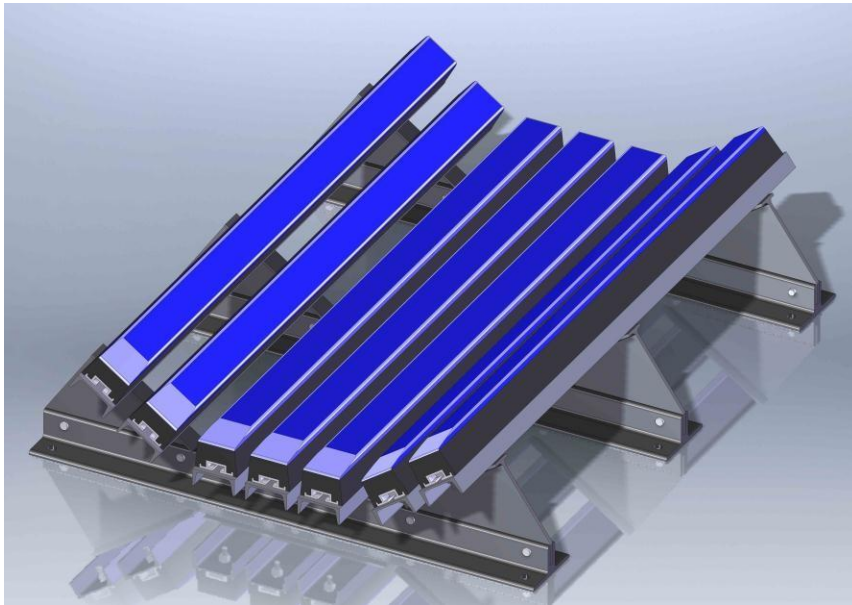




Safety, Operation, & Maintenance Manual

Douglas ISE Titan™ Sectional Impact Bed



Warning: This manual must be read, understood, and followed by anyone that installs, operates, and maintains this product. Failure to follow instructions may result in serious or fatal injury.

Douglas Manufacturing Co., Inc.

300 Industrial Park Drive, Pell City, Alabama 35125 • Tel: (205) 884-1200 • Fax: (205) 884-1206

Email: sales@douglasmanufacturing.com

SAFETY INFORMATION

1. Follow all federal, state, local and owner recommended safety guidelines.
2. Before beginning work on any motorized equipment always lockout and tag-out the equipment. Follow all OSHA, MSHA and in-house guidelines that pertain to lockout and tag-out procedures.
3. Do not allow anyone to attempt installation or operation of this unit until they have read this manual thoroughly and understand it completely.
4. Only personnel who are safety trained and familiar with the mechanics and mechanical nature of conveyors, and rigging for unloading, should work on or around this unit.
5. Use only safety trained, certified and licensed electricians for all electrical requirements.
6. When loading or unloading this unit be sure that you are away from power lines and use caution to prevent metal equipment from contacting power lines.
7. Do not wear loose clothes, jewelry or neckties when working on or around this unit. Long hair should be secured under a cap or bandana to prevent injury. The moving parts of this unit may catch loose clothes, jewelry, neckties or long hair and may result in serious injury.
8. Never operate this unit without guards in place. It is the customer's responsibility to install proper guards that adhere to local, state and federal, and in-house requirements to promote safety in the operation of this unit.
9. Periodically check this Impact Bed to verify that safety guards and decals are in place and working properly. It is the owner's responsibility to replace missing, worn parts and/or faded decals as required.
10. Always replace worn components with factory recommended components.
11. Safety is the responsibility of all concerned. Be aware and alert at all times. Report unsafe conditions to the owner as soon as possible and always take improperly maintained or malfunctioning equipment out of service until such time as it may be properly serviced and returned to normal, safe operating conditions.
12. Please feel free to contact Douglas Manufacturing if you have any questions concerning your Impact Bed.

Very Important: Before burning or welding, remove all flammable materials located around and below your work area so that they cannot be ignited by hot sparks or slag. Post a fire watch if you cannot see all areas affected by sparks or slag. Keep a fire extinguisher and a first-aid kit on hand at all times.

Items needed Carpenter's Square

For Installation: Tape Measure

Torch or Drill with 13/16" diameter bits

Bolts, Nuts, and Washers for bolting support frames to structure

Wrenches

Impact Bed Rules:

1. Always have a trough idler of the same trough angle as the impact bed placed immediately before the impact bed.
2. Impact Bed Bars are designed to be $\frac{1}{2}$ " to $\frac{3}{4}$ " below the bottom surface of the conveyor belt at the center roll of the trough idler.
3. Always have a trough idler of the same trough angle as the impact bed placed immediately after the impact bed.

Impact Bed Installation:

The assembly is shipped ready to bolt down (Mounting bolts are not included). There must be a trough idler directly before and after where the impact bed is installed.

