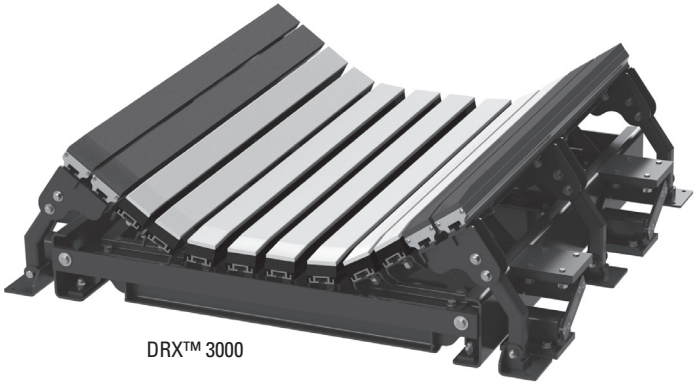
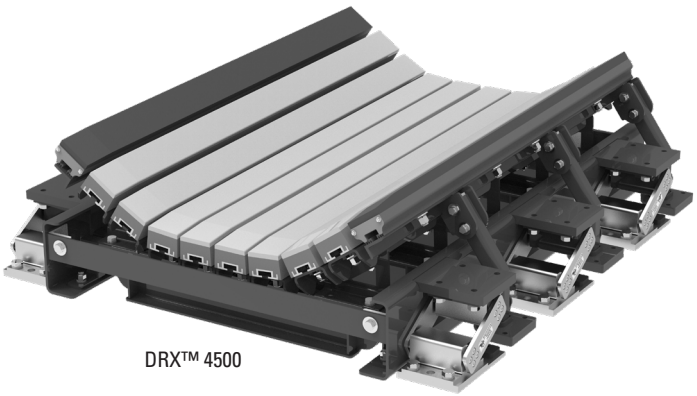
DRX™ Dynamic Bed Series

Installation, Operation and Maintenance Manual



DRX™ 3000



DRX™ 4500

FLEXCO

Serial Number: _____

Purchase Date:_____

Purchased From: _____

Installation Date:_____

Serial number information can be found on the Serial Number Label included in the Information Packet shipped with the impact bed.

This information will be helpful for any future inquiries or questions about replacement parts, specifications or troubleshooting.

Table of Contents

Section 1 - Important Information

1.1 General Introduction

We at Flexco are very pleased that you have selected a DRX™ Impact Bed for your conveyor system.

This manual will help you to understand the operation of this product and assist you in making it work up to its maximum efficiency over its lifetime of service.

It is essential for safe and efficient operation that the information and guidelines presented be properly understood and implemented. This manual will provide safety precautions, installation instructions, maintenance procedures and troubleshooting tips.

If, however, you have any questions or problems that are not covered, please visit our web site or contact our Customer Service Department.

Visit www.flexco.com for other Flexco locations and products.

Please read this manual thoroughly and pass it on to any others who will be directly responsible for installation, operation and maintenance of this cleaner. While we have tried to make the installation and service tasks as easy and simple as possible**, it does however require correct installation and regular inspections and adjustments to maintain top working condition.**

1.2 User Benefits

The "transfer point" is integrally important to the successful operation of a belt conveyor system. The material transferred from one conveyor (or other source) to another conveyor must be done without damaging the conveyor's key component...the belt. A correctly-selected impact bed is critical for this task.

Since material size, weight and the drop height can cause considerable impact force that can damage the belt, the right impact bed must be chosen to absorb the impact energy and minimize any damage to the beltline.

The proper impact bed can also support the belt in the loading zone to prevent material spillage.

The DRX Impact Beds offer these features and benefits:

- Extra Belt Protection - DRX means "Dual Relief Xtra". Our beds offer our exclusive Velocity Reduction Technology™, which means two levels of force reduction to absorb more impact energy and minimize transmission back to the belt. The impact bars are properly supported for one level of defense and unique Impact Energy Absorbers provide the second level of impact relief. The results: less belt damage and less rebounding and degradation of the materials.

- Easy Maintenance - Our Slide-Out Service™ is quick, safe and convenient. Each bed separates in the middle and the two sides slide apart. This provides easy access to all of the impact bars for replacement.

- Cost Effective - Each bed is constructed with steel channel crossbeams for long service life; and low-cost square washers and carriage bolts replace traditional, expensive T-bolts for securing the impact bars.

Section 1 - Important Information

1.3 Proper Impact Bed Selection

DRX™ Impact Beds are expressly designed to absorb energy from falling materials. The bed model should be spec'd to the needs of the conveyor application. To do this, the following data points are needed (see also DRX™ Impact Bed Spec Sheet on Page 7).

1. **Belt Width** - This is typically a simple check and the only additional information that would be required is if belt width is inconsistent with structure width.

2. **Troughing Angle** - What is the angle of the current bed or troughing set?

3. **Roller Diameter and CEMA Rating** - Rollers are typically 5" or 6" and rated CEMA C, D or E.

4. **Bed Length** - Typically 4' or 5'. Special lengths available upon request.

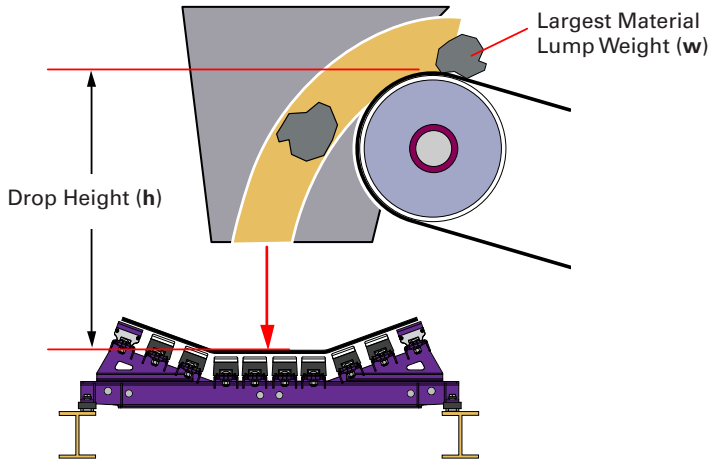
5. **Drop Height and Lump Size & Weight** - This is the critical information required.

   a. Drop Height - The measurement from where the material leaves the feeding conveyor to where it makes contact with the receiving conveyor.

   b. Lump Size and Weight - The lump size - The largest dimension of the material pieces dropping. The material weight is of the largest lump size found and weighed.

   c. Chart for Rough Calculations - Weighing is always more accurate, but the chart values will give a rough weight estimate.

Now you can calculate the impact energy (in lb.-ft.) and make the bed selection by the rating chart. A sample DRX™ Impact Bed Spec Sheet is included (Page 7) for future use.



By using this simple lb-ft formula, for whatever your application, you will know the load capacities needed to specify the best DRX™ Impact Bed to get the job done right.

Calculate Impact Energy:

Lump weight _____ *lb*

x Drop length _____ *ft*

Total _____ *lb-ft*

Match lb-ft to bed rating:

1500 to 3000 lb-ft (200 to 400 kg-m) *DRX 3000*

1500 to 4500 lb-ft (200 to 600 kg-m) *DRX 4500*

Material	lb/ft³	Material	lb/ft³	Material	lb/ft³	Material	lb/ft³
Coke	41	Coal, Anthracite, Solid	94	Stone (Common, Generic)	157	Trap Rock, Solid	180
Fertilizer	60	Slag, Solid	132	Limestone, Solid	163	Dolomite, Solid	181
Bauxite, crushed	80	Chromium Ore	135	Shale, Solid	167	Malachite (Copper Ore)	241
Potash	80	Halite (Salt), Solid	145	Granite, Solid	168	Platinum Ore	268
Coal, Bituminous, Solid	84	Phosphorus	146	Gypsum, Solid	174	Hematite (Iron Ore)	322

NOTE: Shale is approximately the same as limestone.

1.4 Selecting the Right Impact Bar

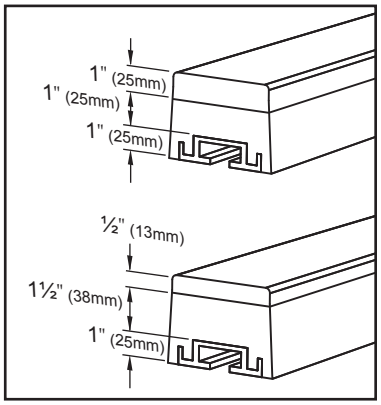
The primary purpose of the impact bars is to absorb the energy of the falling material and prevent damage to the belt. They are the first line of defense. Typical impact bars can be purchased with a 1/2" (13mm) UHMW top cover or with a longer-wearing 1" (25mm) top cover. Care should be taken to choose the right top cover thickness for your application to ensure maximum energy absorption.

