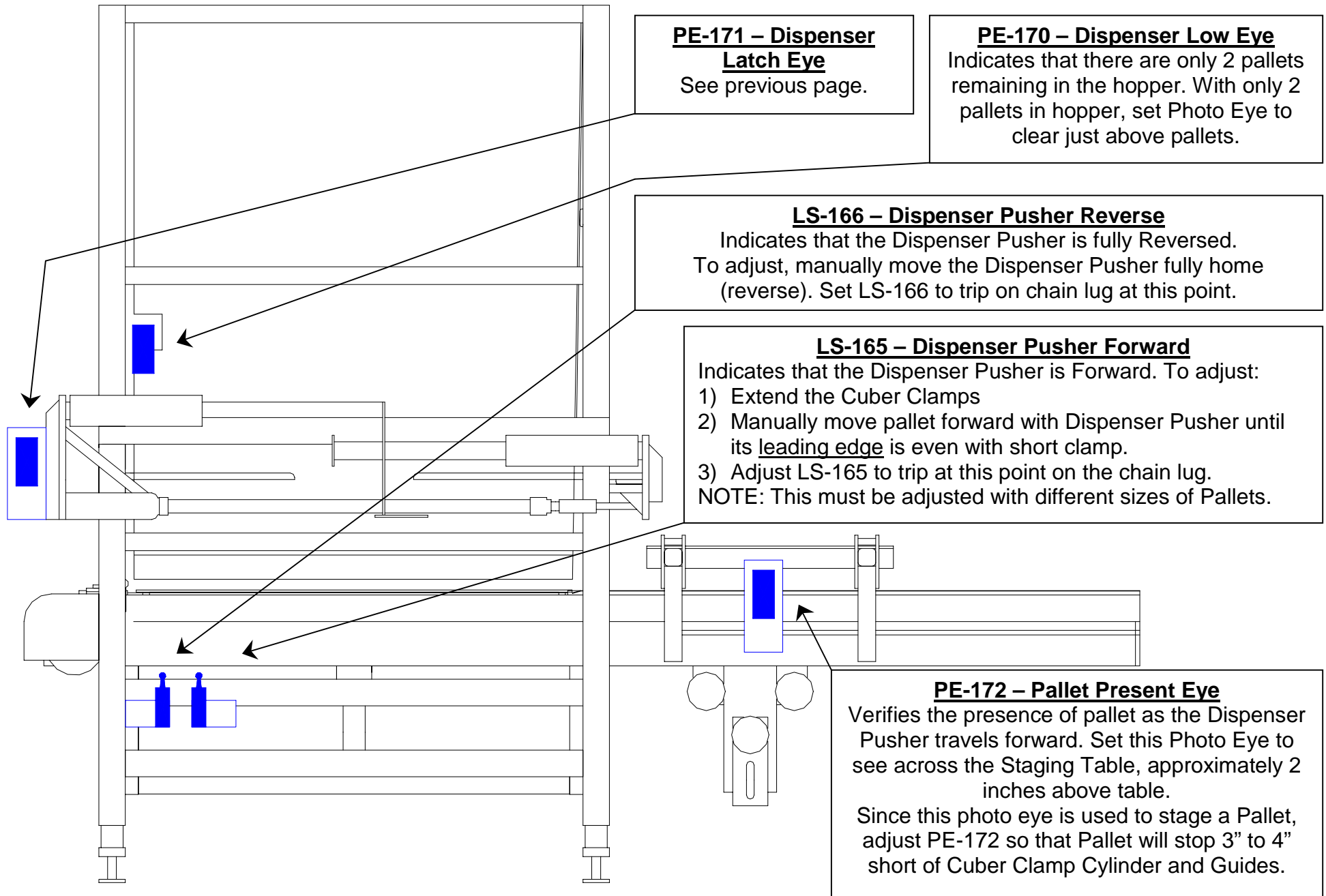
Indicates that Dispenser Lift is down.
Adjust to trip when lift has lowered fully.



