

# **EZ-ACCESS™**

## **PIVOTABLE™**

**Conveyor Containment System**  
*with Confined-Space Elimination Technology™*

**Installation and Users Manual for**  
**Low Profile – Standard – Tall**



Manufactured by

**Nelson Williams Linings, Inc.**

8330 Jasmine Street

PO Box 476

Mountain Iron, MN 55768

218-741-1080

May 2011

# **EZ-ACCESS™**

## **PIVOTABLE™**

### **Installation/Users Manual**

### **Table of Contents**

| <b>Section</b>   | <b>Page</b> |
|--|-------------|
| Introduction .....   | 3           |
| Before Installation .....  | 4           |
| Installation of <b>EZ-ACCESS™</b> .....                                    | 5           |
| Typical HD-Tall & Standard Installations (pics and illustration) .....     | 6           |
| Installation of <b>EZ-ACCESS™</b> - Removal of old skirtboard system ..... | 7           |
| Installation of <b>EZ-ACCESS™</b> - Pre-assembled Method .....             | 8           |
| Installation of <b>EZ-ACCESS™</b> - Individual Component Method .....      | 9           |
| <b>EZ-ACCESS™ System</b> - Skirting & Wear Liner Maintenance .....         | 11          |
| <b>EZ-ACCESS™ Installation</b> - Pre-Assembly Method Pics .....            | 12          |
| <b>EZ-ACCESS™ Systems Details</b> (Pics and information) .....             | 14          |
| <b>EZ-ACCESS™</b> Part numbers and description .....                       | 18          |

Manufactured by

**Nelson Williams Linings, Inc.**

8330 Jasmine Street

PO Box 476

Mountain Iron, MN 55768

218-741-1080

May 2011

# INTRODUCTION

The patented **EZ-ACCESS™ Pivotal™ Conveyor Containment System** is the only system in the world that allows the maintenance of conveyor wear liners to be done quickly, safely and efficiently from the outside of the conveyor without confined space entry. The modular doors of the system can be opened easily one at a time to allow liner inspection, adjustment and maintenance to be done safely and quickly with minimal conveyor down time.

The **EZ-ACCESS™ System** comes with the industry exclusive LINER-LOCK™ liner attachment system so wear liners can be securely attached and easily adjusted with precision. The **EZ-ACCESS™ System** also comes standard with the industries most simple and effective skirting system, **EZ-SKIRT®** which is installed to the doors with pin-on hangers for quick, easy maintenance.

The **EZ-ACCESS™ Conveyor Containment System** can be installed in new conveyor applications and can also be retrofit into existing installations. It is available in three sizes: Low Profile, Standard and Tall, depending on the requirements. Standard and Tall wear liners can be inverted for double life and are available in a wide variety of styles depending on application.

## WARNING!

Shut down, lockout and tagout conveyor and related accessories before installing equipment or conveyor accessories or working on or near conveyor. Before using cutting torch, welders, grinders or anything that could be an ignition source, make sure there are no flammables in the area and test gas levels and dust content to prevent fire or explosion.

Always cover conveyor belt and flammable surfaces with non-flammable fire blanket when cutting, welding, or grinding.

Always keep fire extinguisher and/or water hose nearby during cutting or welding. Have someone watch for hot spots or potential fires. Whenever leaving work area, give ample time to make sure there are no hot spots or potential fires.

# **BEFORE INSTALLATION**

## **WARNING!**

Use extreme caution when working on or near operating conveyor belts and accessories. Body or clothing may be caught or pulled into conveyor or other equipment causing severe injury or death.

Before entering a confined space or working in a confined space, make sure employees are trained in confined space procedures and applicable confined space rules and regulations are followed.

Always wear hard hat, proper eye protection, safety footwear and other proper safety equipment when working near conveyors and related equipment. Keep work areas clean and always make sure safety guards and emergency stop devices are in proper operating condition. Beware of and correct anything that could cause a slip, trip or fall. Observe all company and government safety rules and regulations applicable when working on or near conveyors and related equipment and accessories.

