



HEARTLAND MILESTONE RECALL 20V643 360RD FRAME FIX

Recall Number:	20V643
Product:	360RD Frame Fix
Date:	March 03, 2021

NOTE: This document supersedes document dated November, 13, 2020.

Purpose

This document refers to the chassis of the models listed to add reinforcement supports to key areas lacking wall structure, outrigger bending and negative effects on the frame's camber.

Safety

Read and understand all instructions before installing or operating this product. Adhere to all safety labels.

This document provides general instructions. Many variables can change the circumstances of any procedure, i.e. the degree of difficulty involved in the service operation and the ability level of the individual performing the operation. This document cannot begin to plot out procedures for every possibility, but will provide the general instructions for effectively installing, removing or servicing the system. In the event the skill level required is too advanced or the procedure too difficult, a certified technician should be consulted before performing the necessary operation. Failure to correctly install, remove or service the system may result in voiding the warranty, inflicting injury or even death.

WARNING

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death, serious personal injury, severe product and/or property damage if not performed safely and within the parameters set forth in this document.

WARNING

Lift the trailer by the chassis. Do not go under the trailer unless it is properly supported. Unsupported trailers can fall and may result in death, serious injury or property damage.

WARNING

Failure to remove flammable objects or obstructions may result in death, serious injury or property damage.

CAUTION

The "CAUTION" symbol above is a sign that a procedure has a safety risk involved and may cause personal injury, product and/or property damage if not performed safely and within the parameters set forth in this document.

CAUTION

Moving parts can pinch, crush or cut. Keep clear and use caution.

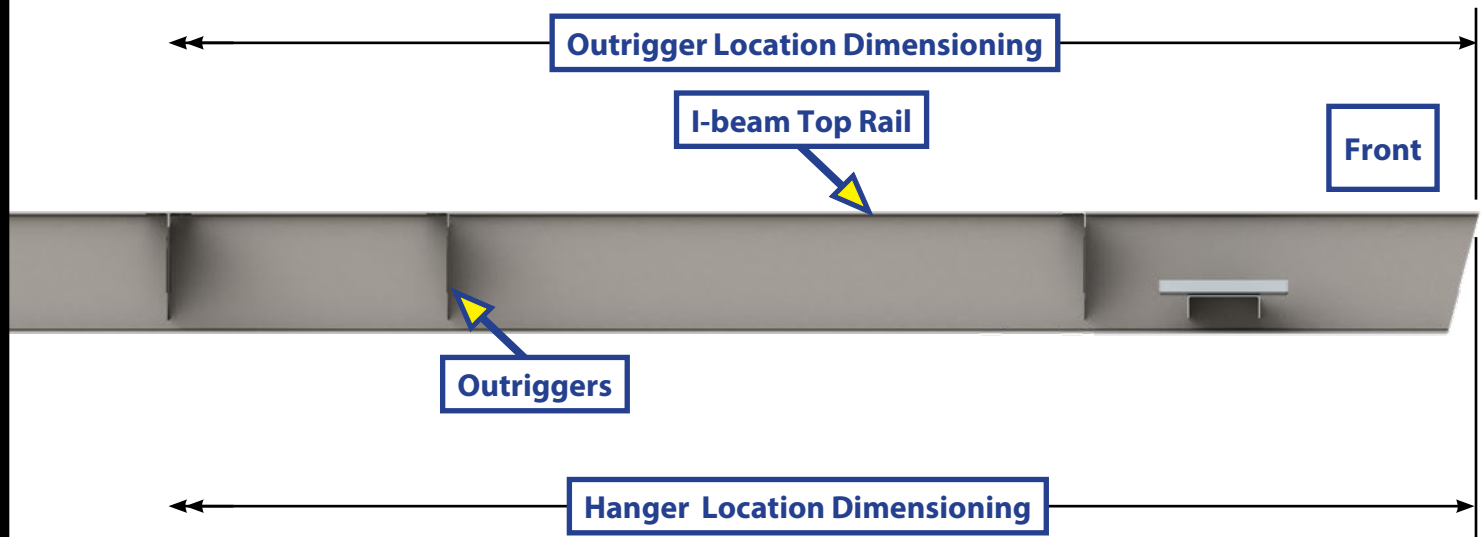


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⚠ NOTICE

All outrigger and hanger location dimensions are measured from the top rail of the I-beam.
Do NOT measure from the bottom I-beam rail.
Measuring from the bottom I-beam rail will off-set the axles by an inch or more.





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Resources Required

Tools Required

- Proper protective equipment for welding
- Welder
- Floor jacks
- Jack stands
- Pinbox tripod
- Tape measure
- Non-permanent marker
- Grinder
- Blow torch/plasma cutter
- Fire blankets
- Fire extinguisher
- Lint-free wipes
- Black spray paint

Components Required

Heartland Milestone 360RD Service Kits			
Callout	Part#	Description	Qty
A	2020135537	Heartland Milestone 360RD 11 Ga Kit (Include B, E-I)	1
B	2020135535	Crush Tube, 2" x 4" x 1/8" - L156" (11 Ga)	2
C	2020135538	Heartland Milestone 360RD 7 Ga Kit (Includes D, E-I)	1
D	2020135536	Crush Tube, 2" x 4" x 3/16" - L156" (7 Ga)	2
11 Ga and 7 Ga Service Kit Common Parts			
E	742307	Cross-member Tube, 2" x 3" x 1/8" - L66 1/2" (12 Ga)	3
F	106183	Long Hanger, 2 3/8" x 3 7/8" x 3 7/8" x 1/4" - L3" (4 Ga)	2
G	106181	Short Hanger, 3" x 2 35/64" x 1 55/64" x 1 55/64" (4 Ga)	4
H	102403	Outrigger (Roadside), 1 1/2" x 6 15/16" x 5/64" - L13 3/8" (14 Ga)	7
I	102404	Outrigger (Curbside), 1 1/2" x 6 15/16" x 5/64" - L13 3/8" (14 Ga)	7

Preparation

NOTE: Solid ORANGE lines in this document refer to using a plasma cutter/blow torch to remove components. Solid RED/BLK lines refer to using a welder to add frame components per instructions and image references. Solid WHT/BLK lines in this document refer to making marks on the frame with a non-permanent marker. Dashed BLUE lines indicate the centerline of an area. GREEN lines indicate a designated area.

⚠ WARNING

Always lift trailer by the frame, never the axle or suspension. Do not go under the trailer unless it is properly supported by jack stands. Unsupported trailers can fall causing death or serious injury. This repair should only be completed by an authorized service technician.

1. Use a pinbox tripod to support the 5th Wheel pin.
2. Lift front and rear of chassis/frame with floor jacks and stabilize with jack stands according to manufacturer's recommendations.

NOTE: LCI recommends rear jack stands should be 12"-24" from rear of the trailer and front jack stands should be at least 12" from the landing gear.



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⚠ WARNING

Failure to remove flammable objects, obstructions, tires, axles or additional suspension components may result in death, serious injury or property damage.

3. Remove all screws from the underbelly material and remove underbelly material.
4. Remove any wires, heat ducts, gas lines, water/holding tanks and underbelly material that is against the I-beams or that might cause a fire hazard.

NOTE: If an item cannot be removed, protect it with a fire barrier.

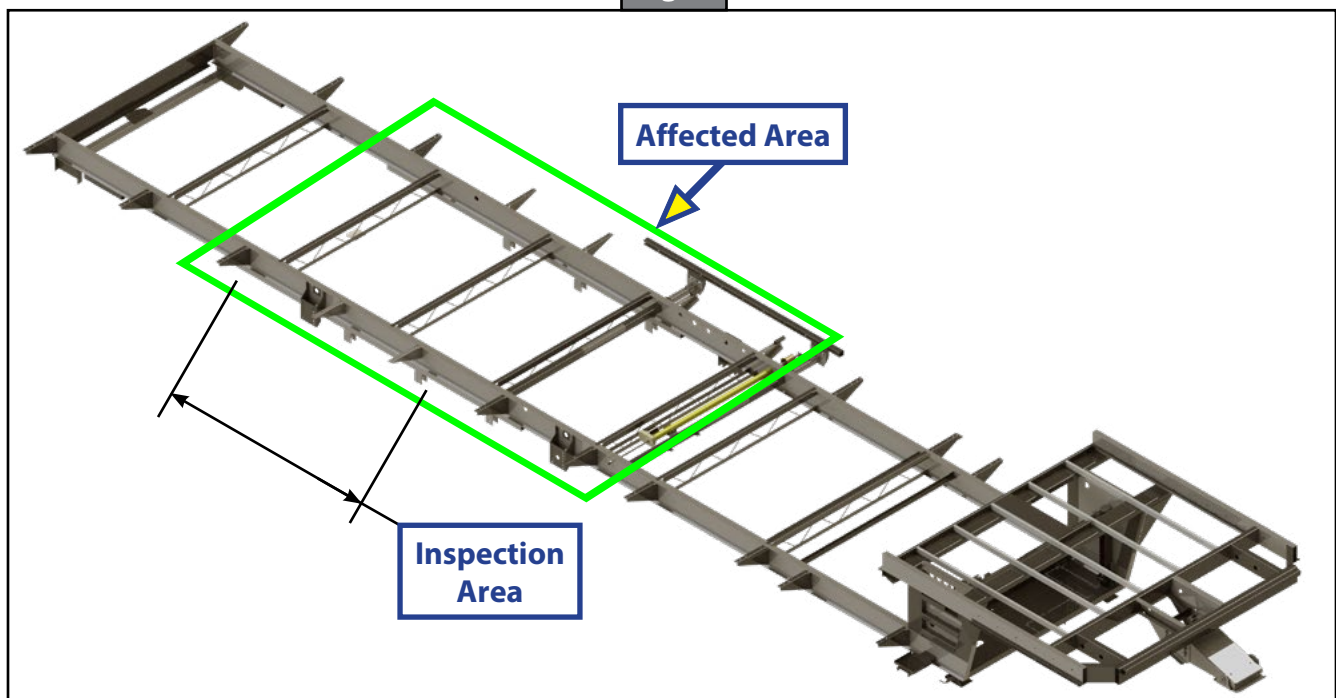
5. Cover tires and exposed floor with a barrier to protect from welding heat and splatter.