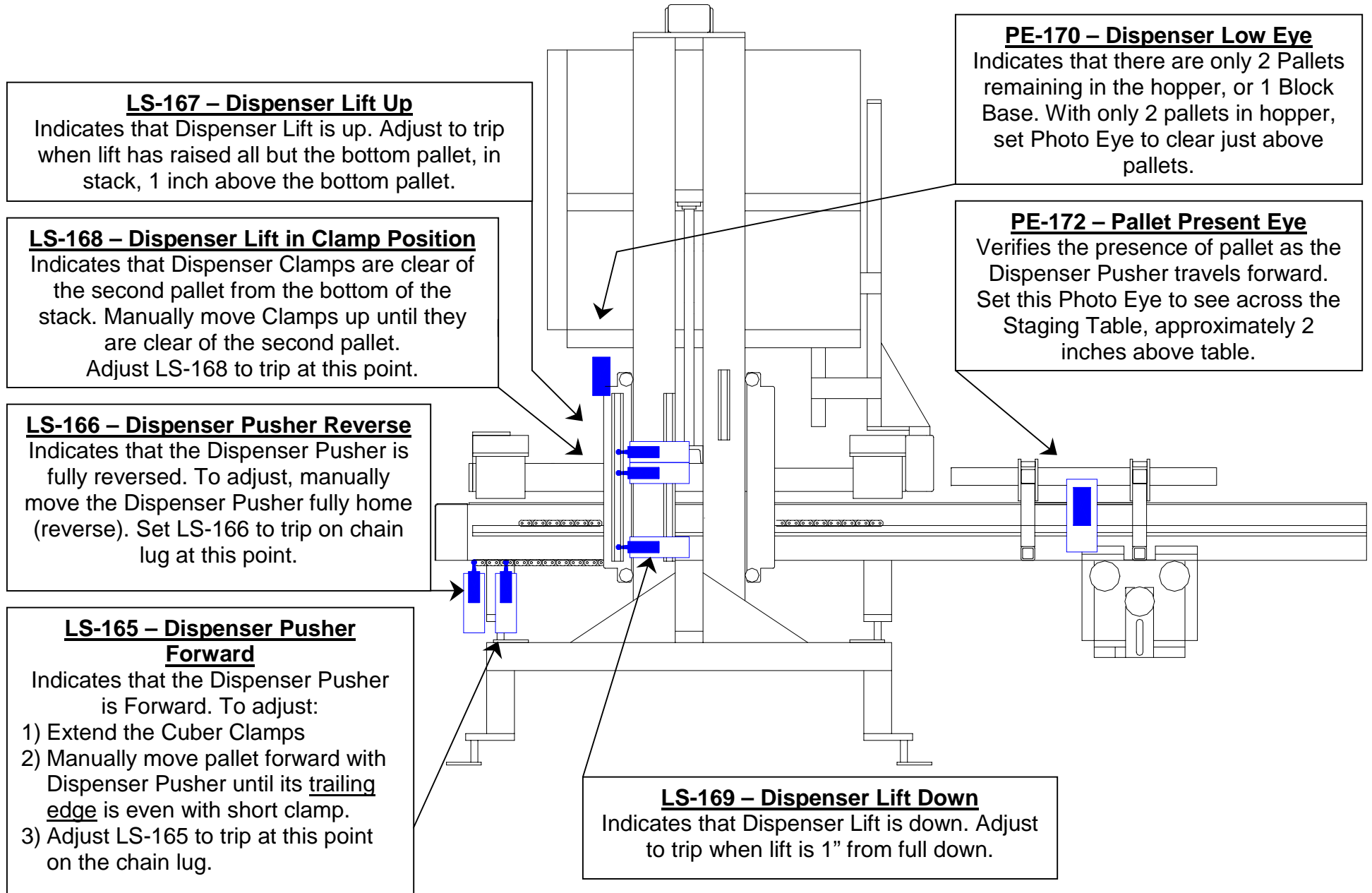
ADVANCED SENSOR SETUP GUIDE – PALLET DISPENSER (Mounted on Short Clamp Side of Cuber)



ADVANCED SENSOR SETUP GUIDE – PALLET DISPENSER (Mounted on Long Clamp Side of Cuber)



ADVANCED SENSOR SETUP GUIDE – BLOCK DISPENSER (Mounted on Short Clamp Side of Cuber)



ADVANCED SENSOR SETUP GUIDE – BLOCK DISPENSER (Mounted on Long Clamp Side of Cuber)

LS-167 – Dispenser Lift Up

Indicates that Dispenser Lift is up. Adjust to trip when lift has raised all but the bottom pallet, in stack, 1 inch above the bottom pallet.

LS-168 – Dispenser Lift in Clamp Position

Indicates that Dispenser Clamps are in the center of the second pallet from the bottom of the stack. Manually move Clamps up until they are centered in second pallet. Adjust LS-168 to trip at this point.