### ***Observing conveyor before installation***

1. Determine load point(s) and direction of travel
2. Observe conveyor belt tracking. Conveyor must track straight for proper operation of sealing and containment systems. Belt wandering can cause belt to go behind skirting or run against supporting structure and cause damage.
3. Check for proper belt support in loading zone. For optimum performance of conveyor sealing systems, conveyor must not sag under load. Belt sag can cause material leakage and cause entrapment points that can cause premature wear of conveyor belt and accessories.
4. Skirt board structure, chute wall and wear liners should be in good condition. Wear liners should be properly spaced above belt.
5. Material should be loaded onto the center of the conveyor belt, preferably at or near the speed of the conveyor and in the same direction of travel.
6. Conveyor belt and cleaning system should be in good operating condition.
7. Correct any problems for proper operation of conveyor belt.

# Installation of EZ-ACCESS™ Conveyor Containment System

\*Before Installing the EZ-ACCESS™ Containment System read pages 1 & 2 regarding Safety around conveyors.

\*Before removing any conveyor structure, get approval from a certified structural engineer or approved company personnel so any modifications made are done in a safe manner and do not compromise the structural integrity of the conveyor system.

## 1. Measuring for proper fit of EZ-ACCESS™ System

Measure the vertical distance from the conveyor surface to the top of the skirt board and also the distance horizontally from the skirt board location to the outside of the conveyor stringer and vertical support structure to make sure there is room for proper installation of **EZ-ACCESS™** system (shown below). Check **EZ-ACCESS™** drawings for heights and clearances necessary for proper operation. For optimum ease of maintenance of the **EZ-ACCESS™** containment system, it is recommended that support arms from **EZ-ACCESS™** mounting flanges to support structure be located every 5 feet to correspond with the length of the doors. Maintenance of skirting and wear liners is safer and easier when there is access to the equipment being maintained.



Inside of vertical support to skirt board

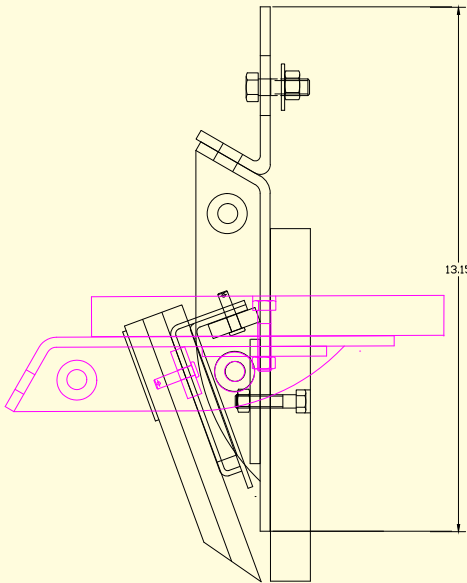
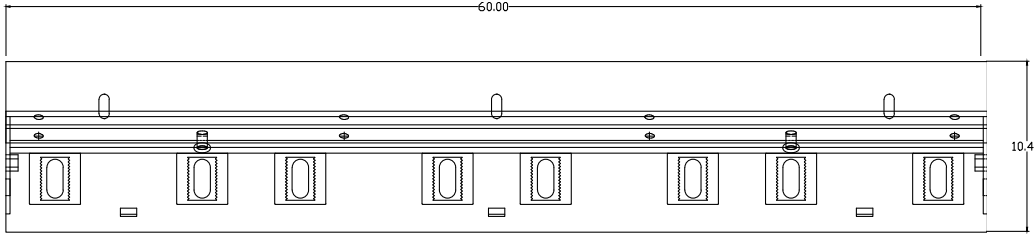
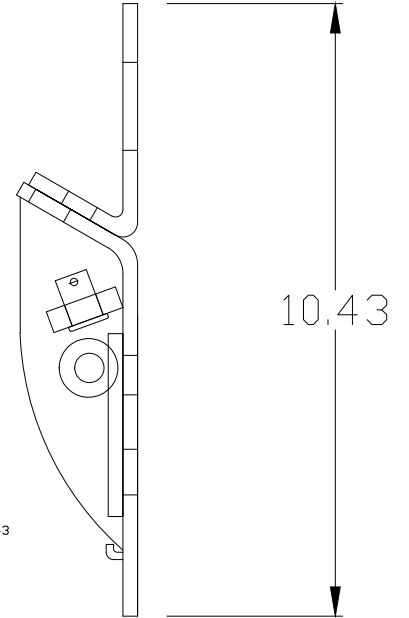