Procedure

NOTE: Some chassis components in the following images are not shown for clarity.

See figure 1 for affected area of chassis.

Fig. 1



Inspection of Frame

Inspect the bottom flange of the I-beam from the center spring hanger to three feet behind the rear spring hanger.

1. If there are any kinks or significant waves/buckles, then order the 7 Ga kit.
2. All other applications should use the 11 Ga kit.



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Removal of Existing Hangers

⚠ CAUTION

Do NOT damage the I-beam when cutting. Damage to the I-beam can cause irreparable damage, rendering the trailer unsafe.

On the curbside and roadside of the chassis:

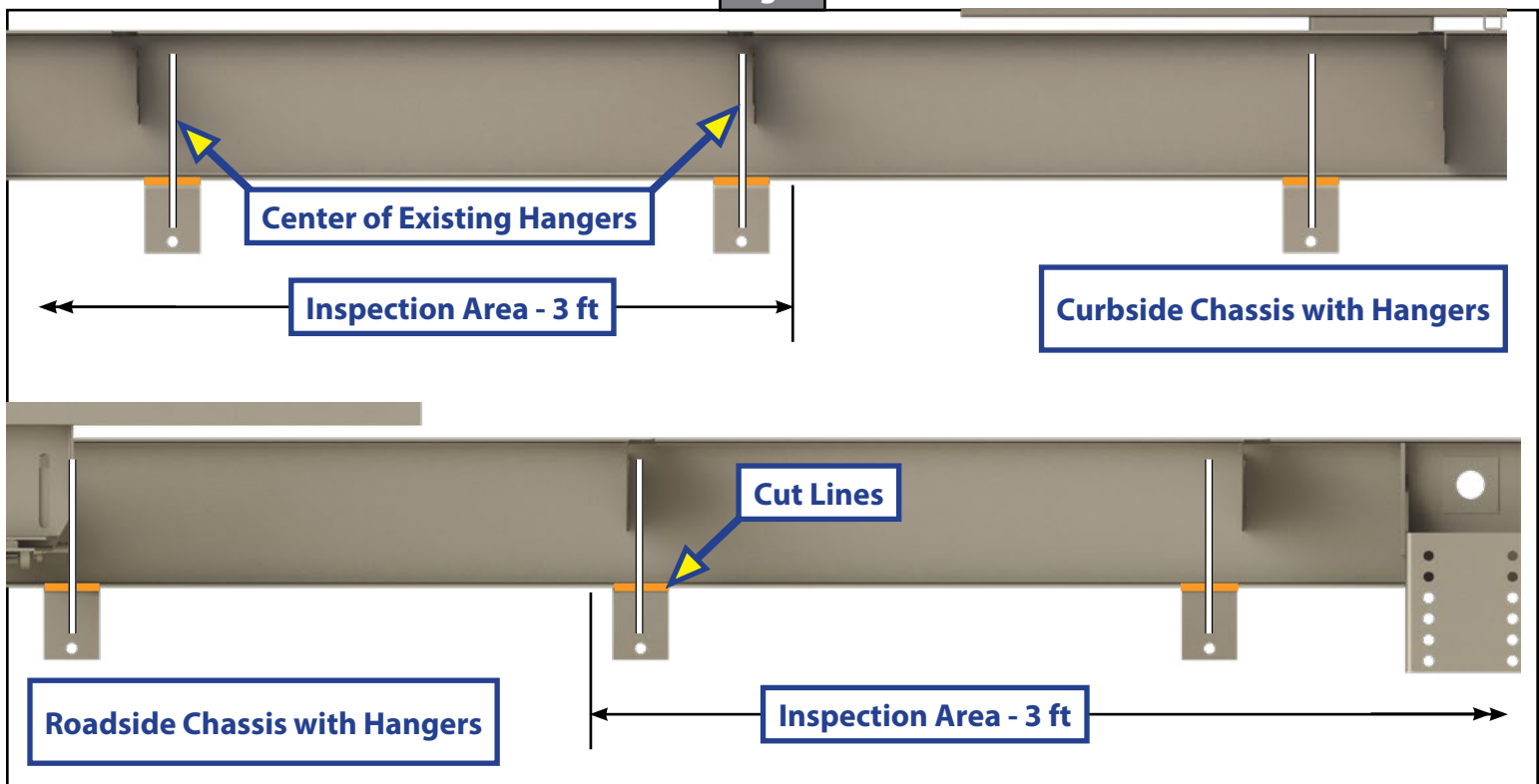
1. With a non-permanent marker, mark the center location of each hanger (Fig. 2).
2. Use a blow torch or plasma cutter to remove the old hangers from the I-beams (Fig. 2). Use care not to damage the I-beam during the cutting process.
3. Use a grinder to smooth the cut area on the I-beam.

Installation of Service Kit

NOTE: Refer to Heartland Milestone 360RD Service Kits chart for appropriate crush tube usage.

1. Place two crush tubes on sawhorses or other supports.
2. From one end of the tube, measure to the center of the tube (59") and mark the location (Fig. 3).
3. From the center mark, measure out in each direction 30 1/2". Mark each new location (Fig. 3).

