



**Crysteel® Manufacturing
I-Beam Technical Bulletin
Updated March 18, 2013**

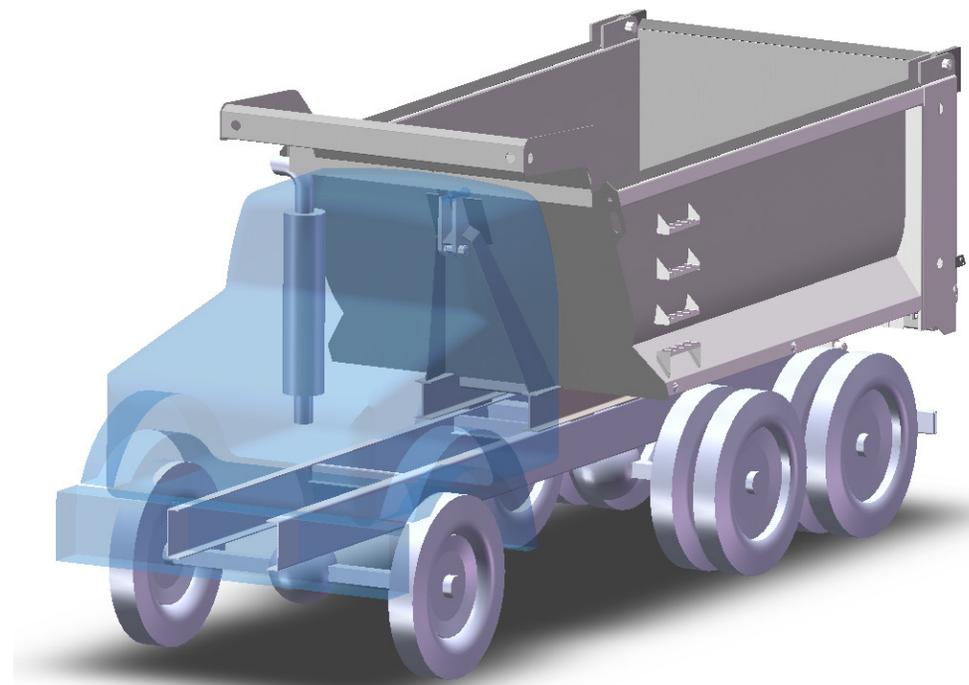
**For more information, please contact Crysteel at
800-533-0494.**

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TECHNICAL PRODUCT REVIEW

I-BEAM LONGBEAM SPACING FOR CRYSTEEL CROSSMEMBERLESS FRAMES



Presented March, 2013

Change overview

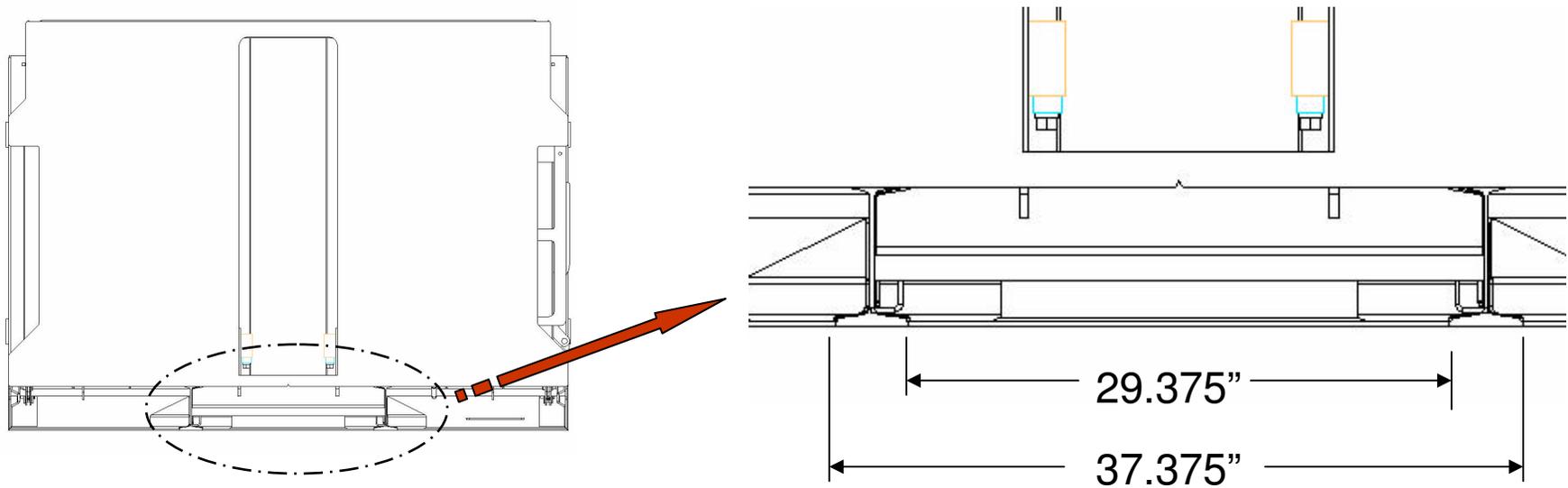
The following document reviews a change that was made to the standard I-beam longitudinal spacing for Crysteel and J-Craft dump bodies in February of 2012.