Conveyor surface to top of skirt board



Low Profile **EZ-ACCESS™** Installation

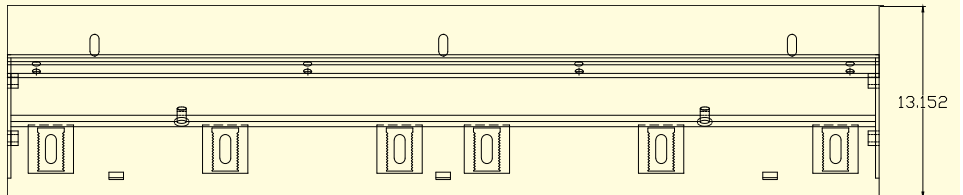
Low Profile  
**EZ-ACCESS™**  
(Typical) #EZA-5ft-LP



Standard  
**EZ-ACCESS™**  
(Typical) #EZA-5ft-STD

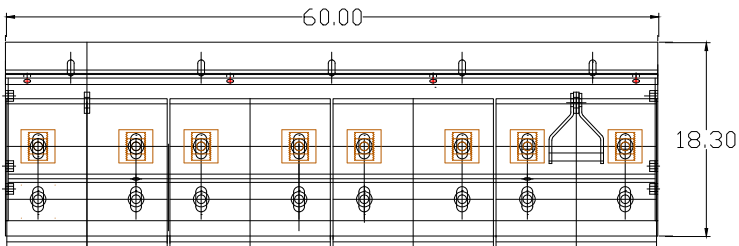
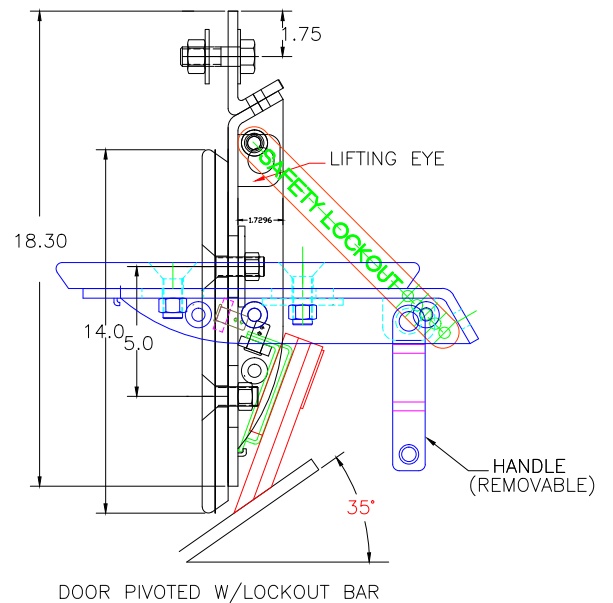


Standard **EZ-ACCESS™** Installation



Tall Heavy-Duty **EZ-ACCESS™** Installation

Tall Heavy-Duty  
**EZ-ACCESS™**  
#EZA-5ft-TALL



# ***Installation of EZ-ACCESS™ Conveyor Containment System (Continued)***

## **2. Removal of old skirt board system**

### *Step 1*

Determine location of **EZ-ACCESS™** containment system. If system is going to be attached to existing structure, determine if mounting flange is going to be mounted on the inside or the outside. Mounting surface must be straight and properly supported and final location of wearliners and skirting must provide proper distance from belt edge to skirtboard for any belt wander that may occur, otherwise skirting may go over edge of conveyor belt causing belt or skirting wear and/or spillage.

### *Step 2*

After determining location for the installation of the **EZ-ACCESS™** containment system, carefully remove existing skirtboards. Make sure conveyor surface or any flammables are covered with fire blankets and fire extinguishers and/or water hose is nearby before using torches or grinders. Use proper approved procedures when entering confined spaces and lifting any components or structure. Removing old liners first may make skirtboard lighter and easier to handle.



