

FRAMES AND CHASSIS

Introduction

The intent of this document is to provide instructions on how to add a crush tube or spacer tube with new hangers to a frame.

Before performing this procedure, verify with the OEM representative for the reason to perform the procedure, especially if product is still under warranty.

NOTE: This procedure is done with 1" x 2" or 2" x 2", 11 gauge minimum, tubes.

Safety

WARNING

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

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.

CAUTION

Always wear eye protection when performing service or maintenance to the trailer. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the service.

CAUTION

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

Resources Required

- Jack stands
- Grease pencil
- Blow torch/plasma cutter
- Grinder
- Tape measure
- Welder
- Floor jack
- Spray paint
- Safety glasses

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Instructions

Preparation

NOTE: Solid ORANGE lines 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 refer to making marks on the frame with a grease pencil. Solid green lines refer to an affected area. Dashed BLUE lines indicate the centerline of an area.

1. Remove any gas lines and/or other items that may be flammable. Remove obstructions that are in the way of tube weld to I-beam.
2. Lift front and rear of chassis/frame with floor jack and stabilize with jack stands.

NOTE: Rear jack stands should be 12"-24" from the rear of the trailer. Front jack stands should be 12" from front landing gear.

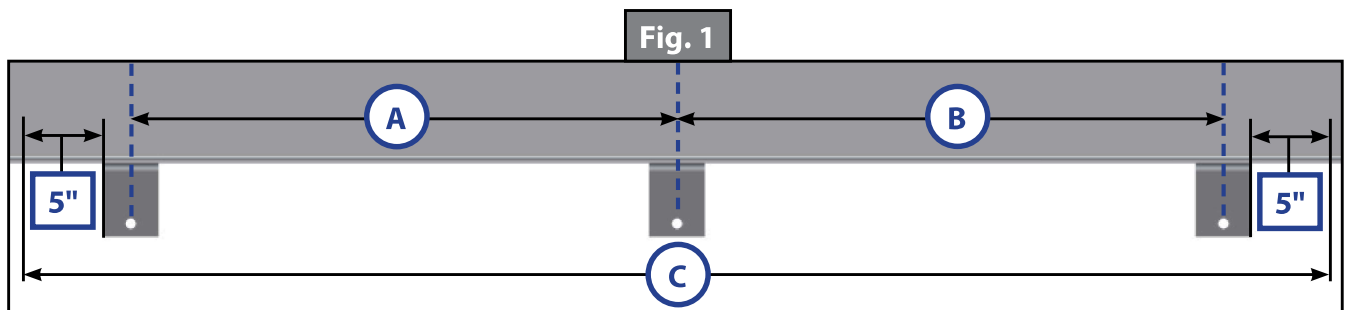
⚠ WARNING

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

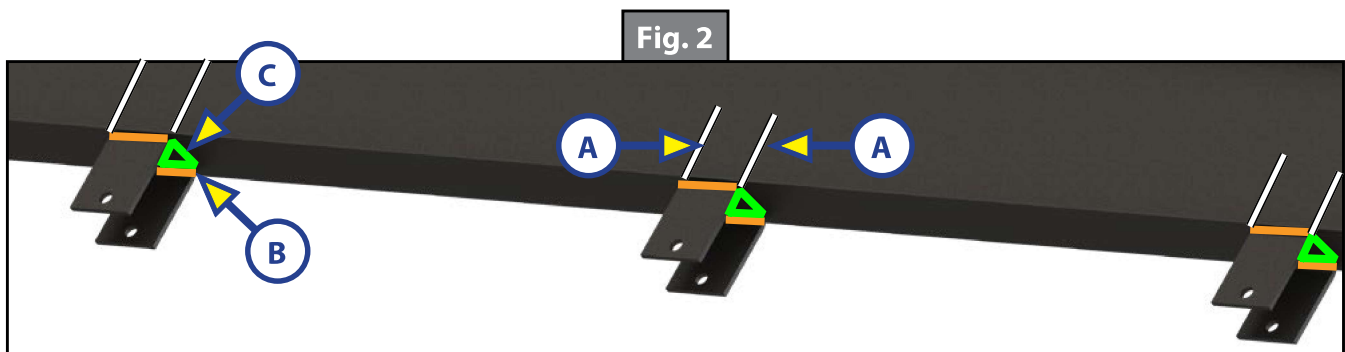
3. Remove tires, axles, and any additional suspension components from the axle hangers.

Procedure

1. Measure the center-to-center distance of the current axle hangers from the center hanger out to each side (Fig. 1A and 1B). Record the measurements.
2. Measure the total needed tube length, which is 5 inches beyond the hangers at each end (Fig. 1C).