General information:

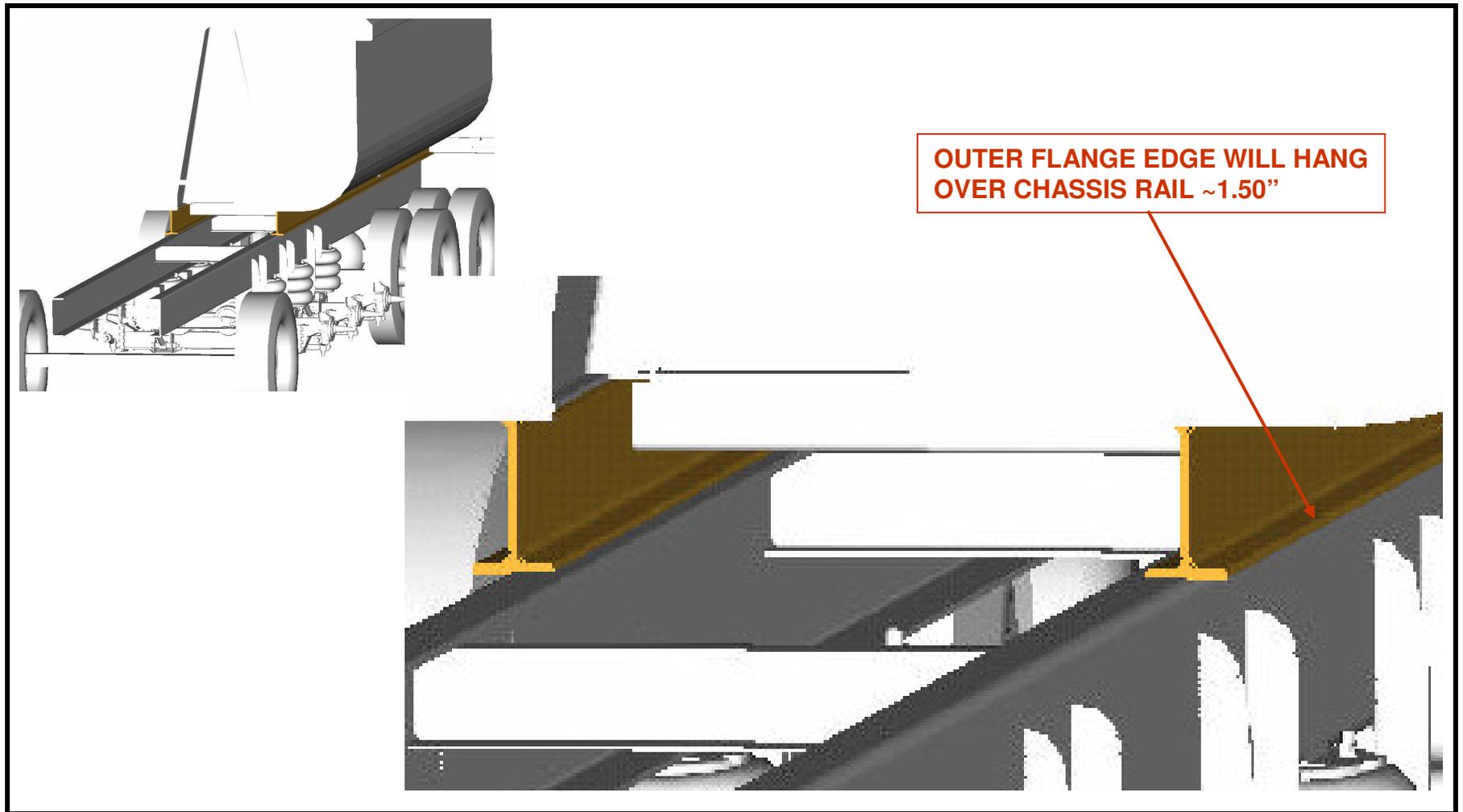
- Crysteel uses 8" and 10" I-beams for our longbeams which are now spaced at 29.375" between the INNER FLANGE. Formerly they were spaced 29.375" between the WEB.
- This will put the outer flange outboard of the chassis rail by 1-1/2" – 2" per side.
- This design was originally used, and accepted by J-Craft customers for years and used by municipalities and general contractor applications.