Removing old skirt board

## **3. Installation of EZ-ACCESS™ System**

### *Step 1*

Determine how **EZ-ACCESS™ Containment System** will be installed to existing structure. If there is proper clearance and lifting capability, the preferred method of installation is to pre-assemble the doors with the liners and upper mounting flanges installed in sections up to 15 ft. long (3-doors) along with any additional support angle. Installing in pre-assembled sections can reduce the amount of conveyor downtime by having sections assembled and ready to install ahead of time and also allows proper fitting of **EZ-ACCESS™ System** to existing structure without having to try to force individual doors to existing structure if structure is worn out or not straight. (Always make sure **EZ-ACCESS™ System** is installed to straight, solid structure with proper clearances to conveyor belt to make sure doors will open and pivot properly when maintaining liners and skirting).

# ***Installation of EZ-ACCESS™ Conveyor Containment System***

## **4. Pre-Assembled method**

**(Before installing *EZ-ACCESS™ System* refer to conveyor specific drawings for clearances and door locations for conveyor being modified. General clearance for bottom of *EZ-ACCESS™* door to conveyor surface are shown in install guide. (Liner adjustment varies depending on individual preference and material conveyed and should always provide relief in direction of material flow to avoid entrapment of material and belt surface wear.)**

### *Step 1*

Lay out liners for one door, (2) 30” liners for standard and low profile door or (4) 15” liners for TALL HD door with studs inserted and facing upwards. (see fig. 1). Align liners in a line and set ***EZ-ACCESS™*** door over studs in approximately the desired location of liner adjustment (see fig. 2 and 3) Fine tune liner adjustment and place linerlocks over studs.(see fig. 4). Note the offset holes of linerlocks. They can be inverted if needed for precision adjustment.(see fig. 5 and 6) Secure liners with locknut or nut and lockwasher. Assemble remaining doors and liners as previously described.

### *Step 2*

Attach upper mounting flange(s).(fig. 7) Depending on lifting capabilities and clearance, 2 or 3 assembled doors may be installed at a time. Supporting angles (if required for specific application) may be attached to door assembly before lifting (fig. 8). Mounting flanges are attached to supporting angles or structure by bolting and/or welding through mounting slots provided on flanges, and also stitch welding along top of flanges approximately 1” stitch welds every 8 to 10 inches. Support arms may also be attached if there is clearance to install assembled structure. (fig. 9).

### *Step 3*

When lifting the HD-TALL ***EZ-ACCESS™ System***, clevises may be attached to padeyes which come welded to the doors. See ***HD-TALL EZ-ACCESS™*** details page.

### *Step 4*

When attaching supporting structure, it is recommended that support arms be placed at 5-foot intervals to coincide with doors to provide ease of maintenance without interference when lifting wear liners or maintaining skirting etc.

### *Step 5*

Assembled door(s) can now be lifted onto conveyor structure and attached. (figs. 10 and 11). Note: Start and End of ***EZ-ACCESS™ system*** must be attached to stationary stub ends of either 6” (Standard Accessory) or end doors can be cut to size needed to achieve proper length needed for contained area.

### *Step 6*

Once doors are securely attached to conveyor, pin-on hangers may be attached to doors (fig. 12) then ***EZ-SKIRT®*** skirting can be inserted and fine-tuned to conveyor. Conveyor should then be test run before operation.

### *Step 7*

After 8 hours of operation and approximately every 30 days or during maintenance shutdowns, check all fasteners to make sure they are secure.

### *Step 8*

Adjust rubber skirting at regular intervals or at signs of material leakage.



# ***Installation of EZ-ACCESS™ Conveyor Containment System***

## **5. Individual Component Installation Method**

**(Before installing EZ-ACCESS™ System refer to conveyor specific drawings for clearances and door locations for conveyor being modified. General clearance for bottom of EZ-ACCESS™ door to conveyor surface are shown in install guide pg. 6. (Liner adjustment height varies depending on individual preference, liner type, and material conveyed and should always provide relief in direction of material flow to avoid entrapment of material and belt surface wear.**

### *Step 1*

Determine starting location of installation, installation height for top of mounting flange, and mark a line. When mounting **EZ-ACCESS™** flange to existing structure make sure existing structure is sound and skirtboard or hopper is straight. Bottom edge of existing structure should be cut so it ends up just above bottom edge (bend radius) of mounting flange to provide clearance for liners when door is rotated. Typical mounting distance from bottom of door to belt is listed on page 6. (For any questions regarding placement of mounting flanges or mounting of **EZ-ACCESS™** assemblies, contact distributor or **Nelson-Williams Linings, Inc.** directly for assistance). NWL phone **1-218-741-1080** or sales@nelsonwilliams.com

### *Step 2*

Depending on existing skirtboard structure, skirting to belt edge distance requirements, and other variables, **EZ-ACCESS™** upper mounting flange can be mounted inside or outside of existing structure.