LS-166 – Dispenser Pusher Reverse

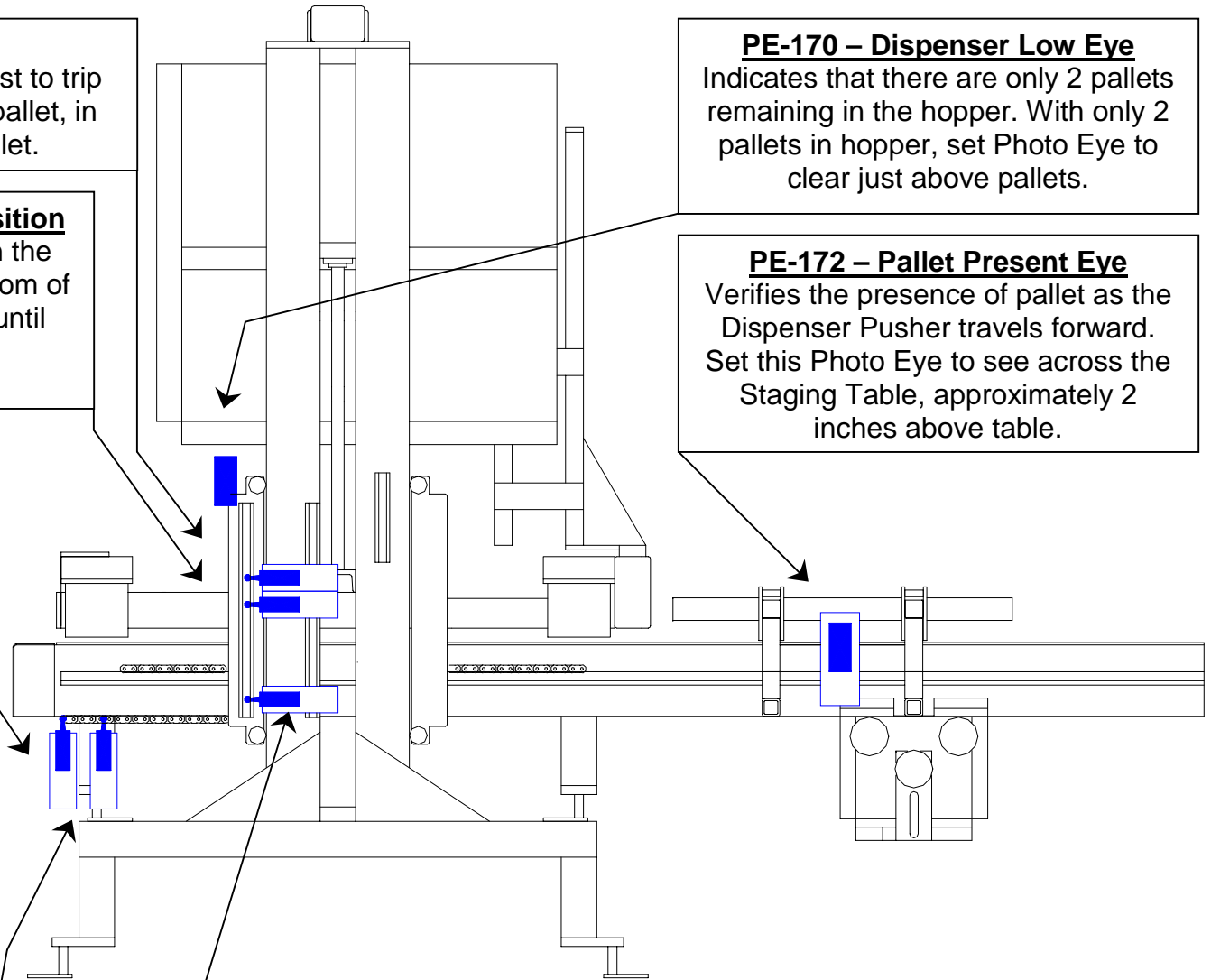
Indicates that the Dispenser Pusher is fully reversed. To adjust, manually move the Dispenser Pusher fully home (reverse). Set LS-166 to trip on chain lug at this point.

LS-165 – Dispenser Pusher Forward

Indicates that the Dispenser Pusher is Forward. To adjust:

- 1) Extend the Cuber Clamps
- 2) Manually move pallet forward with Dispenser Pusher until its leading edge is even with short clamp.
- 3) Adjust LS-165 to trip at this point on the chain lug.

NOTE: This must be adjusted for different sizes of Pallets.



PE-170 – Dispenser Low Eye

Indicates that there are only 2 pallets remaining in the hopper. With only 2 pallets in hopper, set Photo Eye to clear just above pallets.

PE-172 – Pallet Present Eye

Verifies the presence of pallet as the Dispenser Pusher travels forward. Set this Photo Eye to see across the Staging Table, approximately 2 inches above table.

LS-169 – Dispenser Lift Down

Indicates that Dispenser Lift is down. Adjust to trip when lift has lowered fully.