Generally, impact bars are 3" (75mm) high and 4" (100mm) wide. They are made up of an aluminum extrusion base, an elastomer (rubber) center, and a low-friction (UHMW) top cover. The extrusion takes up about 1" (25mm) of the bar's height. That means that depending on the thickness of the top cover chosen (1/2" or 1"), the energy-absorbing rubber core is either 1-1/2" (38mm) or 1" (25mm). Reducing the rubber core of each bar by 50% in heavier impact applications can reduce the impact bed's effectiveness and performance.

Some general guidelines:

1. The impact bed's primary use is for dust suppression with no sizeable amount of impact (for loads not exceeding 1500 lb-ft of impact energy), choose the 1" (25mm) top cover. It will offer twice the service life with no measurable performance degradation.

2. For applications with 1500 lb-ft or more of impact force, the 1/2" (13mm) top cover is strongly recommended. It will provide 50% more energy impact protection for the belt.



1.5 Installation and Service Option

The DRX™ Impact Bed is designed to be easily installed and serviced by your on-site personnel. However, if you would prefer complete turn-key factory service, please contact your local Flexco Field Engineer or your Flexco Distributor.

Section 1 - Important Information

1.6 DRX™ Impact Bed Spec Sheet

CUSTOMER INFO:

Company Name: _____

Address: _____ Date: _____

_____ Phone #: _____

Contact Name: _____ Fax #: _____

Title/Position: _____ e-Mail: _____

_____ A Mounting Bolt Center-to-Center

_____ B Center Roll Height Above Mounting Base

_____ C Inside Structure Dimension

_____ D Trough Angle

_____ E Belt Width

_____ F Length of Load Zone

_____ G Material

_____ H Drop Height

_____ (Length) _____ (Width) _____ (Height) I Maximum Lump Size

_____ J Tons per Hour

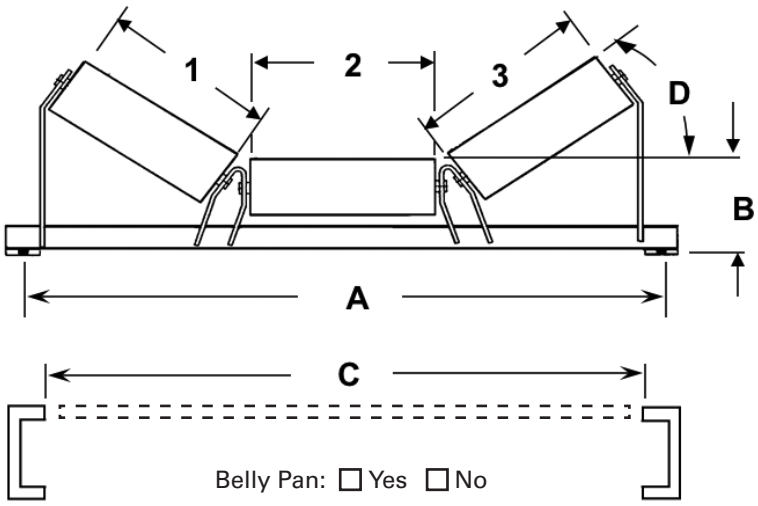
_____ K Belt Speed

_____ W Maximum Lump Weight

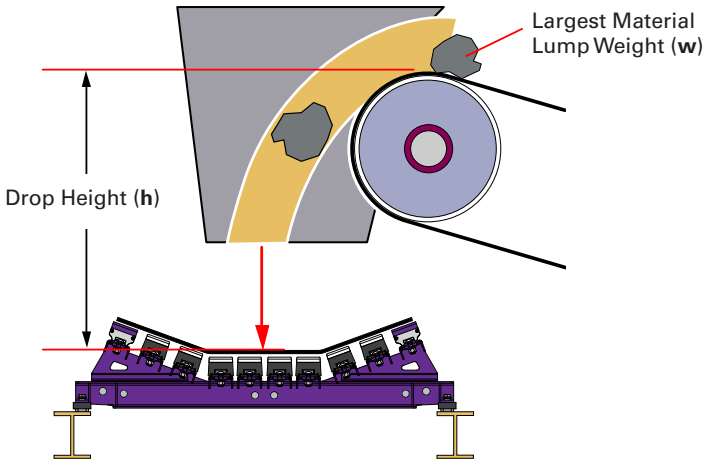
_____ Idler Length 1

_____ Idler Length 2

_____ Idler Length 3



Impact Energy Calculation Chart



Impact Energy

Lump Weight **(w)** _____

Drop Height **(h)** x _____

Total - **lb-ft (kg-m)** _____

See below for bed recommendation/selection

Bed Selection:

Up to 200 lb-ft (25 kg-m) ☐ **DRX 200**

200 to 750 lb-ft (25 to 100 kg-m) ☐ **DRX 750**

750 to 1500 lb-ft (100 to 200 kg-m) ☐ **DRX 1500**

1500 to 3000 lb-ft (200 to 400 kg-m) ☐ **DRX 3000**

1500 to 4500 lb-ft (200 to 600 kg-m) ☐ **DRX 4500**

Section 2 - Safety Considerations and Precautions

Before installing and operating the DRX™ Impact Bed, it is important to review and understand the following safety information.

There are set-up, maintenance and operational activities involving both **stationary** and **operating** conveyors. Each case has a safety protocol.

2.1 Stationary Conveyors

The following activities are performed on stationary conveyors:

- Installation
- Skirt rubber adjustments
- Impact bar replacement
- Cleaning
- Repairs

⚠ DANGER

It is imperative that OSHA/MSHA Lockout/Tagout (LOTO) regulations, 29 CFR 1910.147, be followed before undertaking the preceding activities. Failure to use LOTO exposes workers to uncontrolled behavior of the impact bed caused by movement of the conveyor belt. Severe injury or death can result.

Before working:

- Lockout/Tagout the conveyor power source
- Disengage any takeups
- Clear the conveyor belt or clamp securely in place

⚠ WARNING

Use Personal Protective Equipment (PPE):

- Safety eyewear
- Hardhats
- Safety footwear

Close quarters and heavy components create a worksite that compromises a worker's eyes, feet and skull. PPE must be worn to control the foreseeable hazards associated with conveyor belt components. Serious injuries can be avoided.

2.2 Operating Conveyors

There are two routine tasks that must be performed while the conveyor is running:

- Inspection of the sealing performance
- Dynamic troubleshooting

⚠ DANGER

Every belt conveyor is an in-running nip hazard. Never touch or prod an operating impact bed. Conveyor hazards cause instantaneous amputation and entrapment.

⚠ WARNING

Never adjust anything on an operating impact bed. Unforseeable materials falling into the chute can cause violent movements of the impact bed structure. Flailing hardware can cause serious injury or death.

⚠ WARNING

Conveyor chutes contain projectile hazards. Stay as far from the impact bed as practical and use safety eyewear and headgear. Missiles can inflict serious injury.

Section 3 - Pre-Installation Checks and Options

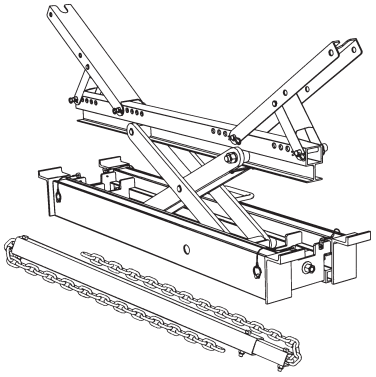
3.1 Checklist

- Check the model and size of the impact bed. Is it the right one for your beltline?
- Check the bed to be sure all the parts are included in the shipment.
- Find the Information Packet in the shipment.
- Review the "Tools Needed" section on the front of the installation instructions.
- Prepare the conveyor site:
  - Lift the belt in the transfer zone. Use a lifting hoist or Flexco's Belt Lifters.
  - Remove the old impact bed or impact idlers.
  - Inspect the conveyor structure for damage or misalignment. Make adjustments as necessary.
  - Troughing idlers should be installed directly before and after the new impact bed.

Section 3 - Pre-Installation Checks and Options

3.2 Optional Installation Accessories

Optional tools can make the installation of the DRX™ Impact Bed easier and faster.



Flex-Lifter Conveyor Belt Lifter

DESCRIPTION	ORDERING NUMBER	ITEM CODE
Medium Flex-Lifter 36–60" (900–1500mm)	FL-M	76469
Large Flex-Lifter 48–72" (1200–1800mm)	FL-L	76470
XL Flex-Lifter 72–96" (1800–2400mm)	FL-XL	76983

Flex-Lifter Conveyor Belt Lifter

The Flexco Flex-Lifter makes the job of lifting the conveyor belt easy and safe.
Using two Flex-Lifters, the belt can be quickly lifted out of the way to install the impact bed. The Flex-Lifter has the highest safe lift rating available at 4000 lbs. (1800 kg) on Medium and Large, and 6000 (2725 kg) on XL.
And it's versatile. It can also be used to lift topside or return side belt for splicing, roller replacement or other maintenance jobs. Available in three sizes: Medium for belt widths 36–60" (900–1500mm), Large for belt widths 48–72" (1200–1800mm), and XL for belt widths 72–96" (1800–2400mm).