### *Step 3*

If using standard 6” mounting stub (with matching upper mounting flange), start at tail end of conveyor and attach assembly to existing structure at predetermined line. Bolt and weld stub assembly securely to structure.

### *Step 4*

Next, attach a 5-foot **EZ-ACCESS™** mounting flange by butting it up to the stub mounting flange in a straight line (which should be pre-marked). Flange should be bolted and or welded through slotted holes and also stitch welded every 8 to 10 inches along top edge of flange.

### *Step 5*

Continue to attach remaining flanges required and also stub end at exit of skirtboard assembly. If 6” standard accessory stub end assemblies are not used for exit end, a 5-foot door can be custom cut and permanently mounted to perform as the fixed or “stub” end.

### *Step 6*

Now, individual **EZ-ACCESS™** doors can be mounted to the upper flanges starting at the back of the conveyor and continuing to the front or exit of load point. Use required hardware and fasteners and assemble all doors to structure.

### *Step 7*

Starting at rear of conveyor, open one door at a time and attach wear liners of type required or provided. To open door, remove door to flange bolts for door, and upper side flange bolts, (pivot location bolts always stay attached to doors).

### *Step 8*

Wear liners can be attached in approximate location and “fine tuned” after door is bolted in upright or closed position. Linerlocks can be inverted for fine tuning the adjustment if needed.

### *Step 9*

Liners should be adjusted to provide slight widening of gap, approx. 3/8” to 3/4” from start of loadpoint to exit to prevent entrapment of material and wear of belt surface.

# ***Installation of EZ-ACCESS™ Conveyor Containment System***

## **5. Individual Component Installation Method (Continued)**

### *Step 10*

After wear liners are secured with Nylock nuts or nuts and lock washers, make sure doors are secured closed and nuts and bolts are tight.

### *Step 11*

Install pin-on **EZ-SKIRT®** hangers to doors with pins provided.

### *Step 12*

Install rubber **EZ-SKIRT®** skirting into hangers noting right (R) and left (L) designations on skirting and adjust skirting till it just “kisses” the conveyor. Make sure conveyor doesn’t have material on it or any sag between idlers when adjusting skirting.

### *Step 13*

Stub ends do not always come with liners and skirting but **EZ-SKIRT®** may be attached to stub ends by either welding, bolting or pinning section of “pin-on” hanger similar to **EZ-ACCESS™ System** skirting or cutting **EZ-SKIRT®** hanger and placing it at same angle as **EZ-SKIRT®** hanger on adjoining doors. Wear liner for stub ends can also be attached through hole in stub end.

### *Step 14*

If tail skirt is provided, install and adjust as per instructions.

### *Step 15*

Make sure all tools are removed and all system is secure, then test run belt and check for proper operation.

# **Installation of EZ-ACCESS™ Conveyor Containment System**

## **6. Skirting and Wear Liner Maintenance**

A. **EZ-SKIRT®** skirting and **EZ-ACCESS™** wear liners should be inspected at regular intervals. If leakage occurs or gap occurs between belt and skirting, lockout and tag-out conveyor and adjust skirting by tapping areas that need adjustment with a hammer or rubber mallet.

B. To change out **EZ-SKIRT®** rubber skirting, make sure conveyor is empty of material and lockout and tag out conveyor. Rubber skirt is removed by inserting a pry-bar or large screwdriver between the skirt and the stainless hanger and prying outward and downward and peeling the skirting away and off of the hanger.

C. Insert new skirting into “T” slots and tap into light contact with conveyor belt with hammer or rubber mallet.

D. To inspect wear liners lockout and tag out conveyor and remove pin-on skirting module from **EZ-ACCESS™** door and note condition of liner. To adjust wear liner, loosen nuts until liner locks can be moved freely up and down and adjust liner desired height and place liner lock into position in lock mechanism. Liner locks may be inverted for fine tuning of liner adjustment.