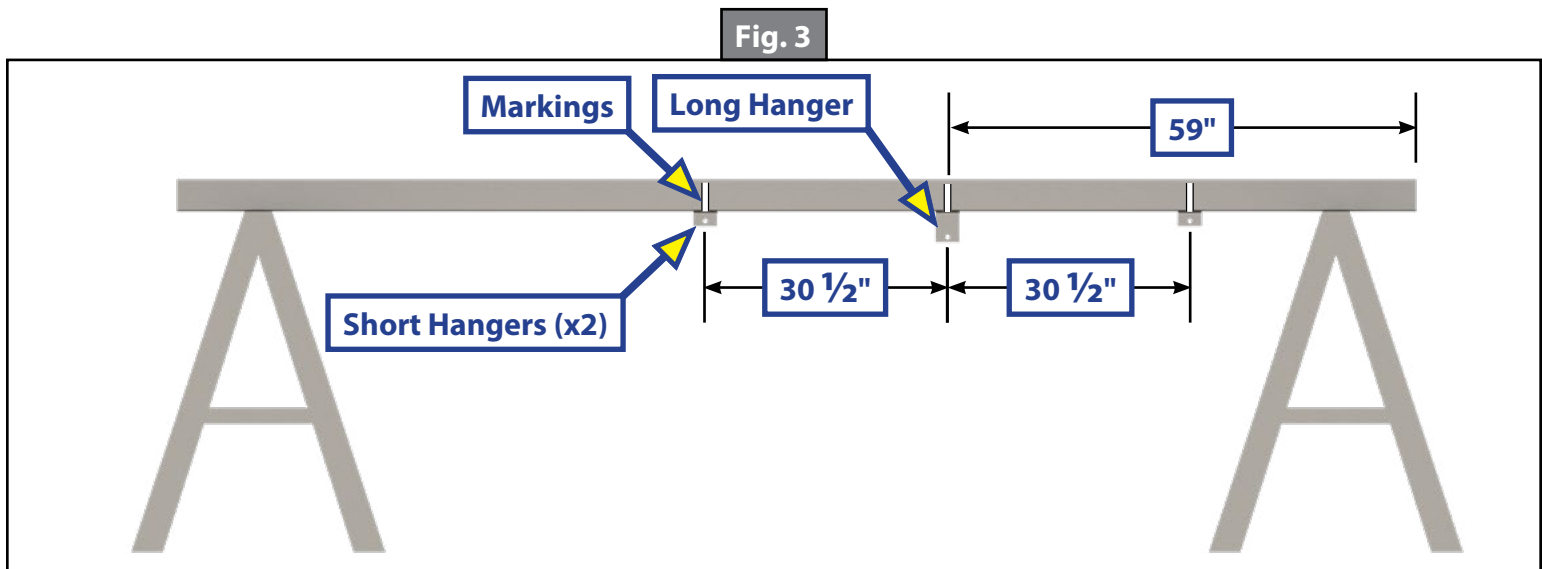
Fig. 2



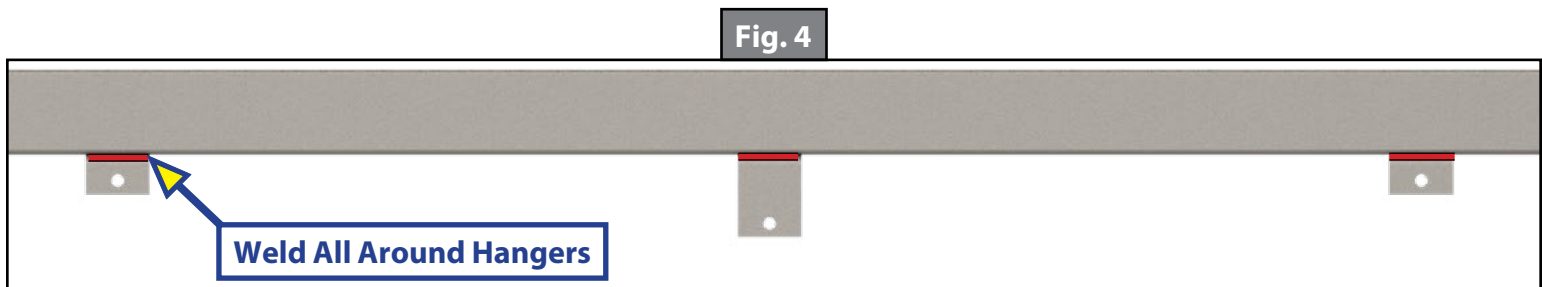
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4. Clamp new 4 Ga long hanger (Callout F) at the center mark made in step 2 (Fig. 3). Align center of hanger's through-hole with the crush tube's center mark.
5. Clamp two new 4 Ga short hangers (Callout G), one at each 30 1/2" mark made in step 3 (Fig.3). Align center of each hanger's through-hole with the crush tube's mark.
6. Check to make sure the hanger centerline markings made on the crush tube align with the old hanger centerline markings made on the I-beam.



7. Fully weld the hangers to the tube (Fig. 4).



Cross-Member Tube Locations

With the crush tube weldments still supported on sawhorses, use a tape measure and non-permanent marker to mark on the crush tubes the locations of the three 12 Ga (Callout E) cross-member tubes.

NOTE: Cross-member tube markings should mirror each other—roadside to curbside.

1. Locate the first cross-member tube (Fig. 5A) as follows:
 - A. Measure back from the front end of each weldment 1/4" (Fig. 5) and mark the location.
 - B. Measure up from the bottom of each weldment 1/4" (Fig. 5) and mark the location.
2. Locate the second cross-member tube (Fig. 5B) as follows:
 - A. Measure back from the front of the first cross-member tube 88 1/4" (Fig. 5) and mark the location.
 - B. Measure up from the bottom of each weldment 1/4" (Fig. 5) and mark the location.

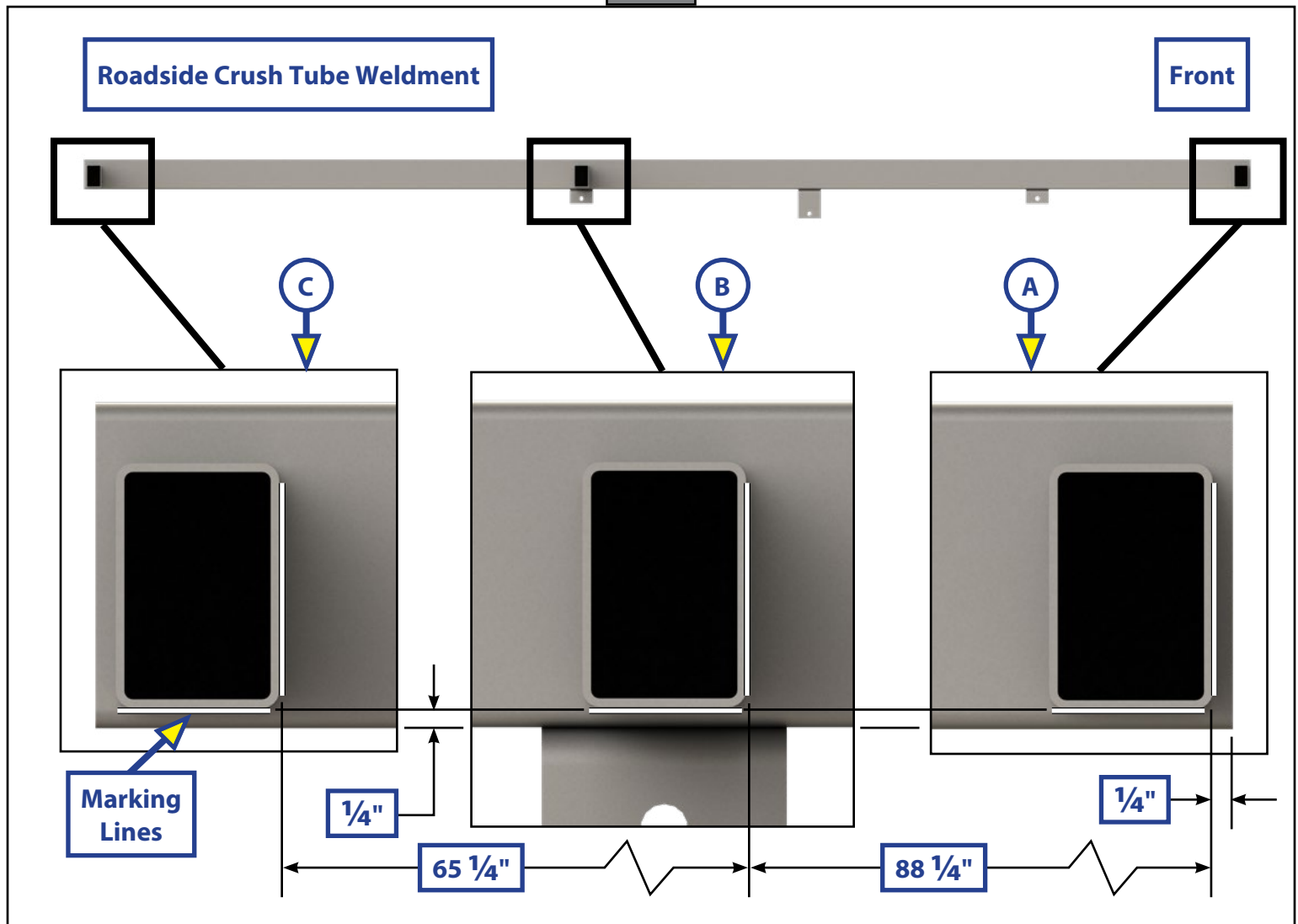


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3. Locate the third cross-member tube (Fig. 5C) as follows:
 - A. Measure back from the front of the second cross-member tube 65 1/4" (Fig. 5) and mark the location.
 - B. Measure up from the bottom of each weldment 1/4" (Fig. 5) and mark the location.

Fig. 5



Crush Tube Installation

Install crush tube weldments as follows:

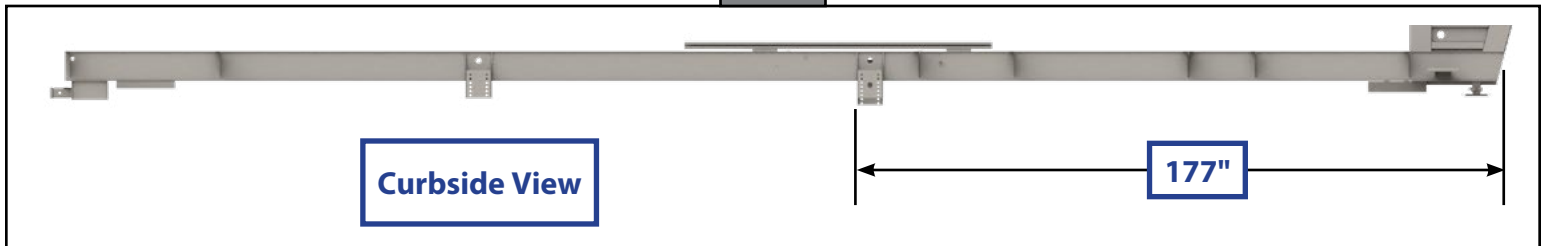
1. From the front of the curbside I-beam rail, measure 177" towards the rear (Fig. 6). Mark the location on the I-beam.
2. Place one end of a crush tube weldment at the mark (Fig. 7)—making sure the short hanger closest to the end of the tube is oriented towards the front of the chassis (Fig. 3)—center the length of the tube along the bottom flange of the I-beam, then clamp in-place.