Impact Bed Handy Wrench

DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. LBS.
Impact Bed Handy Wrench	HW-IMPB	76939	1.6

Impact Bed Handy Wrench

A handy ratcheting wrench with two common sizes (3/4" and 15/16" or 19mm and 24mm) for easier installation and maintenance of impact beds.

Impact Bed Shim Kits

DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. LBS.
DRX200 Shim Kit	SHIM-KITL	77548	13.6
DRX750 Shim Kit	SHIM-KITM	77549	20.4
DRX1500 Shim Kit	SHIM-KITH	77550	27.2

Shims

Depending on your idler rating and size, shimming may be required. See charts below for quantity of kits required.

Shim Chart - CEMA C or D Idlers

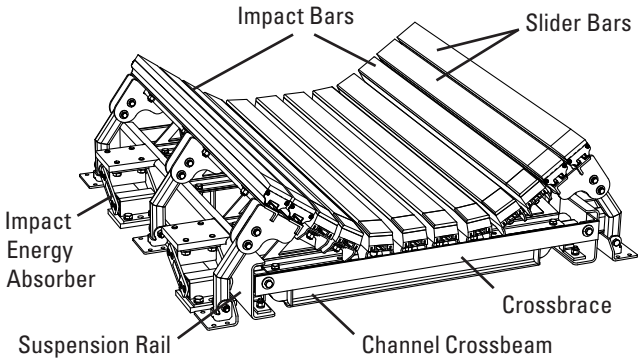
Impact Bed Size	Cema C or D, 5" (125mm) IDLERS	Cema C or D, 6" (150mm) IDLERS
DRX200: 24–36" (600–900mm)	Shim idler up 1/2" (13mm)	No Kits Required
DRX200: 42–72" (1050–1800mm)	No Kits Required	Use (1) SHIM-KITL; Shim up 1/2" (13mm)
DRX750: 24–36" (600–900mm)	Shim idler up 1/2" (13mm)	No Kits Required
DRX750: 42–72" (1050–1800mm)	No Kits Required	Use (1) SHIM-KITM; Shim up 1/2" (13mm)
DRX1500: 24–36" (600–900mm)	Shim idler up 1/2" (13mm)	No Kits Required
DRX1500: 42–72" (1050–1800mm)	No Kits Required	Use (1) SHIM-KITH; Shim up 1/2" (13mm)
DRX3000/4500: 36–60" (900–1500mm)	Shim idler up 2" (50mm)	Shim idler up 1.5" (38mm)
DRX3000/4500: 72–96" (1800–2400mm)	Shim idler up 2.5" (63mm)	Shim idler up 2" (50mm)

Shim Chart - CEMA E Idlers

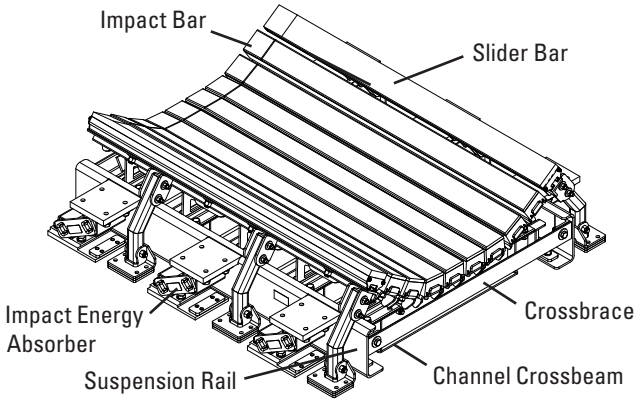
Impact Bed Size	CEMA E, 6" (150mm) IDLERS	CEMA E, 7" (175mm) IDLERS
DRX200: 36–60" (900–1500mm)	Use (3) SHIM-KITL; Shim up 1.5" (38mm)	Use (4) SHIM-KITL; Shim up 2" (50mm)
DRX200: 72" (1800mm)	Use (4) SHIM-KITL; Shim up 2" (50mm)	Use (5) SHIM-KITL; Shim up 2.5" (63mm)
DRX750: 36–60" (900–1500mm)	Use (3) SHIM-KITM; Shim up 1.5" (38mm)	Use (4) SHIM-KITM; Shim up 2" (50mm)
DRX750: 72" (1800mm)	Use (4) SHIM-KITM; Shim up 2" (50mm)	Use (5) SHIM-KITM; Shim up 2.5" (63mm)
DRX1500: 36–60" (900–1500mm)	Use (3) SHIM-KITH; Shim up 1.5" (38mm)	Use (4) SHIM-KITH; Shim up 2" (50mm)
DRX1500: 72" (1800mm)	Use (4) SHIM-KITH; Shim up 2" (50mm)	Use (5) SHIM-KITH; Shim up 2.5" (63mm)
DRX3000/4500: 36–60" (900–1500mm)	No Shim Required	No Shim Required
DRX3000/4500: 72–96" (1800–2400mm)	No Shim Required	No Shim Required

Section 4 - Installation Instructions

4.1 DRX™ Impact Bed



DRX™ 3000 Dynamic Impact Bed Parts List



DRX™ 4500 Dynamic Impact Bed Parts List

Physically lock out and tag the conveyor at the power source before you begin cleaner installation.

Caution: Components may be heavy. Use safety approved lifting procedures.

Tools Needed:

- (x2) 15/16" (24mm) Wrenches **OR** Large Adjustable/Crescent Wrenches (x2)
- Tape Measure
- (x4) C-Clamps

Before Installation: Confirm a depth of 5" (125mm) clearance below the top of the conveyor structure for the impact bed to travel while absorbing the load (Fig. 1). Inspect the structure; confirm the CEMA rating. Shim the bed or idlers per Table 1.

NOTE: Installation of an idler is required 1–2" (25–50mm) before and 4–6" (100–150mm) after a Flexco Dynamic Impact Bed (Fig. 1a). If more than one impact bed is used, idlers may be installed between every bed and must be installed every two beds.

If the CEMA rating is unknown, measure the leading and trailing idlers for the height from the top of the center roll to the top of conveyor structure. Table 2 shows the nominal center height required for the idler based on the belt width. If incorrect, shim idler(s) to the height shown in Table 2.

Table 1: Shim Requirements

Idler Diameter (CEMA C or D)	**36–60" (900–1500mm) Belt Width**	**72–96" (1800–2400mm) Belt Width**
5" (125mm)	Idler up 2" (50mm)	Idler up 2.5" (64mm)
6" (150mm)	Idler up 1.5" (38mm)	Idler up 2" (50mm)
Idler Diameter (CEMA E)	**36–60" (900–1500mm) Belt Width**	**72–96" (1800–2400mm) Belt Width**
6" (150mm)	No shim	No shim
7" (175mm)	Bed up 1/2" (13mm)	Bed up 1/2" (13mm)

Table 2: Nominal Center Roll Height

Belt Width	36–60" (900–1500mm)	72" (1800mm)	84–96" (2100–2400mm)
Height	10-3/4" (273mm)	11-1/2" (292mm)	11-3/4" (298mm)

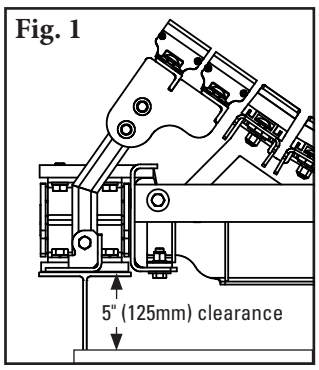


Fig. 1

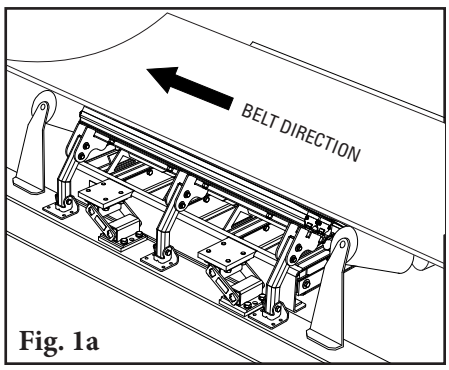


Fig. 1a

Section 4 - Installation Instructions

4.1 DRX™ Impact Bed

1. **Take out the current system.** Remove the existing impact idlers or bed from the area. Loosen or remove the skirting material for extra space. If available, use two Flex-Lifters (before and after the load zone) to lift the belt out of the way.

2. **Visually locate the center of the loading zone.** Determine the center of the load zone on one side of the structure and mark (Fig. 2). Measure to a fixed point on the structure and transfer this dimension to the opposite side of the structure.

3. **Place the suspension rails.** Center the suspension rails over the center marks and clamp the lower impact energy absorber to the structure. Impact energy absorber linkages must be positioned to move down and forward in the same direction as belt travel (Fig. 3).