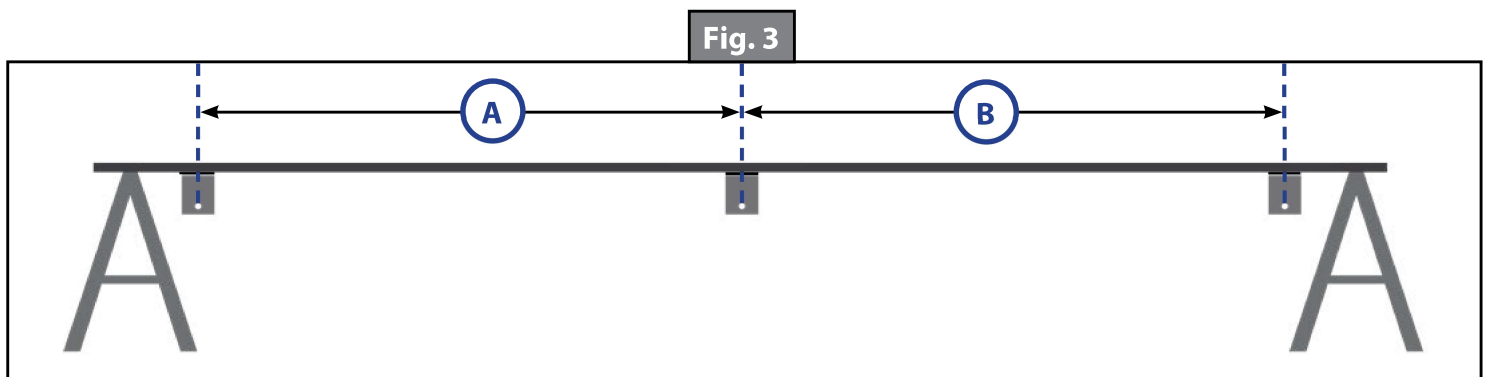


3. Mark the location (WHT/BLK lines) of each of the hangers on the I-beam with a grease pencil (Fig. 2A).
4. Cut the old hangers off of the I-beam (Fig. 2B) (ORANGE lines), then grind the I-beam area (Fig. 2C) (GREEN lines) until it is smooth.