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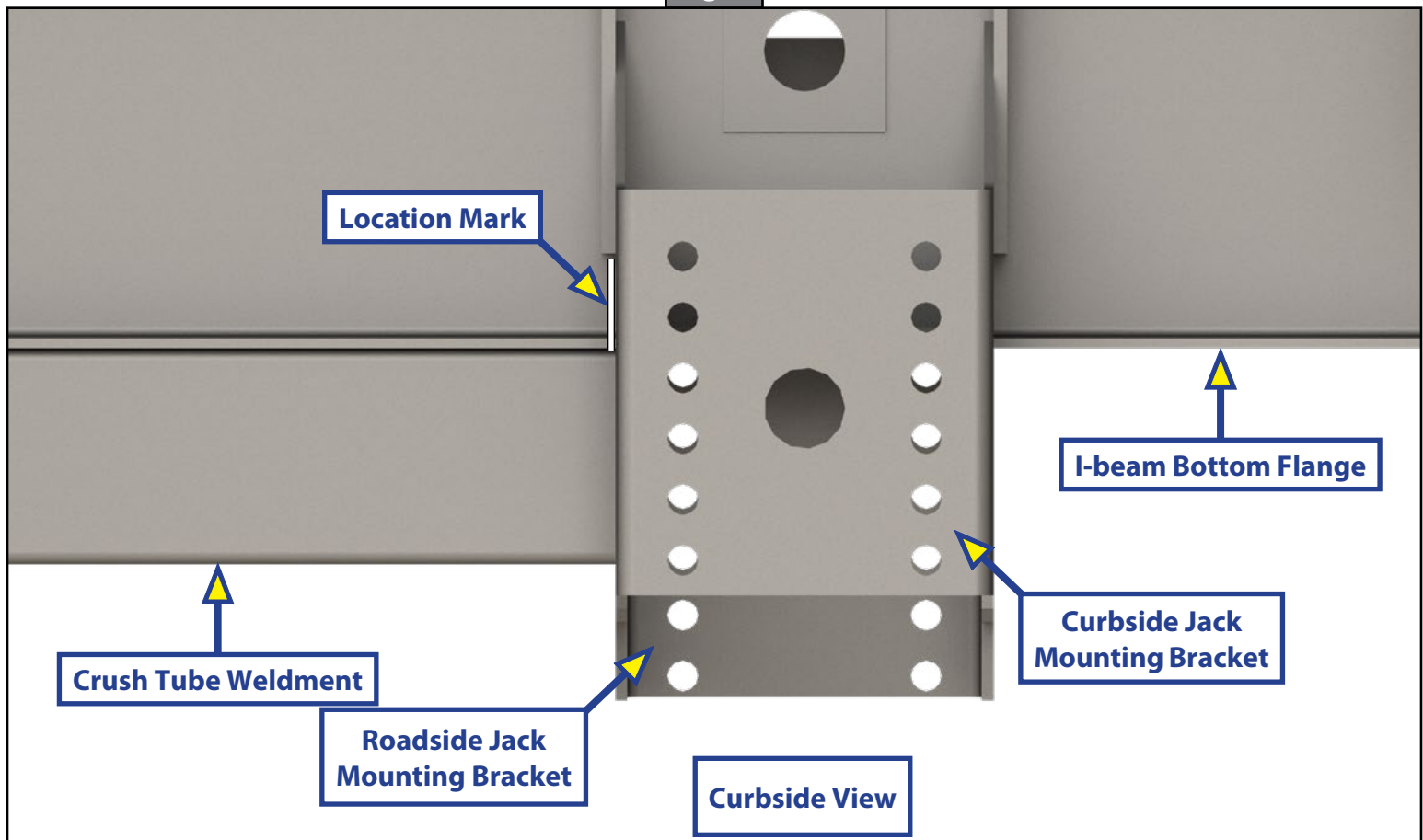
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Fig. 6



3. From the front of the roadside I-beam rail, measure 177" towards the rear. Mark the location on the I-beam.
4. Place one end of the second crush tube weldment at the mark (Fig. 7)—making sure the short hanger closest to the end of the tube is oriented towards the front of the chassis (Fig. 3)—center the length of the tube along the bottom flange of the I-beam, then clamp in-place.

Fig. 7

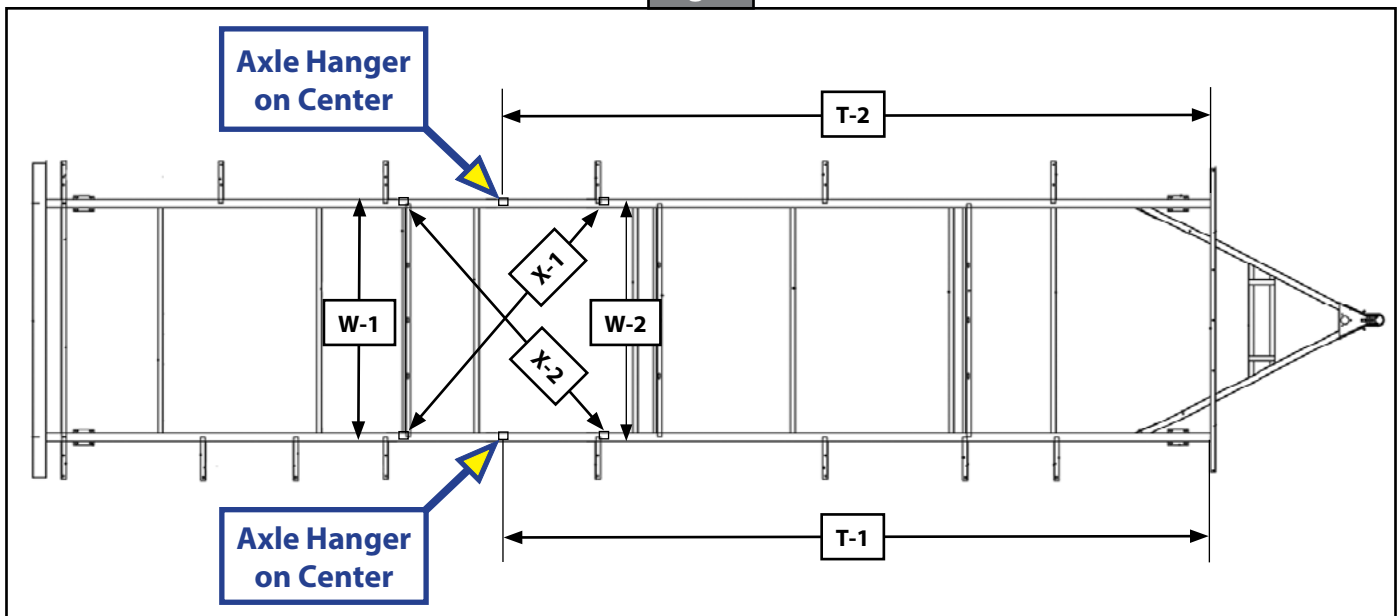


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- Check the alignment to make sure crush tube weldments are square (Fig. 8), and adjust if necessary. Refer to [TI-058 Axle Hanger Measurement Procedure - Double Axle](https://lci-support-doc.s3.amazonaws.com/technical-information-sheets/axles-and-suspension/ccd-0001920.pdf) for additional information. Go to <https://lci-support-doc.s3.amazonaws.com/technical-information-sheets/axles-and-suspension/ccd-0001920.pdf>. Make sure that the curbside and roadside hangers are aligned with each other.