4. **Square the suspension rails.** Loosen the clamps as necessary. Spread the suspension rails until the angle of the crossbrace fits inside the rails and bolt in place, weld the top, bottom and sides. The crossbrace angle should face down and inward (Fig. 4). Center the assembly over the structure. Measure the diagonal A-B and C-D dimensions and adjust until they are equal (Fig. 4a). Tack weld the mounting plates to the structure, then remove the impact energy absorber mounting bolts, slide the center assembly off the mounting plates, and finish welding the mounting plates to the structure (Fig. 4b). Slide the center assembly back onto the mounting plates and reinstall the bolts.

5. **Compress the suspension rails.** Compress the suspension rails with four C-clamps to give an additional 2.5" (63mm) of clearance for assembly (Fig. 5).

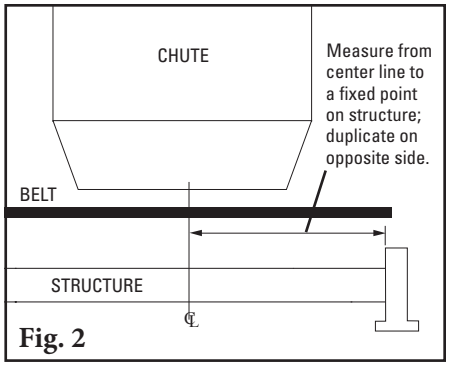


Fig. 2

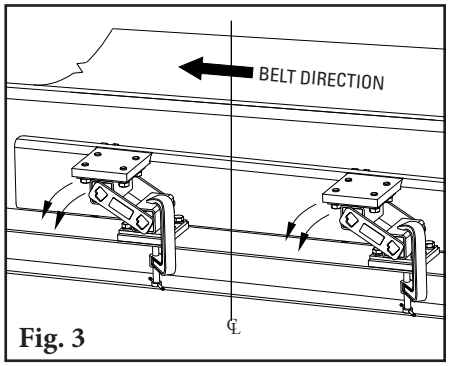


Fig. 3

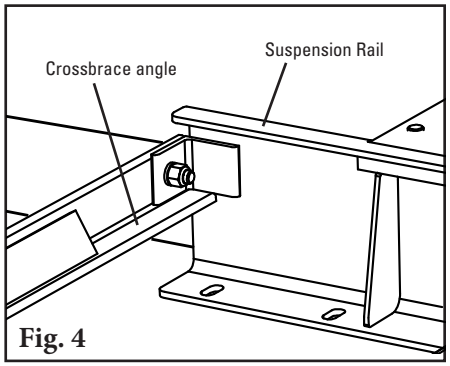


Fig. 4

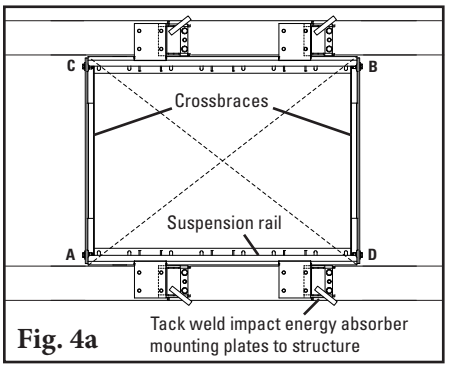


Fig. 4a

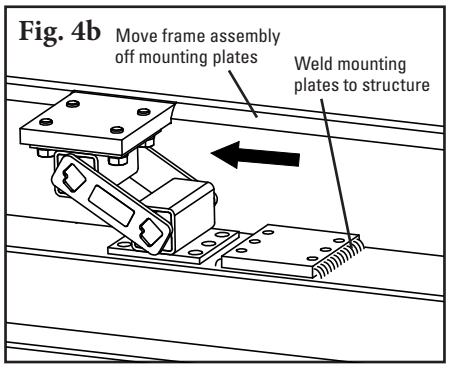


Fig. 4b

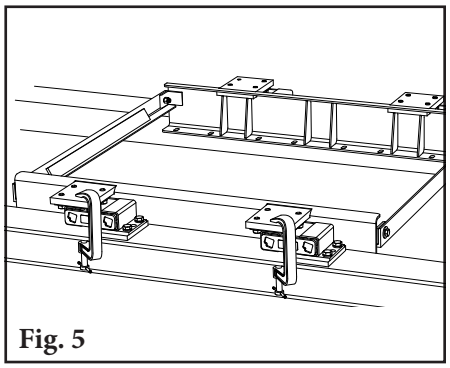


Fig. 5

Section 4 - Installation Instructions

4.1 DRX™ Impact Bed

6. **Disassemble the wing assemblies.** Remove the center mount bolt and the two outer flange bolts. Slide out and remove the wing assembly on each channel crossbeam (Fig. 6). Keep bolts, nuts and washers for use later.

7. **Install the crossbeams.** Slide all crossbeams between the belt and suspension rail and set them on the lower inside flange of the suspension rail. Bolt them in place with the bolts facing up to minimize space constraints (Fig. 7).

   NOTE: All crossbeams must be in-line before tightening down.

8. **Install the wings into the crossbeams.** Lift and slide the wing plates in until the outer mounting holes of the wing bracket align with the inner mounting holes of the crossbeam (Fig. 8). Reinsert the two mounting bolts and the center the retaining bolt in each wing bracket (Fig. 8a). Tighten to 100 ft-lb torque (135.5 Nm).

   NOTE: Confirm all of the bar mounting tabs on the wings are pointing towards the tail pulley.

9. **Install the impact bars.** Place all impact bars in place. Position the studs between the tabs in the wing bracket; confirm the chamfer of the impact bar is positioned at the tail pulley end of the bed (Fig. 9).

10. **Fasten the impact bars.** With all the impact bars correctly positioned on the wing brackets, install one each flat washer, lock washer and nylock nut on each stud. Tighten nuts to 100 ft-lb torque (135.5 Nm) (Fig. 10). Remove C-clamps from impact energy absorbers.

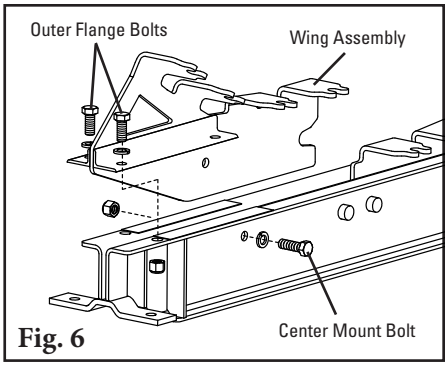


Fig. 6

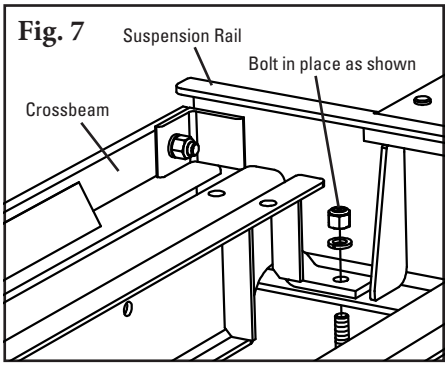


Fig. 7

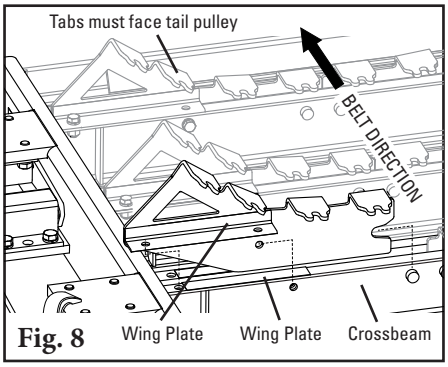


Fig. 8

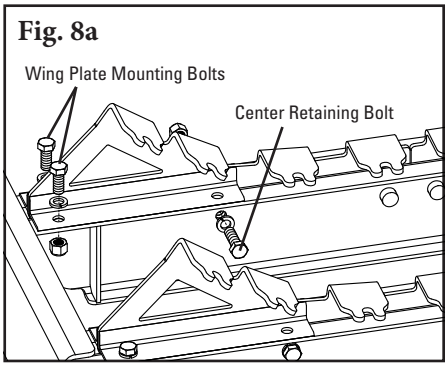


Fig. 8a

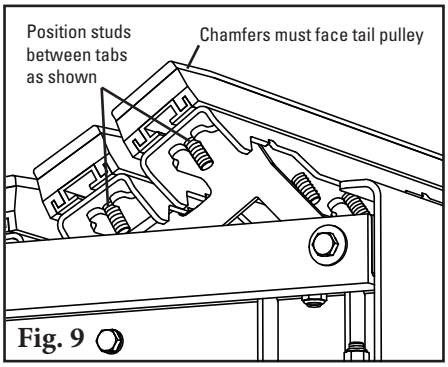


Fig. 9

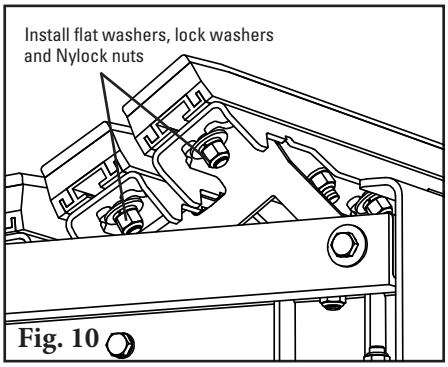


Fig. 10

Section 4 - Installation Instructions

4.1 DRX™ Impact Bed

11. **Install the stationary arms.** Place the stationary arms onto the structure, aligning the holes in bases with the center holes of the impact energy absorbers (Fig. 11). The chamfer on the stationary bars must face the tail pulley. Align the ends of the stationary impact bars flush with the center bars (Fig. 11a). Clamp them in place and tack weld the stationary arms to the structure on both sides.