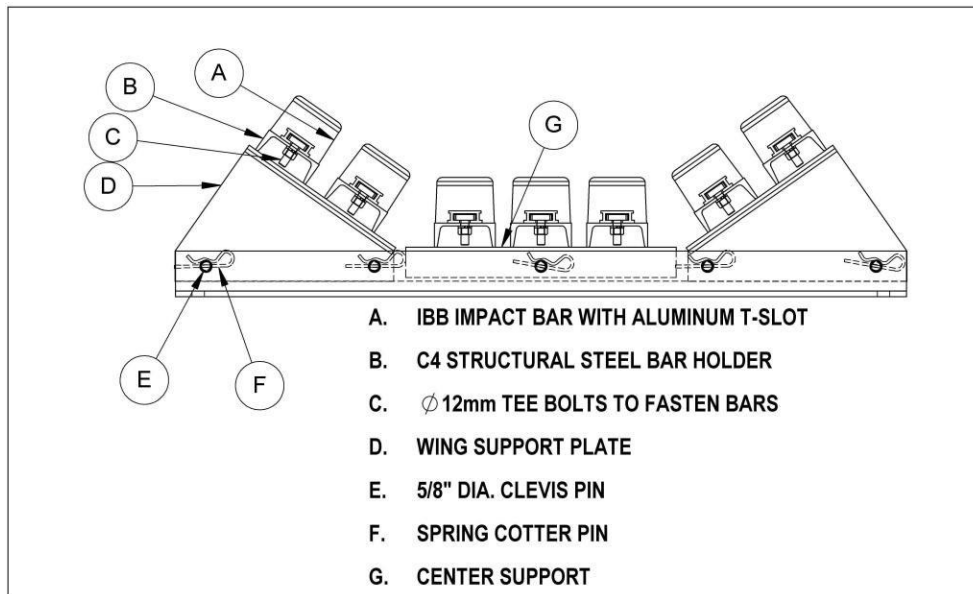
1. Inspect shipping pallet/container for damage. Report damage to delivery service immediately and fill out delivery services' claim report form. Keep any damaged goods as they may be subject to examination. If anything is missing please contact Douglas Mfg. Co. or a representative.
2. Remove Douglas Sectional Impact Bed from shipping pallet/container. The ISE Impact Bed is very heavy and will require lifting equipment to lift, move, & set in place.
3. Remove the idlers that are currently in the load section (if any).
4. Make sure conveyor belt is centered on the conveyor.
5. Turn off and lock out/tag energy source of the conveyor system in accordance to ANSI standard z244.1-1982.
6. Observe the direction of belt travel.
7. Mount the ISE Impact Bed with the tapered edges of the impact bars facing the tail pulley of the conveyor.
8. The ISE Impact Bed may be installed in pieces/sections. Therefore it can be disassembled and reassembled depending on clearance and other issues involving the installation.
9. Check that there is $\frac{1}{2}$ " to $\frac{3}{4}$ " vertical gap between the impact bars and the bottom surface of the conveyor belt. Shim either the Douglas Sectional Impact Bed or adjacent trough idlers to maintain this gap.
10. Bolt all base bars to the conveyor frame. Use the 13/16" holes in the impact bed base bar as a template for marking & drilling.

Impact Bed Installation (continued):

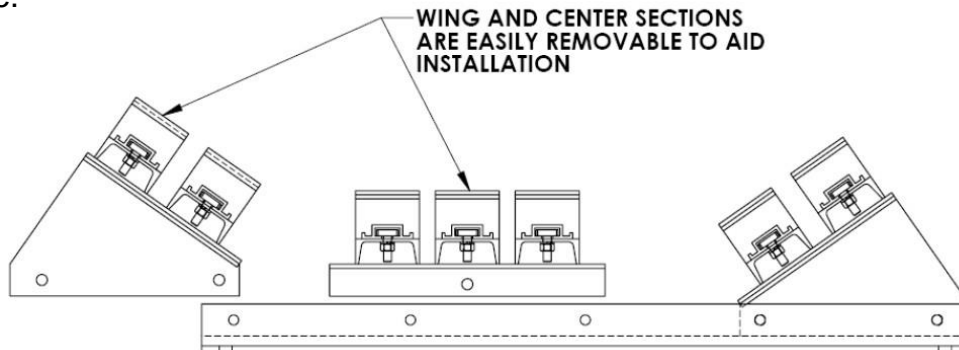
11. Install $\varnothing 3/4$ " Bolts, Nuts, & Lock Washers thru the Impact Base Bars and the mating conveyor frame holes. Securely tighten all mounting bolts. (Mounting bolts are not provided)

Impact Bar Materials: see the table below for materials and specifications.