E. To change out or flip over reversible wear liners in the **EZ-ACCESS™** system, lock out and tag out conveyor. Remove upper mounting flange bolts and side flange bolts, (pivot bolts always stay in door) and open door. **BE VERY CAREFUL WHEN OPENING OR CLOSING DOORS AS DOORS WITH LINERS ATTACHED ARE HEAVY AND MAY CAUSE PINCH POINT IN WHICH FINGERS OR HANDS MAY BE INJURED.** With **HD-TALL EZ-ACCESS™/STANDARD System**, safety lockout bars are provided to hold door in open or “workbench” position and fasteners can be easily reached from both sides of the door. On standard door bolt may be inserted in upper side flange hole to prevent door from closing.

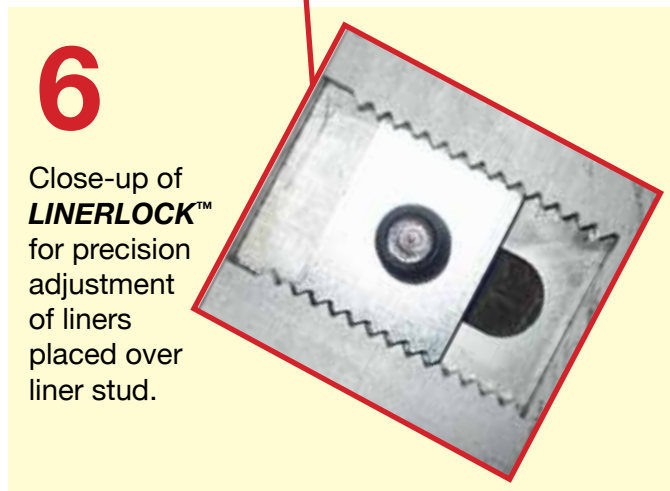
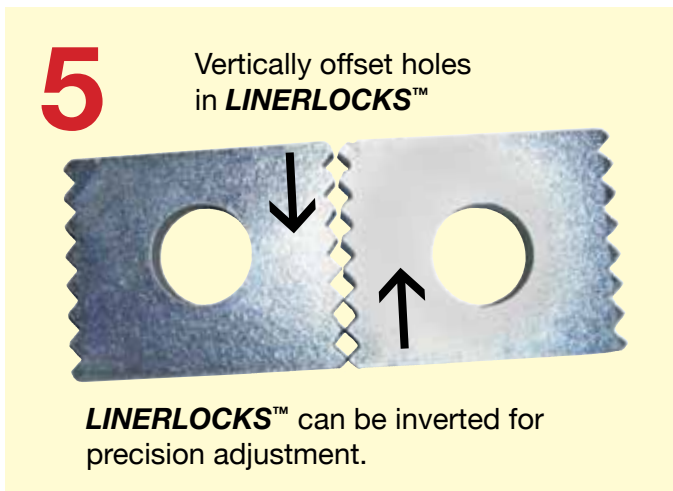
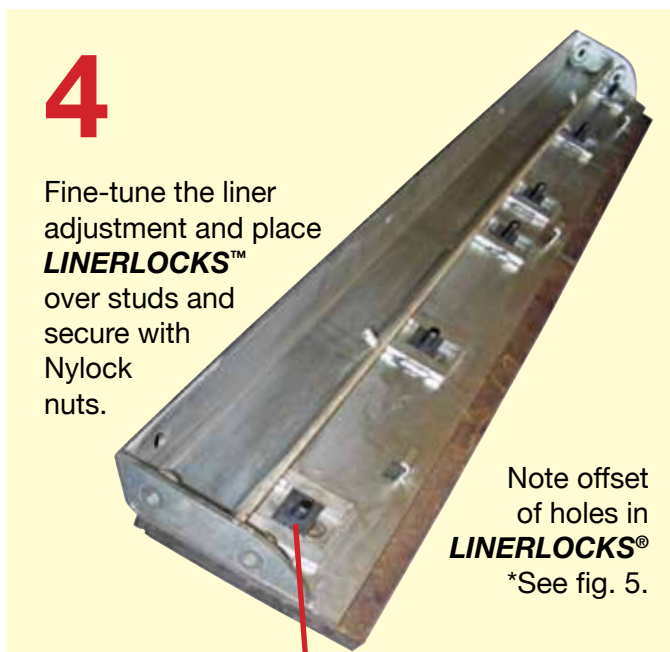
F. To attach wear liners to door, carefully set wear liner onto door in proper location and insert proper fasteners. Place liner locks onto bolt and tighten nuts. If placement of liners and locks is known, fasteners may be tightened. Otherwise, once nuts are hand tightened, carefully close door and adjust liners with flat pry bar into desired position and place liner locks into position and tighten nuts. \*An easier method of installing liners on standard 3 bolt liners may be to hand tighten outer nuts without locks, and lightly snug inner bolt and nut with liner lock rotated 90 degrees in “non-locking” position. Then door may be closed and rear of liner placed into position, remove nut, place liner lock and tighten nut. Repeat with front liner fastener. Then attach center liner lock and nut. Check all fasteners for tightness.