12. **Adjust the stationary arms.** Loosen the upper bolts on the stationary arms and adjust the height to match the belt and chute. Retighten the bolts. Finish welding the arms into place onto the structure (Fig 12).

13. **Confirm the correct clearance between the chute and belt.** Readjust the skirt rubber to make a good seal against the impact bed (Fig. 13). Replace all protective guarding around the load zone.

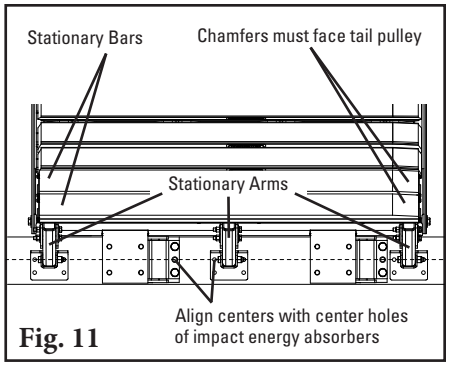


Fig. 11

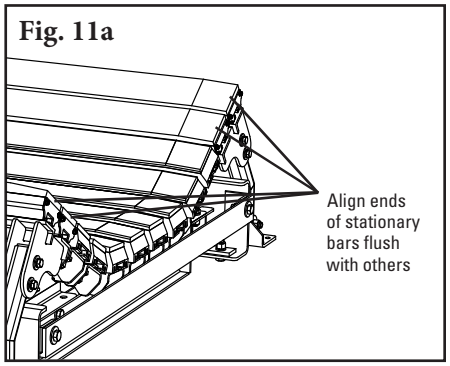


Fig. 11a

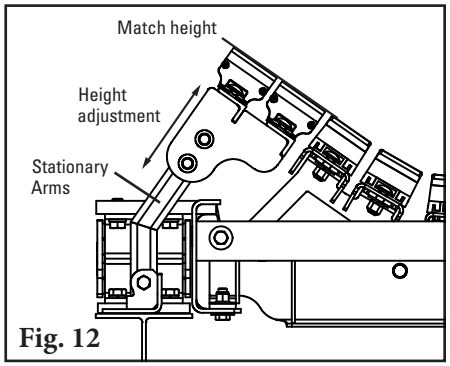


Fig. 12

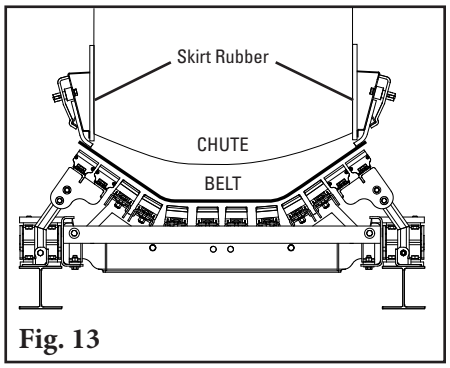


Fig. 13

Section 5 - Pre-Operation Checklist and Testing

5.1 Pre-Op Checklist

- Recheck that all fasteners are tightened properly.
- Check that the empty belt is 1/2" (13mm) above the impact bars.
- Apply all supplied labels to the cleaner.
- Be sure that all installation materials and tools have been removed from the belt and the conveyor area.

5.2 Test Run the Conveyor

- Run the conveyor for at least 15 minutes and confirm that the skirt rubber is properly sealing at the transfer point. Make adjustments to the skirt rubber as necessary.

Section 6 - Maintenance

Flexco impact beds are designed to operate with minimum maintenance. However, to maintain superior performance some service is required. When the impact bed is installed a regular maintenance program should be set up. This program will ensure that the impact bed operates at optimal efficiency, and problems can be identified and fixed before any damage is done to the belt, the bed, other conveyor components, or structure.

All safety procedures for inspection of equipment (stationary or operating) must be observed. The DRX™ Impact Bed operates in the loading zone of the conveyor system and is in direct contact with the moving belt. Only visual observations can be made while the belt is running. Service tasks can be done only with the conveyor stopped and by observing the correct lockout/tagout procedures.

6.1 New Installation Inspection

After the impact bed has run for a few days a visual inspection should be made to ensure the impact bed is performing properly. Make adjustments as needed.

6.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the impact bed can determine:

- If the skirt rubber is adequately keeping the chute area sealed
- If the impact bars are worn out and need to be replaced
- If there are excessive materials building up around the impact bed
- If there is damage to the impact bed, belt or other conveyor components

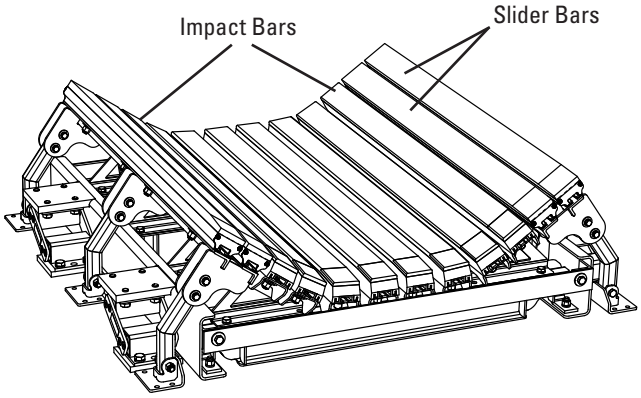
If any of the above conditions exist, a determination should be made on when the conveyor can be stopped for cleaner maintenance.

6.3 Routine Physical Inspection (every 6-8 weeks)

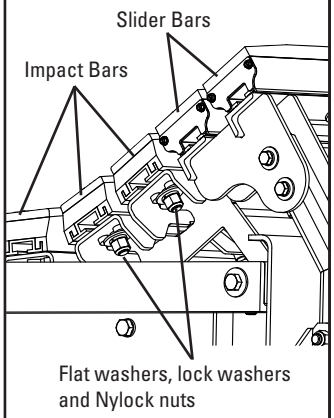
When the conveyor is not in operation and properly locked and tagged out, a physical inspection of the impact bed to perform the following tasks:

- Clean material buildup off the impact bed and conveyor structure.
- Closely inspect each impact bar for wear and damage. Bars are worn when the UHMW is worn down to or near the rubber. Replace if needed.
- Check the impact bed frame for damage.
- Inspect all fasteners for tightness and wear. Tighten or replace as needed.
- Inspect skirt rubber and adjust as needed to compensate for impact bar wear.
- When maintenance tasks are completed, test run the conveyor to ensure the impact bed is performing properly.

6.4 Impact Bar Replacement Instructions



DRX™ Dynamic Bed Series



Impact Bar and Fastener Detail

Physically lock out and tag the conveyor at the power source before you begin cleaner installation.

Tools Needed:

- (x2) 15/16" (24mm) Wrenches
  OR Large Adjustable/Crescent Wrenches (x2)
- Broom, wire brush and/or putty knife
  (for cleaning impact bed and structure)
- Come-along
- (x4) C-Clamps

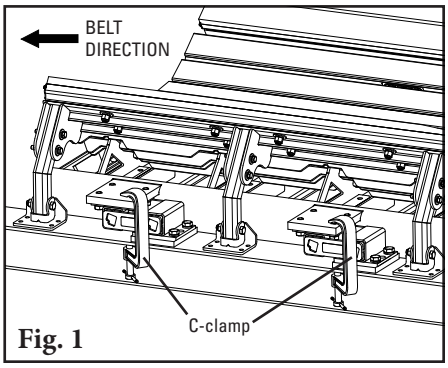


Fig. 1

1. **Remove tension.** Use a Flexco Belt Lifter or other appropriate lifting equipment to lift the belt off the impact bed. Compress impact energy absorbers with C-clamp (Fig. 1).
2. **Remove stationary bars.** Remove bolts at bases of stationary arms and lift assembly out of the way (Fig. 2).

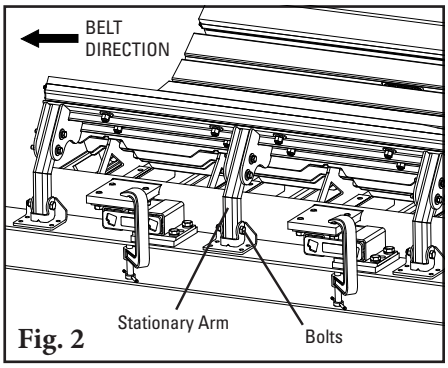


Fig. 2

6.4 Impact Bar Replacement Instructions

3. **Inspect the bars.** Check to see which bars are worn or damaged and need to be replaced.