Interface details....

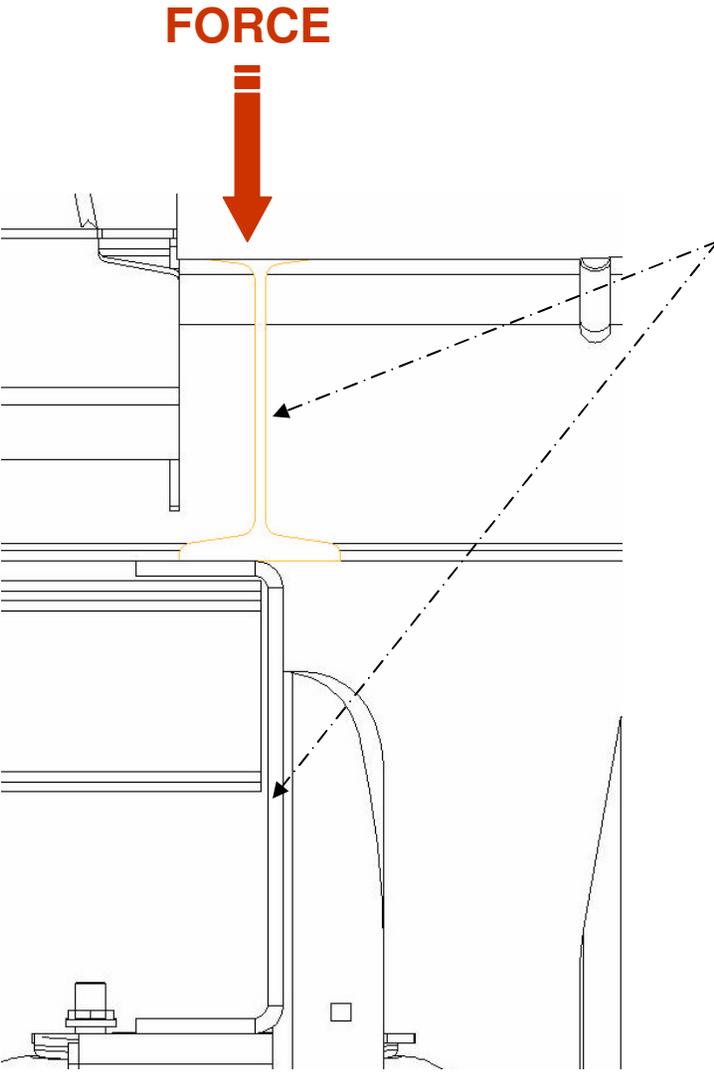
- The spacing of 29.375" between the inner flanges will put the outside of the WEB almost in-line with the chassis frame rail. This means the outside flange will hang outboard of the chassis rail by 1-1/2" to 2" depending on the size of the I-beam.



Chassis installation....



Pro's and Con's of current design



The diagram illustrates a cross-section of a chassis rail assembly. A large red arrow labeled "FORCE" points downwards from the top of the rail. The rail is shown with a central web and two legs. The top leg is highlighted in yellow. A dashed line indicates the path of the force through the rail. Below the rail, a vertical component is shown, which is a spacer. The diagram also shows a mounting bracket on the left side of the rail.

PRO'S
Stronger design because the structural members are in-line.

Conversely, when the web is inboard (*former spacing*) it increases the stress on the chassis rail because of the cantilevered effect it has on the upper leg of the chassis rail.

Less notching means less heat is being induced into the beam. Excessive heat from notching can cause embrittlement and lead to premature fracturing.

Less notching will provide a straighter beam which will reduce installation time.

CON'S
Aesthetics... simply a different look than what customers are used to.

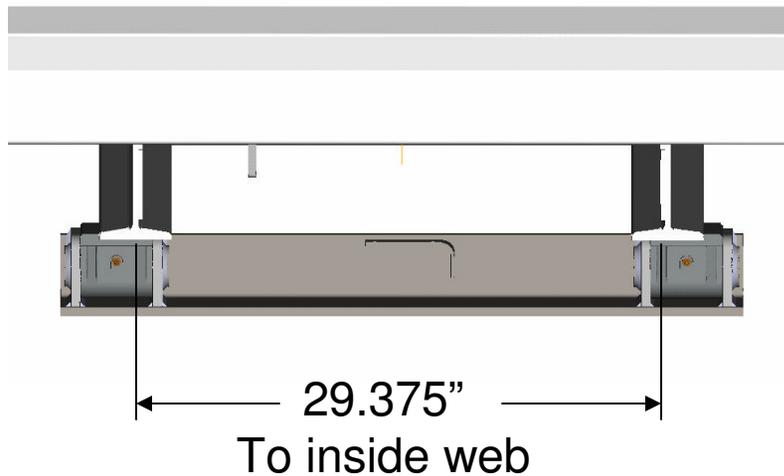
Distributors may need to modify mounting brackets of supplemental equipment if it is mounted above the top of the chassis rail.