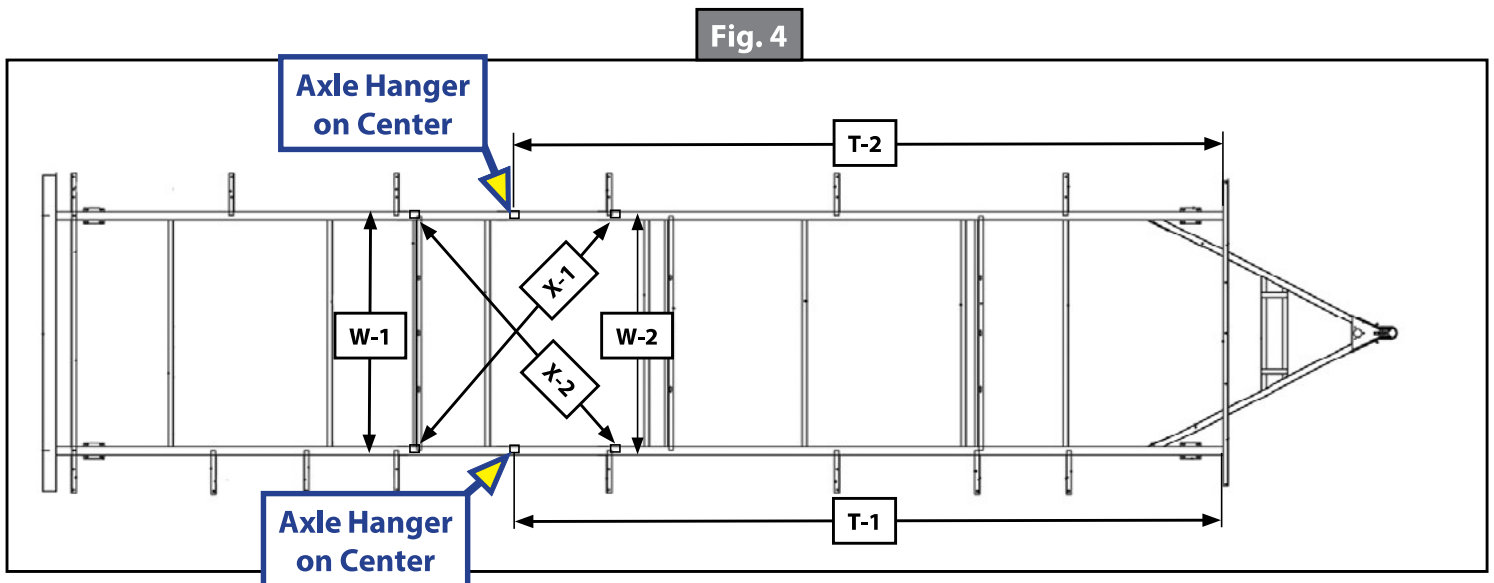


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5. Order or cut tube to the correct length, which is the total from Figure 1C.
6. Starting from the center of the tube, measure and mark the recorded distance taken in step 1 for Measurement A (Fig. 1). Mark with grease pencil or marker. Repeat the process on the other side for Measurement B (Fig. 1).
7. Weld the outside hangers onto the tube.
8. Measure and mark the distances recorded in step 1 from the centerpoint of the outside hangers to make sure the center hanger is placed correctly. Mark location with grease pencil.
9. Weld the center hanger onto the tube.
10. Repeat steps 2-9 on the opposite side of the trailer. Hangers on both sides of the trailer **MUST** be aligned with each other.

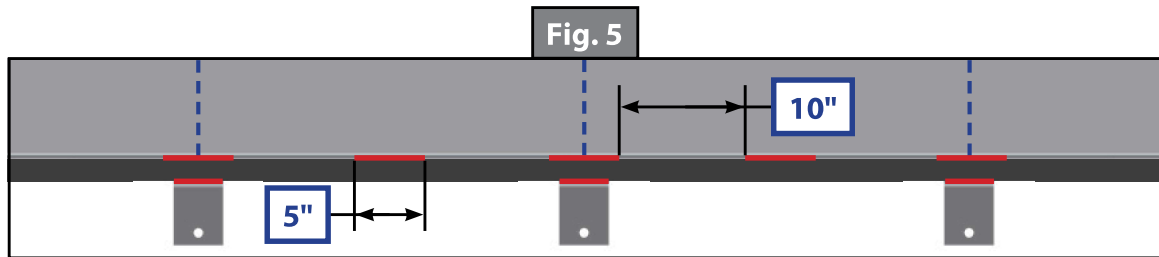


11. Tack weld the tube and hanger assembly on both sides of the I-beam with hangers in the correct location. Repeat on the opposite side of the trailer. Check the alignment to make sure assemblies are square (Fig. 4), and adjust, if necessary. Make sure that the new hangers are lined up with the marks on the I-beam where the old hangers were located.



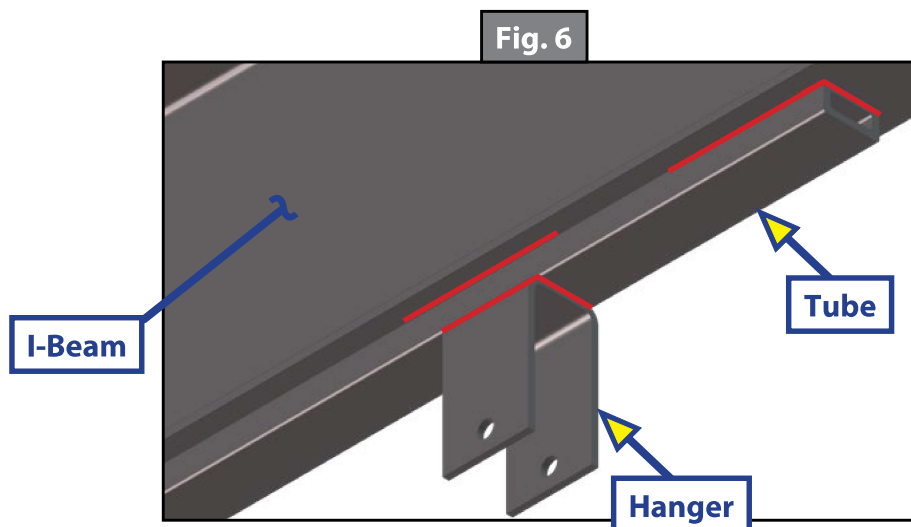
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12. Stitch weld 5" every 10", both inside and outside the I-beam (Fig. 5).



13. Tube must be welded fully on both ends. Wrap 5" weld around all four corners (Fig. 6).

NOTE: Tube **MUST** also be fully welded above hangers on both sides.



14. After the welds have cooled, clean and paint weld areas under the chassis.
 15. Reinstall all items that were removed prior to removal of axles.
 16. Reinstall axles, tires and other suspension components previously removed in the Preparation section.
 17. Lower the trailer to the ground.