4. **Remove the worn bars.** Loosen and remove the nuts at each cross stringer and remove the impact bar and bar support (Fig. 4).

5. **Remove the support bar.** Remove the nuts holding the support in place and attach them to the new impact bar (Fig. 5).

6. **Install the new bar and support onto the bed.** Place the new impact bar and bar support onto the bed with the chamfered end facing the tail pulley (Fig. 6). Line up the bolts and tighten the bars to the cross stringers.

7. **Remove the C-clamps** from the impact energy absorbers and adjust and tighten all bolts (Fig. 7).

8. **Replace the stationary bar(s).** Replace the bar(s) on the stationary arm assembly if needed, and reinstall the arms to the mounting bases. Insert and tighten bolts (Fig. 8).

Test run the conveyor. Run the conveyor for at least 15 minutes and inspect to ensure that the impact bed is performing properly. Make adjustments as necessary.

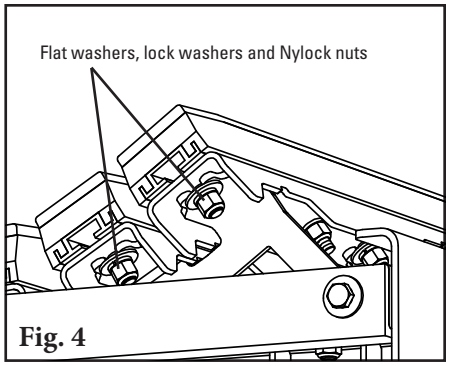


Fig. 4

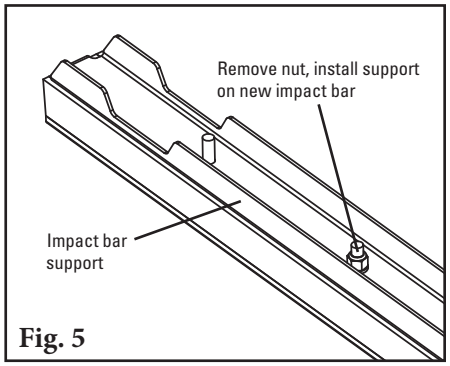


Fig. 5

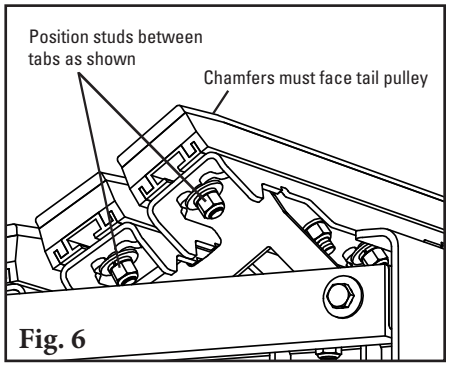


Fig. 6

Fig. 7

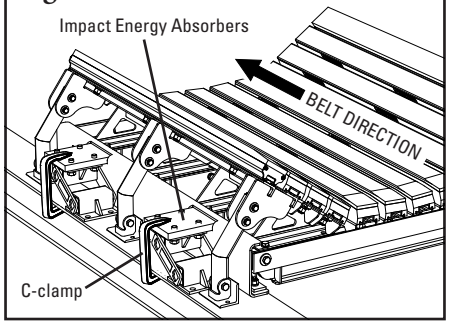
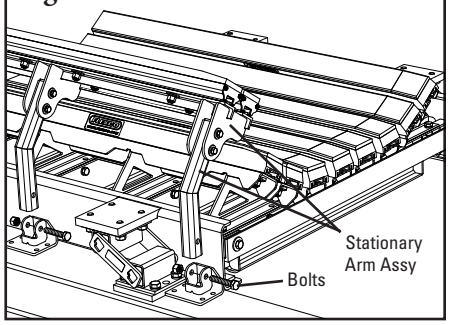


Fig. 8



6.5 Maintenance Log

Conveyor Name/No. _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Section 6 - Maintenance

6.6 Impact Bed Maintenance Checklist

Site: _____ **Inspected by**: _____ **Date:** _____

DRX™ Impact Bed: _____ **Serial Number:** _____

Beltline Information:

Beltline Number: _____ Belt Condition: _____

Belt Width:	☐ 36" (900mm)	☐ 42" (1050mm)	☐ 48" (1200mm)	☐ 54" (1350mm)	☐ 60" (1500mm)	☐ 72" (1800mm)	☐ 84" (2100mm)	☐ 96" (2400mm)

Transition Distance (back of bed to center of tail pulley): _____ Belt Speed: _____ Belt Thickness: _____

Distance to Leading Idler: _____ Distance to Trailing Idler: _____

Vertical Distance between top of nearest idler and top surface of center impact bars: _____

Impact Bar Life:

Date bars installed: _____ Date bars inspected: _____ Estimated bar life:_____

Bar Condition: _____ inches of top cover remaining:_____

Impact Bed Frame Condition:

☐ Good ☐ Bent ☐ Rusted

Overall Impact Bed Performance: (Rate the following 1 - 5, 1= very poor - 5 = very good)

Appearance: ☐ Comments:_____

Location: ☐ Comments:_____

Maintenance: ☐ Comments:_____

Performance: ☐ Comments:_____

Other comments: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Problem	Possible Cause	Possible Solutions
Bars wearing out too fast	Impact bars are not at 1/2" below leading and trailing idlers	Adjust/shim as needed to correct dimension
	More than two beds in a row without idler between	Add an idler between at least every other bed to lift the belt up
	Leading idler does not match troughing angle	Correct the angle of the leading idler to match the bed
Vibration or noise	Belt rubbing too hard on UHMW impact bar covers	Verify height of leading/trailing idlers
	Material buildup under bed	Clean up buildup, adjust skirting
	Skirt rubber pushing too hard on belt	Adjust skirt rubber
Bars deforming	Larger material than specified is flowing through transition (under-specified bed)	Replace with a heavier-duty version of impact bed or add additional bar supports
Bar damage	Mechanical splice damaging UHMW top covers	Repair, skive or replace splice

For more information on selection and proper usage of impact beds, ask Flexco® Customer Service for one or more of the following DRX™ Tech Tips:

X1945 - DRX Tech-Tip #1 Spec'ing and recommending DRX Impact Beds

X1946 - DRX Tech-Tip #2 Impact beds vs. slider beds with rollers - Is it just a matter of choice?

X1947 - DRX Tech-Tip #3 Over-specifying an impact bed isn't a good idea

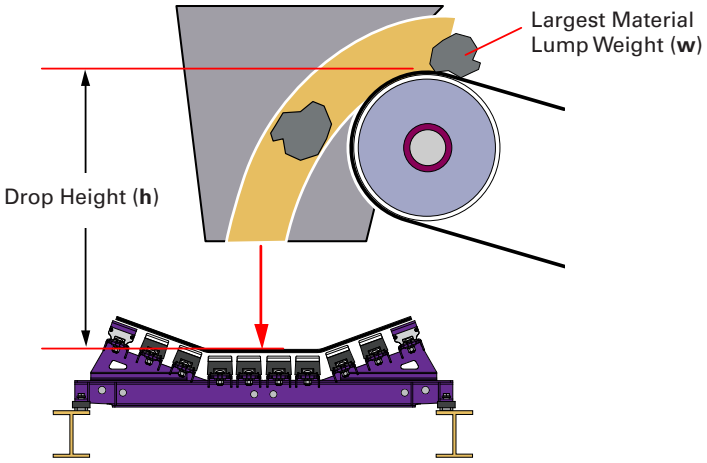
Section 8 - Specs and CAD Drawings

8.1 Specifications and Guidelines

Bed Length: 5' (1.5M)

Troughing Angles: 20° and 35°

Bed Specs per lump size and drop height needs:
(Per Conveyor Equipment Manufacturers Association (CEMA) guidelines)



Impact Energy Calculation:

Lump weight _____ *lb*

x Drop length _____ *ft*

Total _____ *lb-ft*

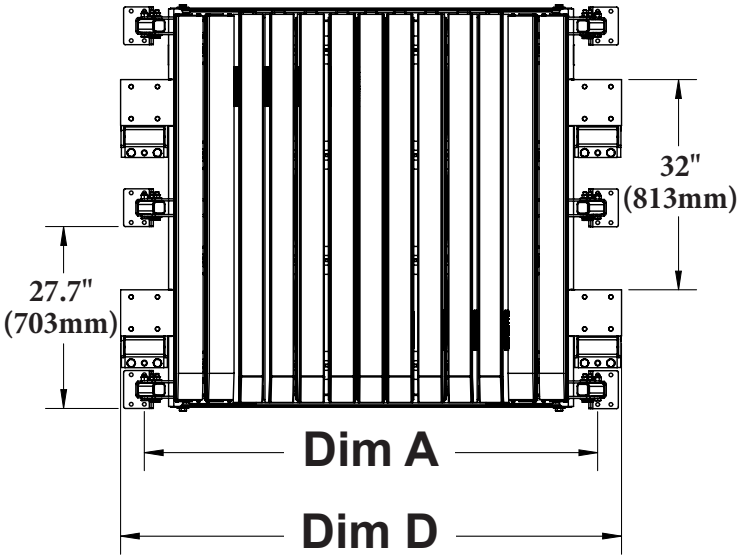
Bed Rating:

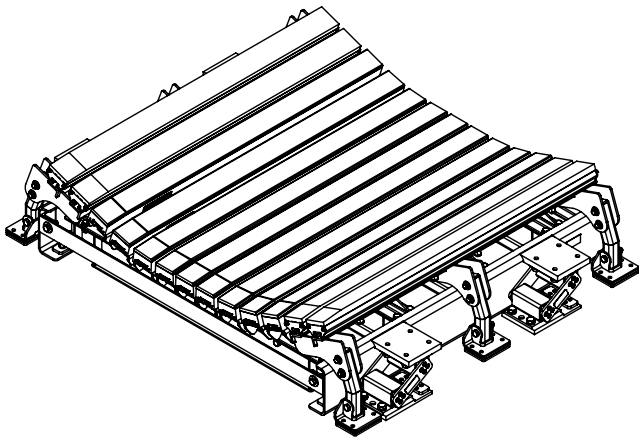
1500 to 3000 lb-ft (200 to 400 kg-m)	*DRX 3000*
1500 to 4500 lb-ft (200 to 600 kg-m)	*DRX 4500*

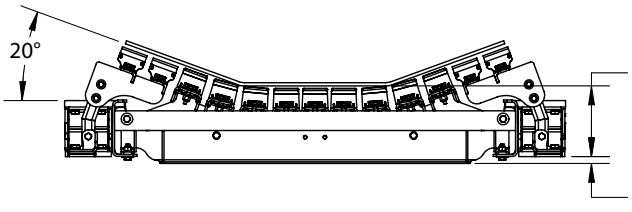
Replacement Bars and Bolt Kits Required per Belt Width

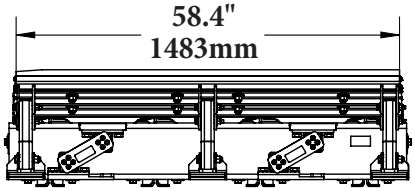
in.	36	42	48	54	60	72	84	96
mm	900	1050	1200	1350	1500	1800	2100	2400
Slider Bars Required								
DRX3000	2	2	2	4	4	4	4	4
DRX4500	2	2	2	4	4	4	4	4
Impact Bars Required								
DRX3000	5	8	8	8	9	12	12	16
DRX4500	5	8	8	8	9	12	12	16
Impact Bar Supports Required								
DRX3000	5	8	8	8	9	12	12	16
DRX4500	5	8	8	8	9	12	12	16
Impact Bar Bolt Kits Required								
DRX3000	43	56	56	64	70	88	88	112
DRX4500	48	72	72	80	88	112	112	144

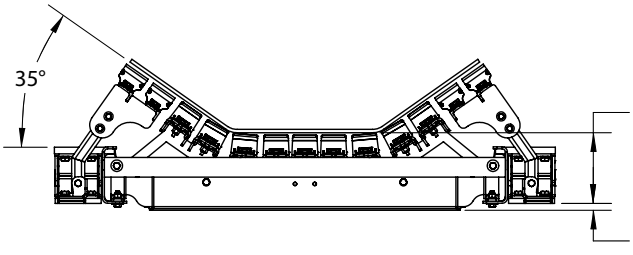
8.2 CAD Drawing - DRX™ 3000 - 5' Bed Length

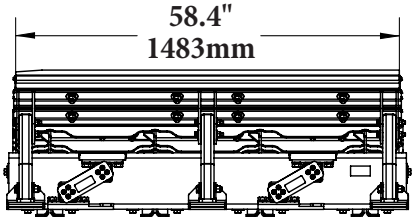








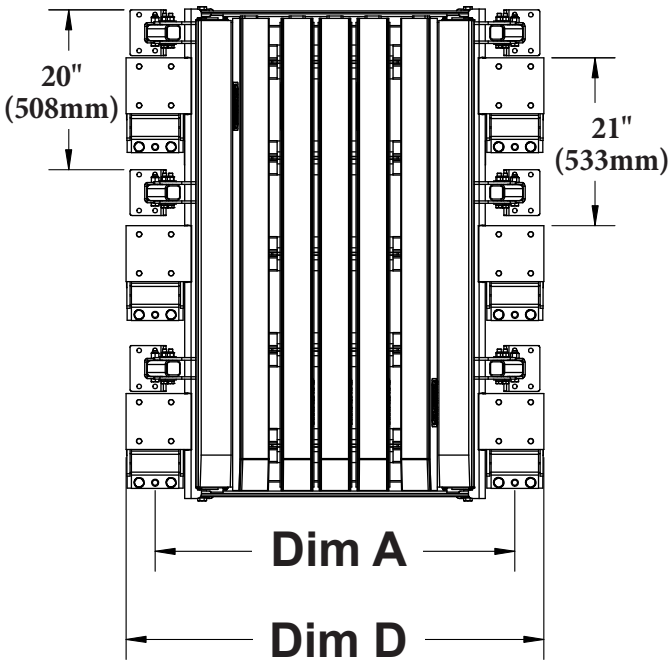


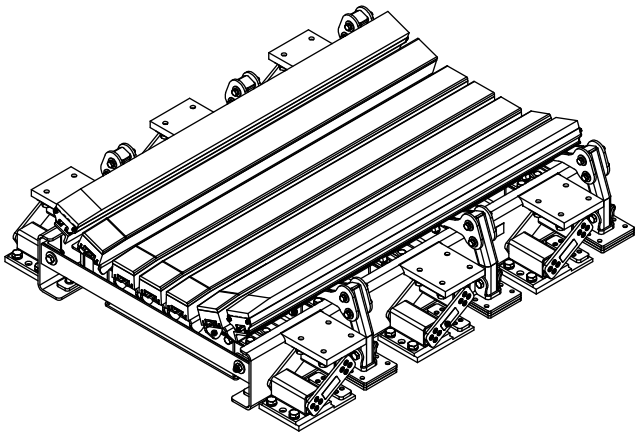


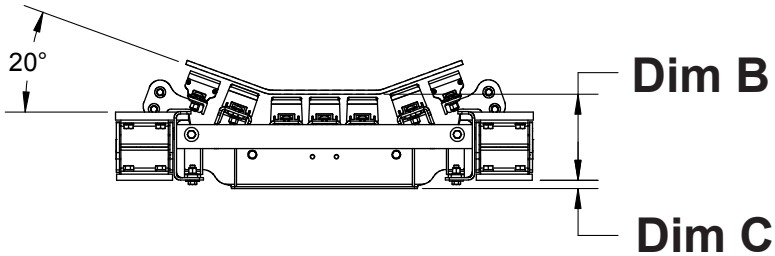
Bed Width		Dim A		Dim B		Dim C		Dim D	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
36	900	45	1143.0	10.75	273	1.05	26.6	52.25	1327.2
42	1050	51	1295.4	10.75	273	1.09	27.7	58.25	1479.6
48	1200	57	1447.8	10.75	273	1.09	27.7	64.25	1632.0
54	1350	63	1600.2	10.75	273	1.09	27.7	70.25	1784.4
60	1500	69	1752.6	10.75	273	1.09	27.7	76.25	1936.8
72	1800	81	2057.4	11.50	292.1	1.15	29.1	90.25	2292.4
84	2100	93	2362.2	11.75	298.5	1.15	29.1	102.25	2597.2
96	2400	105	2667.0	11.75	298.5	1.15	29.1	114.25	2902.0

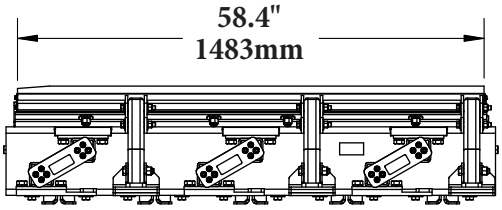
Section 8 - Specifications and CAD Drawings

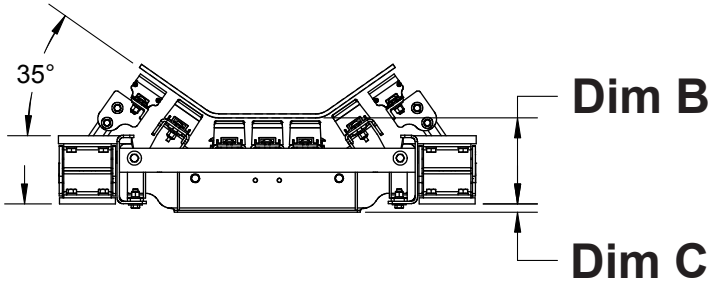
8.3 CAD Drawing - DRX™ 4500 - 5' Bed Length