G. After liners are adjusted and checked for proper tightness, skirting module may be installed and pinned on and skirting installed and adjusted.

H. Inspect work area for tools, fasteners, etc., then unlock and test run conveyor.

# Installation of EZ-ACCESS™ Conveyor Containment System

## Pre-Assembled Method





Three **EZ-ACCESS™** Assemblies being attached end to end. Upper flanges being attached also.



Attaching 15-foot long 3 x 5 upper support angle.



Attaching Support Structure every 5-feet.



Lifting a 15-foot (3-doors) assembly into place.



15-foot Pre-assembled section in place. This side installed with all support structure pre-attached.



**EZ-SKIRT®** 5-foot hangers pinned on to each door. Only skirting left to quickly insert.

# EZ-ACCESS™



Typical Installation (shown on operating demo TALL unit). Comes with Pin-On **EZ-SKIRT®** skirting system.



Simply pull out 2 pins to quickly remove hanger and skirt module. (Shown on operating demo TALL unit)

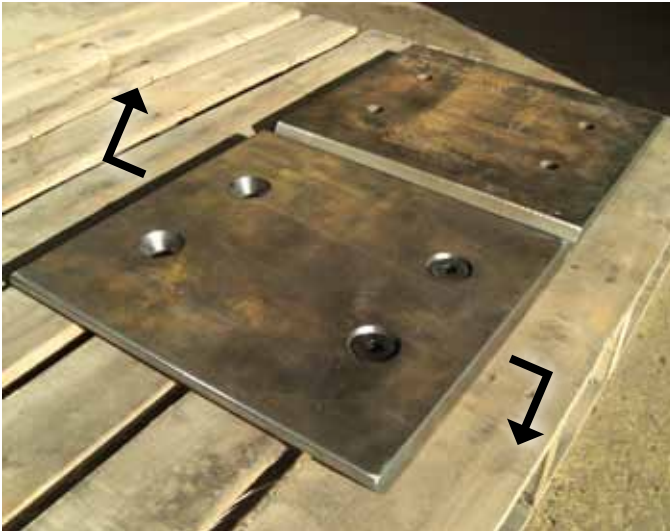
Patented **EZ-ACCESS™ System** with **Confined Space Elimination Technology™** allows quick, SAFE wear liner maintenance from the outside of the conveyor, without confined space entry.

Wear liners sit on the “workbench” with simple access to both sides, making liner maintenance a simple one person job, substantially reducing downtime and maintenance costs.