Fig. 8



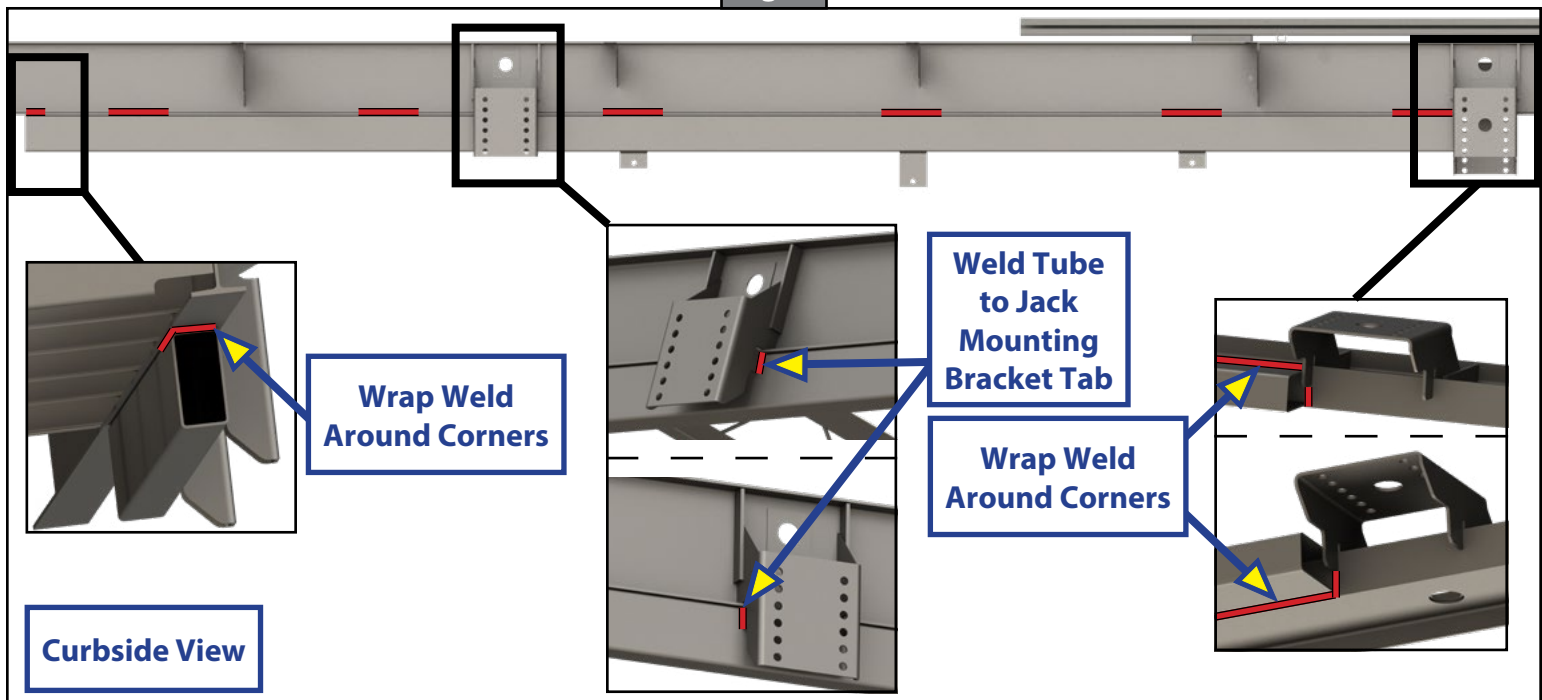


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6. Stitch weld 3" every 12" - 15", both inside and outside along the I-beam (Fig. 9), on both the curbside and roadside crush tube weldments.
 7. Tube must be welded fully on both ends. Wrap 5" weld around all four corners (Fig. 9).
- NOTE:** Tube **MUST** also be fully welded above hangers on both sides.

Fig. 9



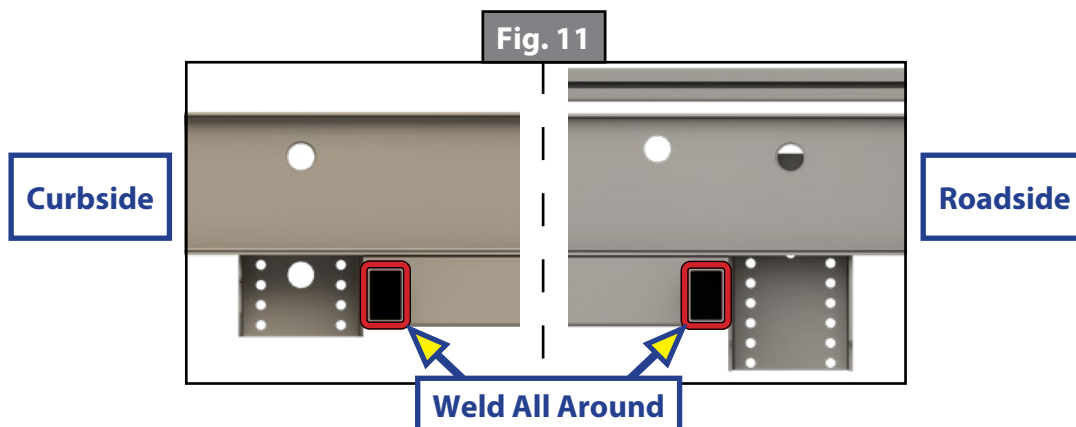
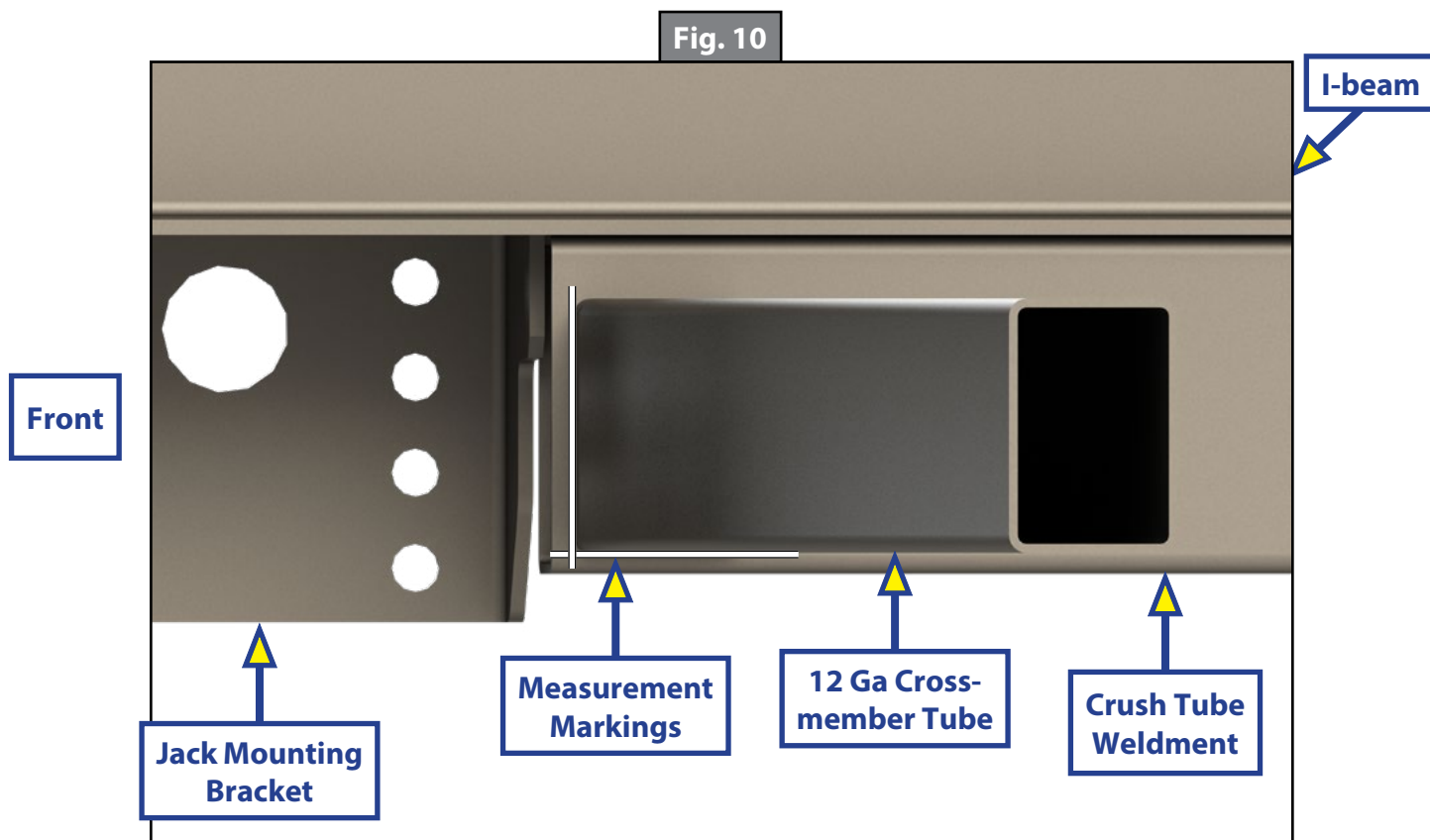


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Cross-Member Tube Installation