Some type of spacer will need to be welded to the bottom of the I-beam by the distributor to fill the void between the I-beam and chassis rail.
(*Intermittent spacers are supplied by Crysteel in the hoist install kits*)

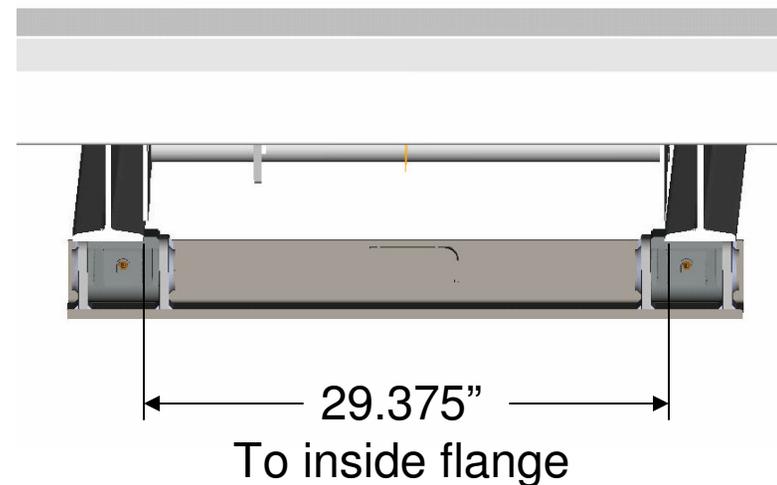
Hinge mounting comparison....

End view of how beam lands on hinge pad.

Former Spacing



Current Spacing



Note: There are specially designed Rear Hinges designed for I-beam longitudinals.

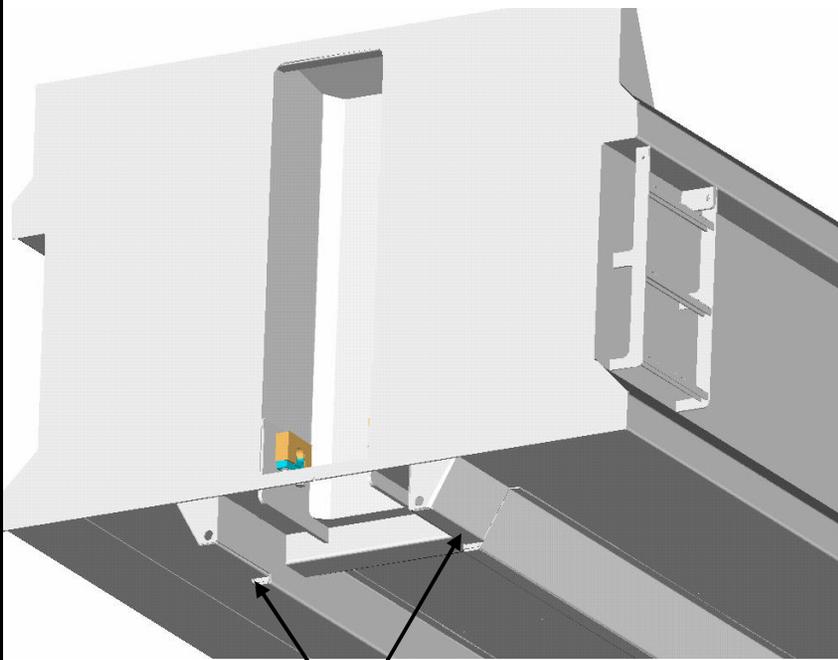
1362938 ASSY HINGE W/PAD REAR WELD LARGE (STD)

1362939 ASSY HINGE W/PAD REAR REMLARGE (STD)

1362941 ASSY HINGE W/PAD REAR COMP LARGE (STD)

Alternative frame types....

In the event the wider I-beam spacing is not acceptable for whatever reason, we still offer the Western Tubular type longbeam. The tubular design has a wider cross-section which allows the load to be transmitted into the chassis rail more evenly. It also allows the beam to rest directly on the chassis rail and stay within the boundaries of the chassis rail.



Longbeams notched for hoist frame

