

Kinder Australia product:	K-Shield Impact Belt Support System
Product category:	Belt Support
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Revision:	3

Overview:

The function of the K-Shield Impact Belt Support System is used to provide proper belt support under a conveyor transfer point and protect the belt from early failure due to pinch point damage. It is used for heavy duty applications where high impact loading is expected.



Fig 1-A

Notes before starting:

• Ensure all dimensions shown in Fig 1-B are correct in accordance with supplied drawings.

Fig 1-B

- The 10-20mm gap is maintained when belt is operating empty to prevent excessive wear due to friction between the belt and centre bars while still allowing the belt to absorb some of the impact force as the material forces it into the support system.
- Additional tension in the system due to friction should be considered. This added tension force can be calculated using the formula: $T = 2.94 \text{ x} \left[\frac{(mass of belt)}{metre} + \frac{(mass of burden)}{metre} \right] \text{ x impact bed length}$

This additional force should be considered to ensure the system has sufficient drive power.

• Please contact Kinder Australia if you require assistance.





Procedure:

- 1. Run the conveyor until all the material is removed.
- 2. Isolate, lock and danger tag the conveyor at the main positive isolator in accordance with the appropriate health and safety regulations in force at your site to prevent unauthorized starting.
- 3. Remove the existing impact idlers from the conveyor structure. Inspect the structure for any damage or misalignment. For replacing impact bars, please refer to page 3.
- 4. If the cradle can be installed fully assembled, then proceed to drop the cradle onto the stringer and drill mount holes to suit. If the cradle cannot be installed assembled, then disassemble as per Fig 4. on page 4 and place the main support stringers first at the designed spacing. Re-assemble the system ensuring that all the fasteners are tightened correctly, refer to page 4 for recommended torque values. Following the cradle being reassembled in position, drill mount holes to suit.

It is critical that the unit is aligned with the conveyor system; any misalignment will cause belt training problems. As both edges of the slider bars are tapered there is no correct installation direction.

5. Ensure that the unit is preceded and succeeded by a fixed idler set (as shown in Fig 2.) so that the belt leads both on and off the impact slider bars. Failure to do this will result is reduced impact slider bar life and belt wear.



- 6. Test run the conveyor; recheck all bolts and bars for security. Inspect the bottom side of the conveyor belt for any damage.
- 7. The system should be inspected after 8 hours of operation for any loose bolts or damage. Regular inspection should be included in the normal inspection schedule.



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Fig 3.

SLIDER IMPACT BAR REPLACEMENT PROCEDURE

1. RIGHT WING STAND

- a. Unscrew all nuts, remove bolts and washers
- b. Remove right wing stand
 - i. Loosen all nuts on the first slider impact bar
 - ii. Slide out the first slider impact bar
 - iii. Slide in the new slider impact bar
 - iv. Tighten all nuts
- c. Repeat steps i. iv. for remaining impact bars.
 <u>Note: Impact bar replacement must always be completed one at a time.</u>
 At no point should multiple bars be removed at once.
- 2. LEFT WING STAND AND CENTRE STAND
 - a. Repeat steps a. c. from right wing stand for each of the other stands.
- 3. REASSEMBLE CENTRE STAND THEN WING STANDS AFTER



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Torque requirement for:

- T-Bolt M12 x 40 Gr8.8 Zinc Plated for K-IMP-SLBAR-55-FR is 92.0 Nm.
- T-Bolt M16 x 90 Gr8.8 Zinc Plated for K-IMP-SLBAR-77-FR is 215.0 Nm.
- Standard Hex. Head 1/2" x 3.5" Bolt Gr8 Zinc Plated for K-IMP-SLBAR-77ARG is 143.0 Nm.
- M16 x 150 Gr8.8 Zinc Plated Stand Fastening Bolt is 215.0 Nm.



Fig 4.



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