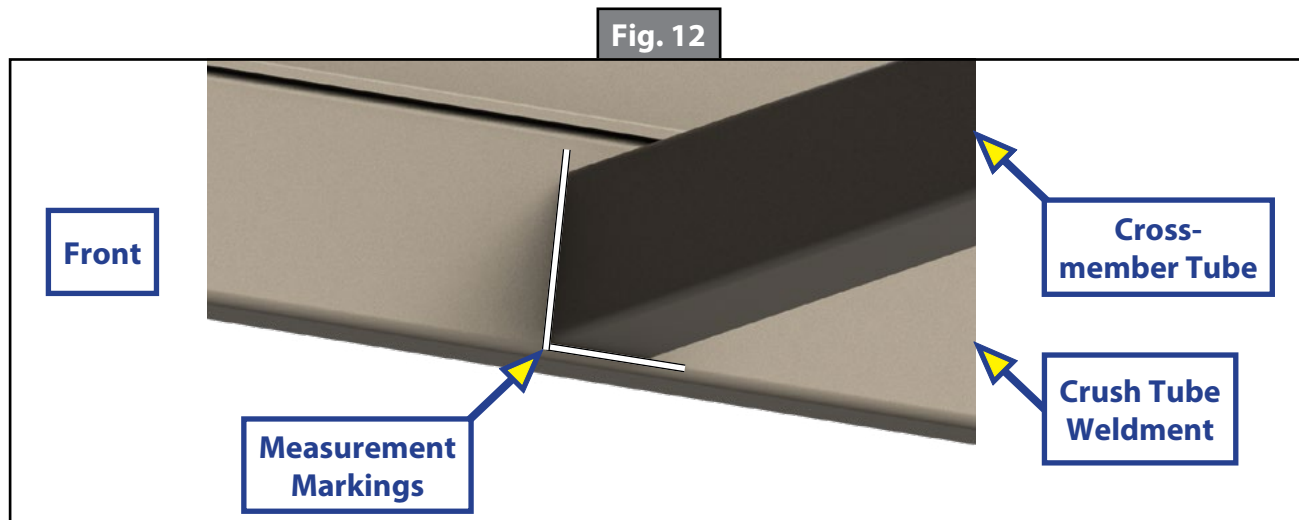
1. Install the first 12 Ga (Callout E) cross-member tube as follows:
 - A. Align both ends of the cross-member tube with the measurement markings on the curbside and roadside crush tube weldments (Figs. 5A and 10). Clamp tube in-place.
 - B. Fully weld each end of the cross-member tube to the crush tube weldments (Fig. 11).



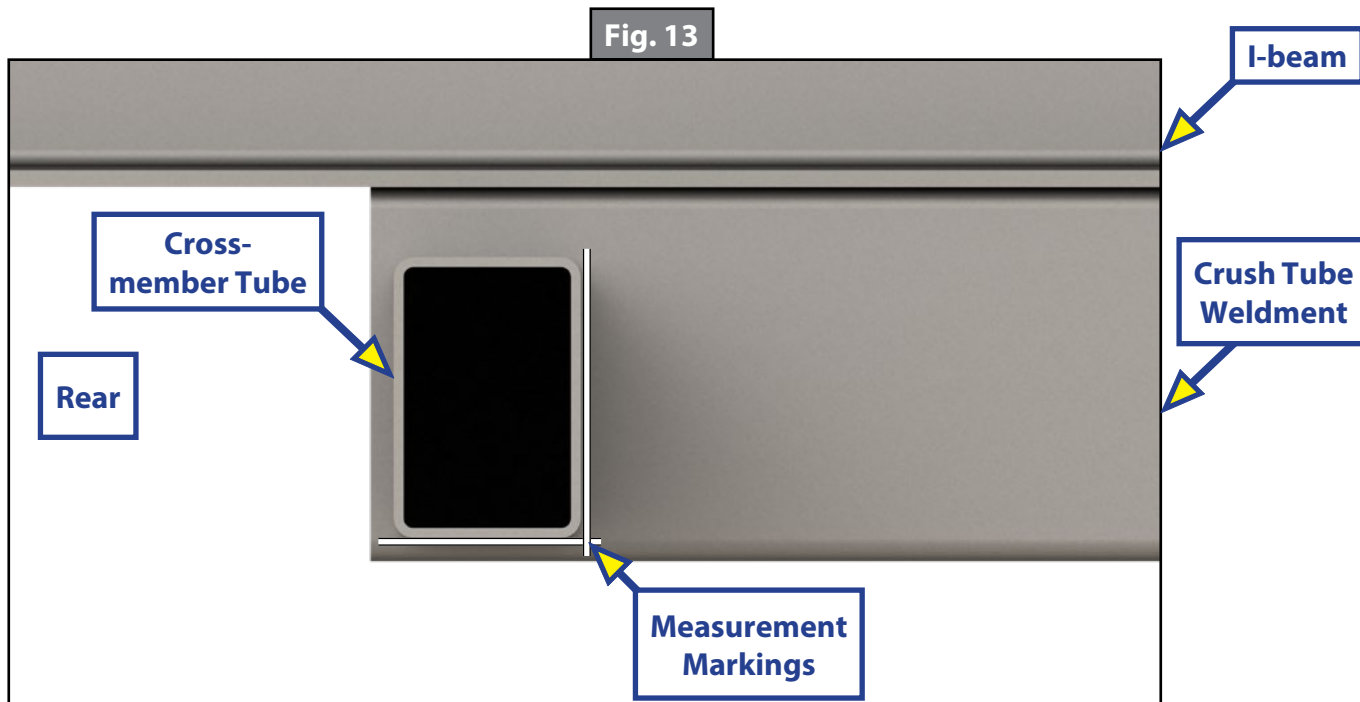
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2. Install the second 12 Ga (Callout E) cross-member tube as follows:
 - A. Align both ends of the cross-member tube with the markings on the curbside and roadside crush tube weldments (Figs. 5B and 12). Clamp tube in-place.
 - B. Fully weld each end of the cross-member tube to the crush tube weldments (Fig. 11).



3. Install the third 12 Ga (Callout E) cross-member tube as follows:
 - A. Align both ends of the cross-member tube with the markings on the curbside and roadside crush tube weldments (Figs. 5C and 13). Clamp in-place.
 - B. Fully weld each end of the cross-member tube to the crush tube weldments (Fig. 11).



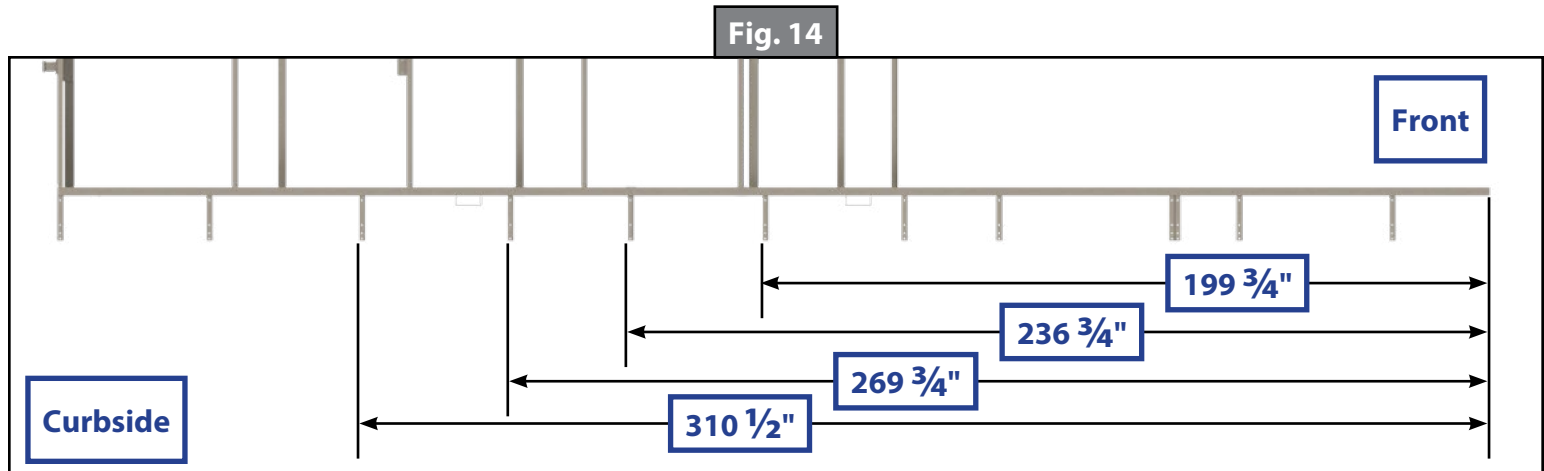
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Outrigger Replacement and Reinforcement

Install four 14 Ga curbside outriggers (Callout I) as follows:

1. From the top and front of the curbside I-beam rail, use a tape measure to measure towards the rear the following dimensions (Fig. 14) and mark with a non-permanent marker the locations on the I-beam:
 - A. 199 3/4"
 - B. 236 3/4"
 - C. 269 3/4"
 - D. 310 1/2"



2. Replace any bent/damaged outriggers.
 - A. Unfasten damaged outrigger from floor. Save fastening hardware for later reuse.
 - B. Cut (Fig. 15A), grind and clean areas of removed outriggers.
 - C. Install appropriate replacement outrigger (Callout H or I) at its previously marked (step 1) location.
 - I. Cut enough tab from the replacement outrigger such that the underside of the cut tab is flush with the top of the I-beam's rail (Fig. 16A). This will keep the outrigger's mounting surface flush to the floor.
 - II. Fully weld along the outside and bottom of the replaced outrigger (Fig. 16B).
 - III. Weld the underside edge of the cut tab to the outside edge of the rail (Fig. 17A).
3. Clamp a new 14 Ga outrigger back-to-back (Fig. 18) to an existing outrigger.