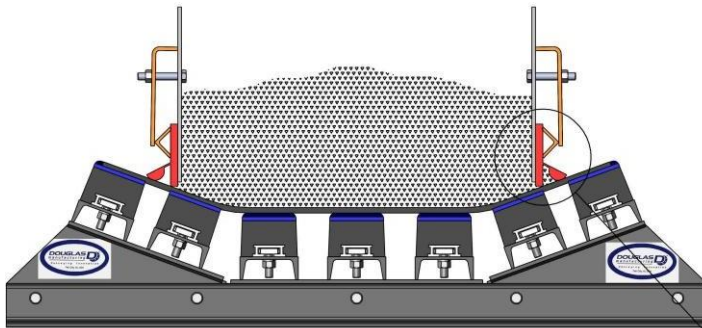
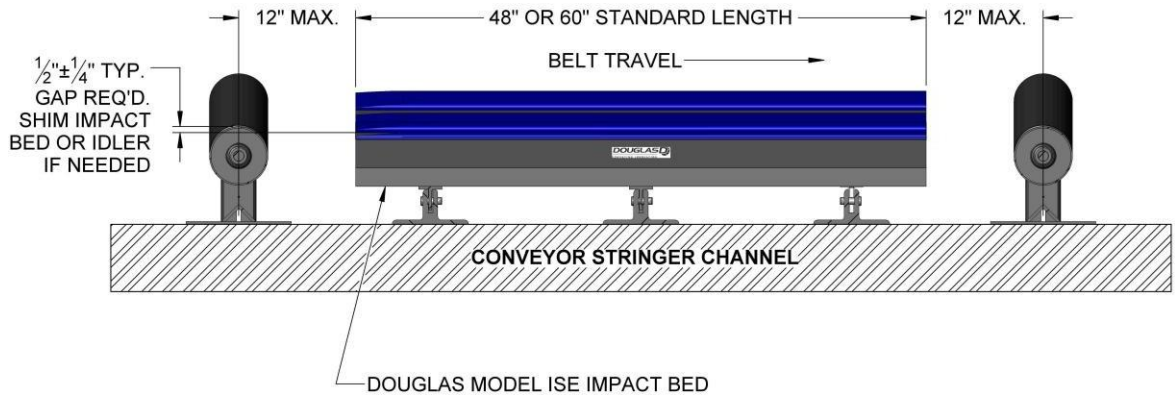
| Characteristics | Bar With UHMW Cap |
|-------------------------------------|--|
| MSHA - Accepted for underground use | N/A |
| Coefficient of friction | 0.5 |
| Service Temperature | -20 to 140°F (-29 to 60° C) |
| Bearing layer | UHMW Polyethylene |
| Absorption layer | 50 Shore A Durometer SBR Rubber |
| T-Slot | Extruded Aluminum |
| Fasteners | $\varnothing 12$ mm T-Bolts & Locknuts |



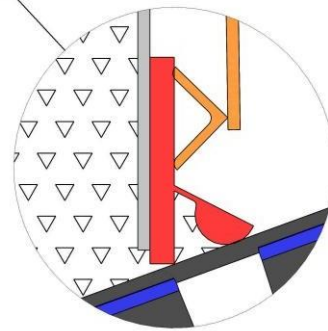
Your ISE Impact Bed should have all of the factory installed components listed above.



Following are best practice guidelines for idler placement and skirt board sealing:



Per CEMA Recommendations the inside distance between skirt plates is two thirds of the belt width. Douglas recommends a skirt seal designed to provide secondary spillage protection, similar to the image shown at right.



BEST PRACTICE FOR EFFECTIVE SEALING

After installation is complete:

- A. Remove all tools from the installation area.
- B. Turn on conveyor belt.
- C. After 1 hour of operation, turn off and lock out/tag out energy source according to ANSI standard.
- D. Make sure all fasteners are tight. Tighten if necessary.
- E. Inspect impact bars for wear. (A small amount of “break-in” wear may be found. This will stop once the bars wear to the conveyor belt contour.)

Replacing Worn Impact Bars:

1. Prior to replacing any worn impact bar(s) be sure to follow lock out, tag out, and all other procedures.
2. To replace a worn impact bar simply loosen the T-bolt locknut (do not remove the locknut).
3. Slide the worn impact bar off of the C4 support and T-bolts.
4. Slide a new impact bar over the T-bolts and secure by tightening the locknuts on the underside of the C4 support.

Maintenance:

Every 3 to 6 months of operation the ISE Impact Bed should be inspected. Turn off and lock out/tag out energy source according to ANSI standards.

Make sure all fasteners are in place and tight. Re-tighten if necessary.

If the blue colored top cover of the bars is worn through to the black rubber, replace these bars following the guidelines above this section.

The Impact Bed Assembly will come apart in 3 sections. Clevis pins mounted in the base bars can be removed to facilitate maintenance.

Remove fines trapped between the Impact Bars with a broom or high pressure air or water.

Inspect the steel framing members for cracks or fatigue. Weld or strengthen structure as necessary.