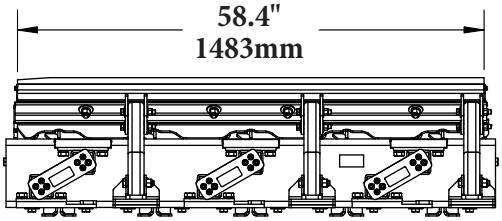












Bed Width		Dim A		Dim B		Dim C		Dim D	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
36	900	45	1143.0	10.75	273.1	1.05	26.6	52.25	1327.2
42	1050	51	1295.4	10.75	273.1	1.05	26.6	58.25	1479.6
48	1200	57	1447.8	10.75	273.1	1.05	26.6	64.25	1632.0
54	1350	63	1600.2	10.75	273.1	1.05	26.6	70.25	1784.4
60	1500	69	1752.6	10.75	273.1	1.05	26.6	76.25	1936.8
72	1800	81	2057.4	11.50	292.1	1.10	27.9	90.25	2292.4
84	2100	93	2362.2	11.75	298.5	1.10	27.9	102.25	2597.2
96	2400	105	2667.0	11.75	298.5	1.10	27.9	114.25	2902.0

Section 9 - Replacement Parts

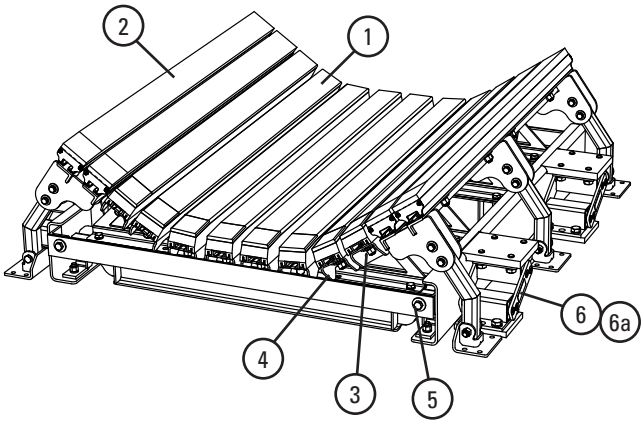
9.1 Replacement Parts List - DRX™ 3000

Replacement Parts

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. LBS.
1	Impact Bar 5' (1.5 M) (1/2" (12.5 mm) UHMW)	IB5	76927	21.2
2	Slider Bar 5' (1.5M)	SB5	78790	24.1
3	Impact Bar Bolt Kit incl. (1) ea 5/8" carriage bolt, square washer, flat washer, lock washer, Nylock nut	IBBK	76928	0.5
4	Impact Bar Support - D 5' incl. (1) bar support, (2) ea carriage bolt, square washer, lock washer, Nylock nut	IBS-D5	77530	21.0
5	Sliding Support Arm Bolt Kit incl. (4) 1-1/2" bolts, (2) 2" bolts, (6) lock washers, (6) Nylock nuts	ISABK	76935	2.0
6	Impact Energy Absorber 36–60" (900–1500mm)	IEA-36-60	76937	42.0
6a	Impact Energy Absorber 72–96" (1800–2400mm)	IEA-72-96	76938	66.0

Lead time: 1 working day

* Belt width + 9" = Structure width



Replacement Bars and Bolt Kits Required per Belt Width - DRX3000

in.	36	42	48	54	60	72	84	96
mm	900	1050	1200	1350	1500	1800	2100	2400
Slider Bars Required	2	2	2	4	4	4	4	4
Impact Bars Required	5	8	8	8	9	12	12	16
Impact Bar Supports Required	5	8	8	8	9	12	12	16
Impact Bar Bolt Kits Required	43	56	56	64	70	88	88	112

Section 9 - Replacement Parts

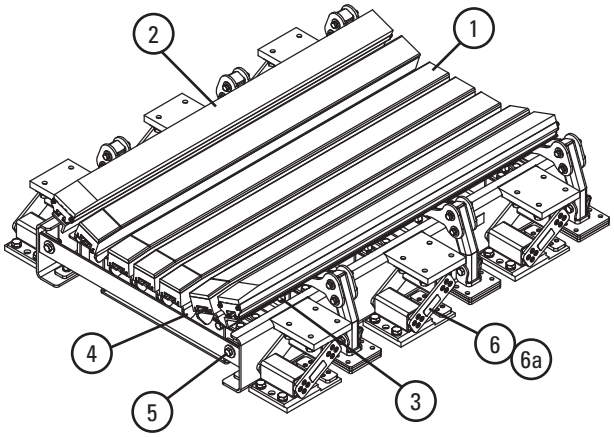
9.2 Replacement Parts List - DRX™ 4500

Replacement Parts

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. LBS.
1	Impact Bar 5' (1.5 M) (1/2" (12.5 mm) UHMW)	IB5	76927	21.2
2	Slider Bar 5' (1.5M)	SB5	78790	24.1
3	Impact Bar Bolt Kit incl. (1) ea 5/8" carriage bolt, square washer, flat washer, lock washer, Nylock nut	IBBK	76928	0.5
4	Impact Bar Support - D 5' incl. (1) bar support, (2) ea carriage bolt, square washer, lock washer, Nylock nut	IBS-DX5	111728	21.0
5	Sliding Support Arm Bolt Kit incl. (4) 1-1/2" bolts, (2) 2" bolts, (6) lock washers, (6) Nylock nuts	ISABK	76935	2.0
6	Impact Energy Absorber 36–60" (900–1500mm)	IEA-36-60	76937	42.0
6a	Impact Energy Absorber 72–96" (1800–2400mm)	IEA-72-96	76938	66.0

Lead time: 1 working day

* Belt width + 9" = Structure width



Replacement Bars and Bolt Kits Required per Belt Width - DRX4500

in.	36	42	48	54	60	72	84	96
mm	900	1050	1200	1350	1500	1800	2100	2400
Slider Bars Required	2	2	2	4	4	4	4	4
Impact Bars Required	5	8	8	8	9	12	12	16
Impact Bar Supports Required	5	8	8	8	9	12	12	16
Impact Bar Bolt Kits Required	48	72	72	80	88	112	112	144

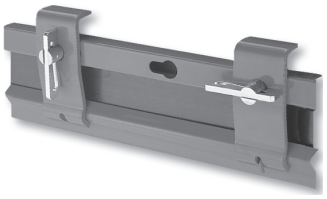
Section 10 – Other Flexco Conveyor Products

Flexco provides many conveyor products that help your conveyors to run more efficiently and safely. These components solve typical conveyor problems and improve productivity. Here is a quick overview on just a few of them:

MMP Precleaner

- Extra cleaning power for tough applications.
- 10" (250mm) TuffShear™ blade provides increased blade-to-belt tension.
- A 3-piece telescoping pole is lighter to lift and easier to install.
- Dual Quick-Mount Tensioners ensure optimal tension throughout the life of the blade.

Flex-Lok™ Skirt Clamps



- Eliminates transfer zone spillage.
- Interlocking design for easy installation and one-person maintenance.
- Unique wedge pin holds rubber securely in place and is easy to adjust.
- Available in various models and in stainless steel.

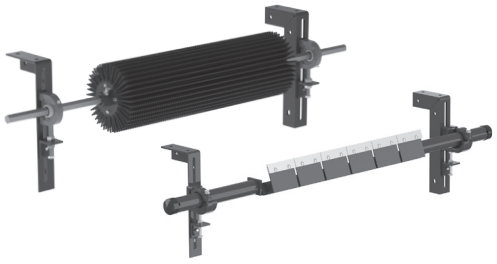
MHS HD Secondary Cleaner

- Long-wearing tungsten carbide blades for superior cleaning efficiency.
- Patented PowerFlex™ cushions independently tension each blade to the belt for consistent, constant cleaning power.
- Easy to install, simple to service.
- Works with Flexco® mechanical belt splices.

PT Max™ Belt Trainer

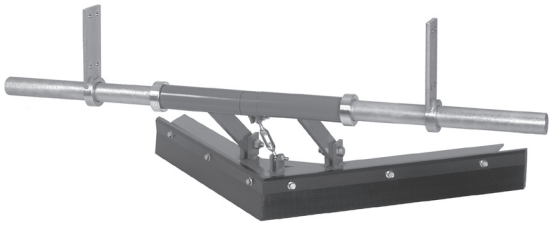
- Patented "pivot & tilt" design for superior training action.
- Dual sensor rollers on each side to minimize belt damage.
- Pivot point guaranteed not to seize or freeze up.
- Available for topside and return side belts.

Flexco Specialty Belt Cleaners



- "Limited space" cleaners for tight conveyor applications.
- High Temp cleaners for severe, high heat applications.
- A rubber-fingered cleaner for chevron and raised rib belts.
- Multiple cleaner styles in stainless steel for corrosive applications.

Belt Plows



- A belt cleaner for the tail pulley.
- Exclusive blade design quickly spirals debris off the belt.
- Economical and easy to service.
- Available in vee or diagonal models.

Visit **www.flexco.com** for other Flexco locations and products, or to find an authorized distributor.