NOTE: Whenever possible, slide the new outrigger's tab between the I-beam rail and the floor (Fig. 18A). When not possible, cut enough tab from the outrigger (Fig. 18B) such that the underside of the cut tab is flush with the top of the I-beam's rail.

- A. Make sure the tops of the mated outriggers are flush to one another (Fig. 19A) and their underside surfaces are flush to the top of the I-beam rail.
- B. Fully weld along the outside and bottom of the mated outrigger (Fig. 19B).
- C. Fully weld along the underside of the outrigger's tab and rail (Fig. 19C).



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Fig. 15

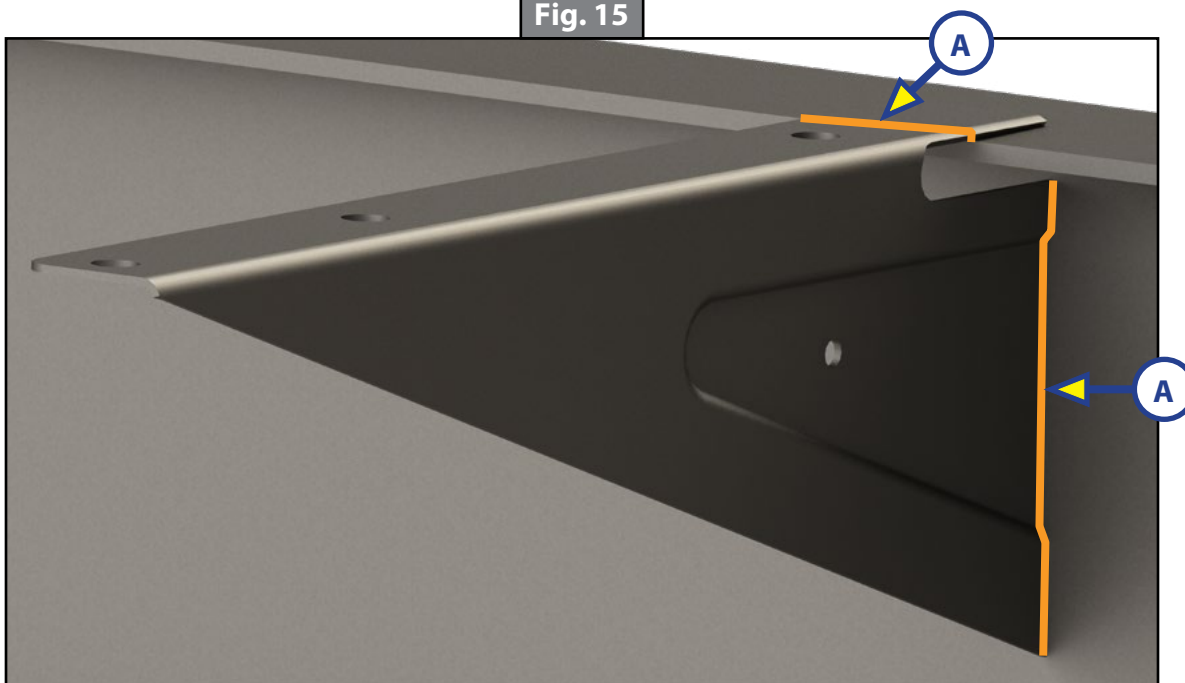


Fig. 16

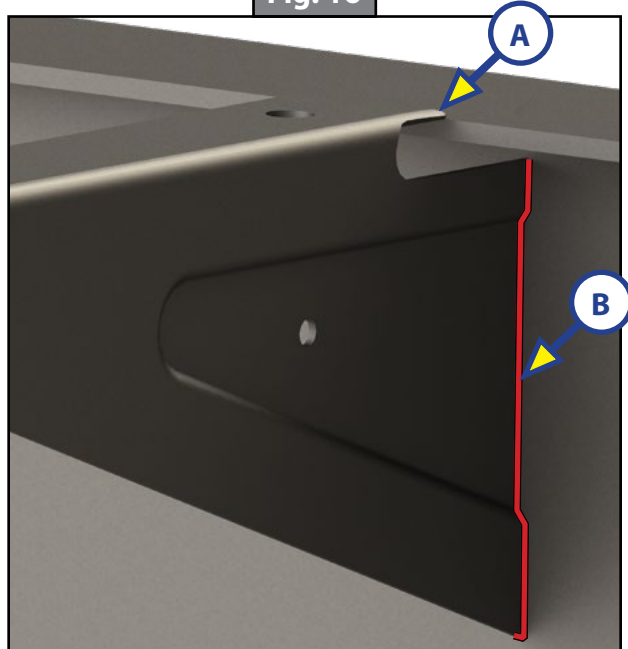
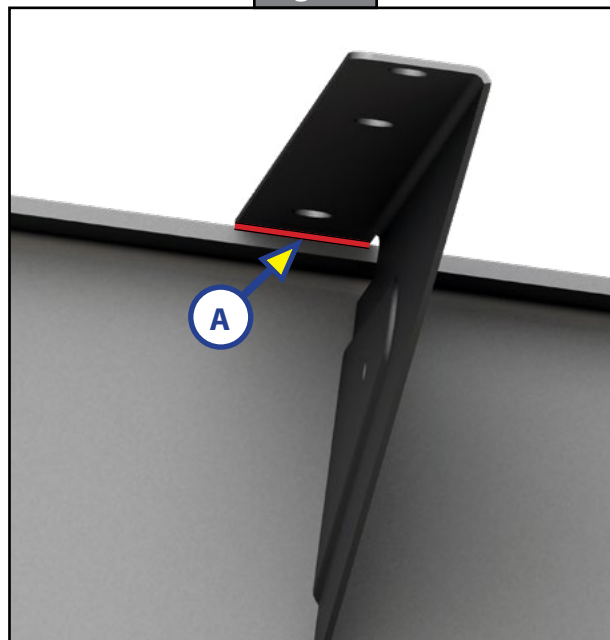


Fig. 17



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Fig. 18

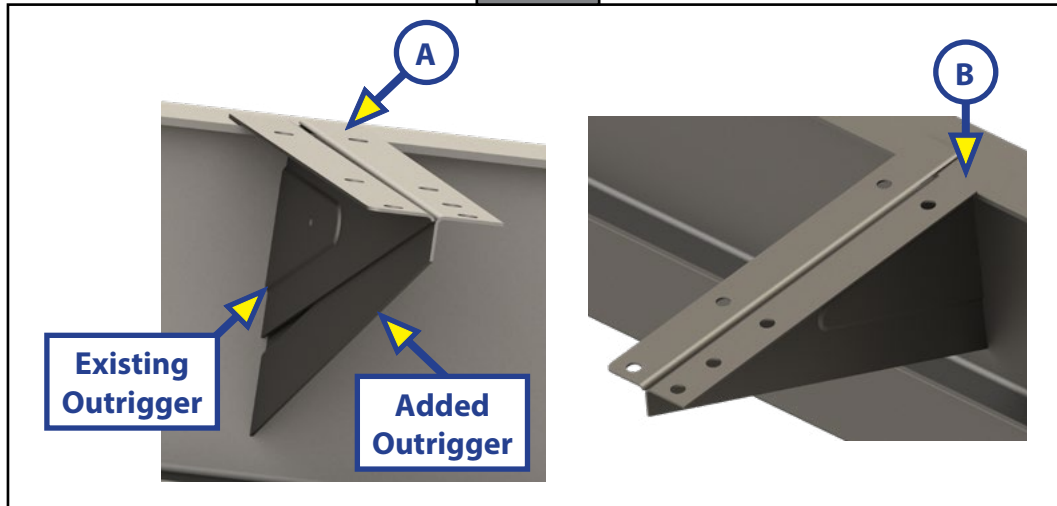
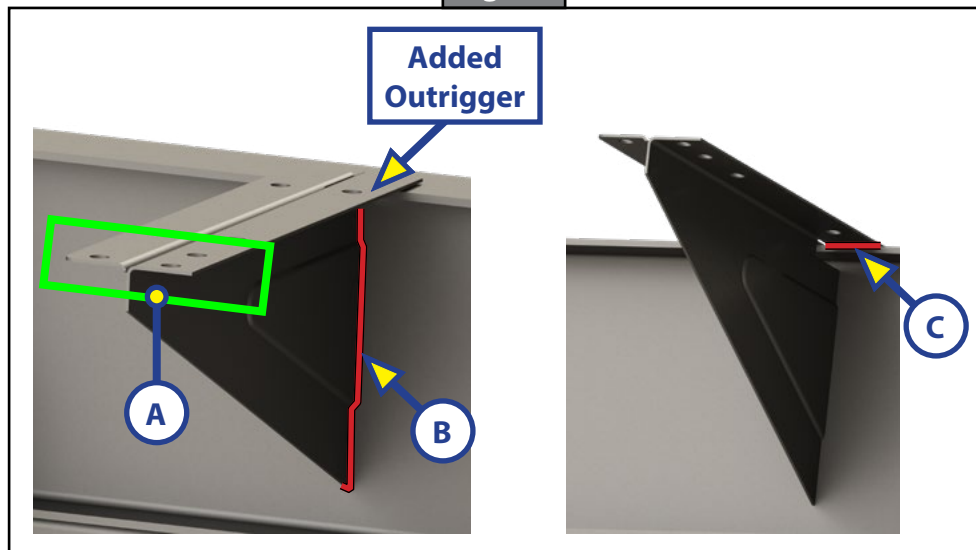