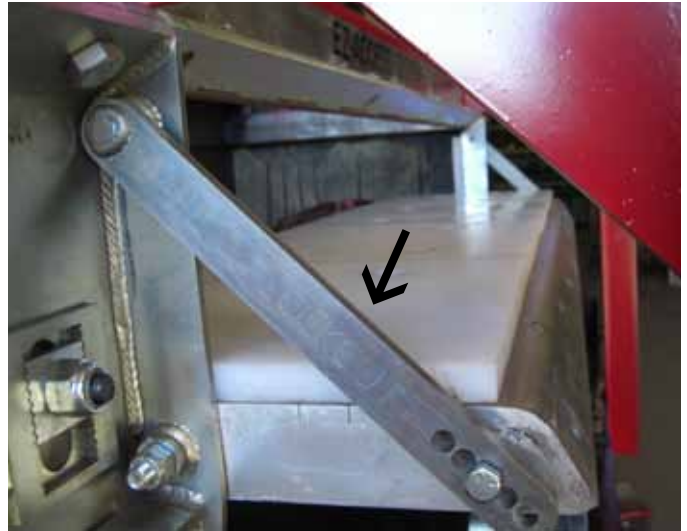
(TALL unit shown in photo)



## ***EZ-ACCESS™ System Details Industry Leading Technology***



**Standard and Tall EZ-ACCESS™ System** wear liners are designed to be inverted for double wear life. (Tall shown)



Safety Lockout Bars lock **EZ-ACCESS™** door into the workbench position for safe and simple maintenance. (Standard shown)



Top mounting flange of **EZ-ACCESS™ System** makes handy spot to put fasteners during maintenance.



Safety Lockout Bars kept handy available for quick access during maintenance for Tall and Standard units. (Tall shown)

## ***EZ-ACCESS™ System Details*** ***Industry Leading Technology***



Heavy Duty padeyes come standard ***EZ-ACCESS™ System***.



Clevises may be inserted into padeyes for lifting individual doors or assemblies.



Pin-on lifting handles can be used for handling or opening doors.



Wear Liners include 4 fasteners per liner. The ***EZ-ACCESS™ System*** comes standard with the patented ***LINERLOCK™*** system for secure attachment and precision adjustment.



## ***EZ-ACCESS™ System Details Industry Leading Technology***



Pivoting **EZ-ACCESS™** Taildoor can be custom specified or field fabricated to size on sight.



Standard 6" stub ends for mounting system (shown in application at left).



Tailbox closed showing custom pin-on **EZ-SKIRT®** hanger mounted inside of door for quick and easy adjustment and maintenance.



Pin-on **EZ-SKIRT®** hanger without flexible inner tailskirt shown inside of tailbox. UHMWPE liners shown on unit.

# **EZ-ACCESS™ PIVOTABLE™ System Details**

## **Conveyor Containment System**

### **Containment System Fastener Details (each 5-ft door assembly)**

#### **EZA-5ft-LP/EZA-5ft-STD**

- Upper Mounting Flange to Structure Fasteners:
  - (3) 5/8" x 2" NC Bolts
  - (6) 5/8" Flat washers
  - (3) 5/8" NC Nylock Nuts
- Upper Mounting Flange to Door Fasteners:
  - (4) 1/2" x 1 1/4" Bolts
  - (4) 1/2" Nuts
  - (4) 1/2" lock washers
- Door to Door Side-Flange Connecting Fasteners
  - (2) 1/2" x 2 1/2" NC Bolts
  - (2) 1/2" Nylock Nuts
- (6) **LINER-LOCKS™** for 5/8" fasteners

Note: May need to add stub ends if required

#### **EZA-5ft-TALL**

- Upper Mounting Flange to Structure Fasteners:
  - (5) 3/4" x 2" NC Bolts
  - (10) 3/4" Flat washers
  - (5) 3/4" NC Nylock Nuts
- Upper Mounting Flange to Door Fasteners:
  - (4) 5/8" x 1 3/4" NC Bolts
  - (4) spring lock washers
  - (4) 5/8" NC Nuts
- Door to Door Side-Flange Connecting Fasteners
  - (3) 1/2" x 2 1/2" NC Bolts\*
  - (3) 1/2" NC Nylock Nuts\*

Bottom door to door connecting hole only used when fastening **HD-TALL** Door to low profile or standard door assembly.
- (8) **LINER-LOCKS™** for 3/4" fasteners
- (8) 3/4" Flat washers

#### **EZ-ACCESS™ Containment System**

showing pin-on **EZ-SKIRT®** hangar assembly on one door with adjoining one removed.

**LINERLOCK™** is shown, one of three holding wearliner on standard **EZ-ACCESS™** door.

Typical support structure shown. Notice placement of structure coincides with end of doors for simple maintenance of system without interference from structure.