Fig. 19



4. Clamp a new 14 Ga outrigger back-to-back (Fig. 16) to a replaced outrigger.

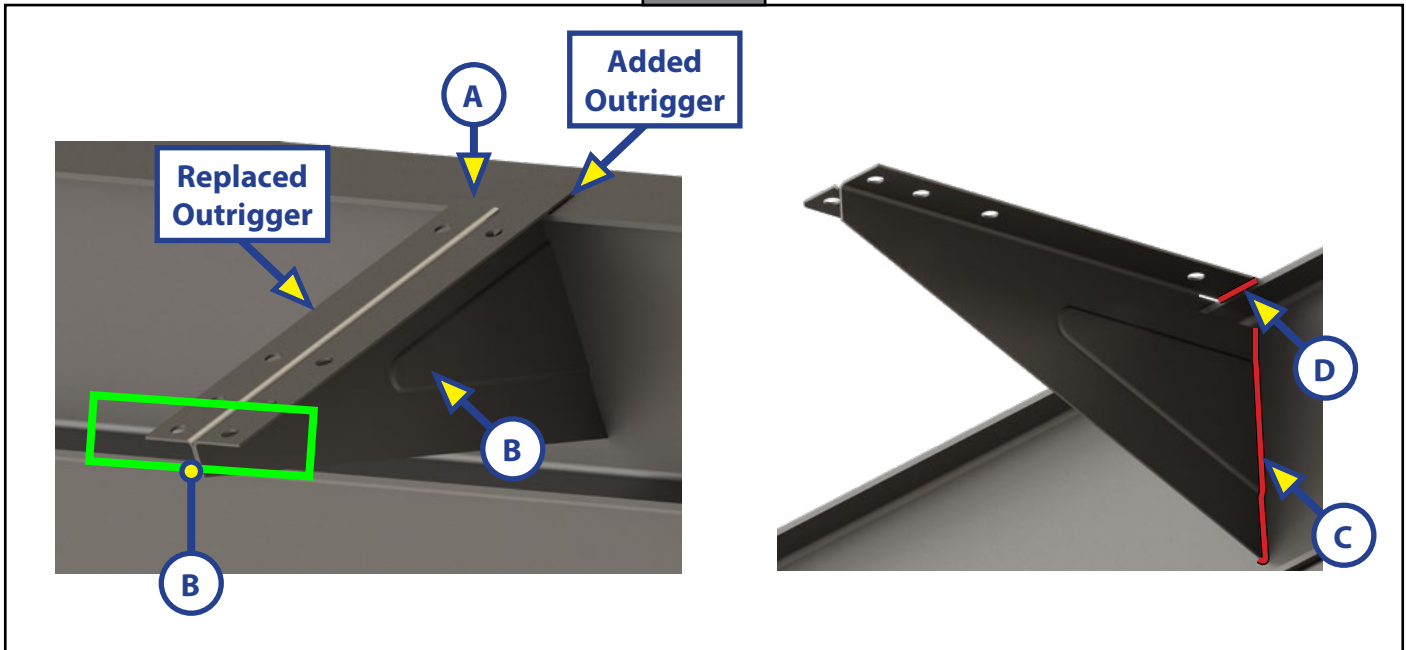
NOTE: Whenever possible, slide the new outrigger's tab between the I-beam rail and the floor. When not possible, cut enough tab from the outrigger (Fig. 20A) such that the underside of the cut tab is flush with the top of the I-beam's rail.

- A. Make sure the tops of the mated outriggers are flush to one another (Fig. 20B) and their underside surfaces are flush to the top of the I-beam rail.
- B. Fully weld along the outside and bottom of the mated outrigger (Fig. 20C).
- C. Fully weld along the underside of the outrigger's tab and rail (Fig. 20D).

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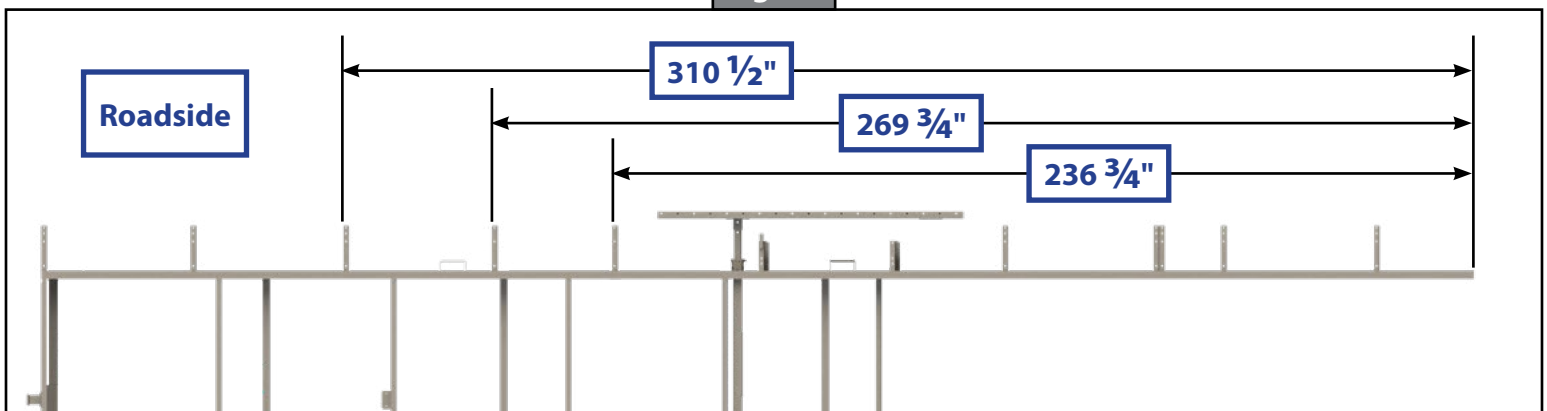
Fig. 21



Install three new 14 Ga roadside outriggers (Callout H) as follows:

- From the top and front of the roadside I-beam rail, use a tape measure to measure towards the rear the following dimensions (Fig. 21) and mark with a non-permanent marker the locations on the I-beam:
 - 236 3/4"
 - 269 3/4"
 - 310 1/2"

Fig. 20





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2. Replace any bent/damaged outriggers.
 - A. Unfasten damaged outrigger from floor. Save fastening hardware for later reuse.
 - B. Cut (Fig. 15A), grind and clean areas of removed outriggers.
 - C. Install appropriate replacement outrigger (Callout H or I) at its previously marked (step 1) location.
 - I. Cut enough tab from the replacement outrigger such that the underside of the cut tab is flush with the top of the I-beam's rail (Fig. 16A). This will keep the outrigger's mounting surface flush to the floor.
 - II. Fully weld along the outside and bottom of the replaced outrigger (Fig. 16B).
 - III. Weld the underside edge of the cut tab to the outside edge of the rail (Fig. 17A).
3. Follow the curbside outrigger installation instructions to install roadside outriggers. Refer to steps 3 and 4 and figures 15 and 16 in the curbside outrigger installation instructions.

Post Service Kit Installation Procedure

1. Allow all new welded areas to completely cool.
2. Clean new welded area with a stiff wire brush to remove any weld and paint flakes.
3. Wipe new weld areas with clean, lint-free wipes.
4. Apply black spray paint to new weld areas.
5. Allow paint to fully dry before removing any protective coverings.
6. Remove all protective coverings.
7. Re-attach floor to outriggers with previously removed hardware.
8. Reinstall any wires, heat ducts, gas lines, water/holding tanks, screws and underbelly material that was previously removed.
9. Lift front and rear of chassis/frame with floor jacks to remove jack stands and pinbox tripod.
10. Carefully lower chassis/frame to ground.

As a supplier of components to the RV industry, safety, education and customer satisfaction are our primary concerns. Should you have any questions, please do not hesitate to contact us at (574) 537-8900 or by email at customerservice@lci1.com. Self-help tips, technical documents, product videos and a training class schedule are available at lci1.com or by downloading the MyLCI app.



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