

COUPLER SUPPORT and BEAM BRACKET UPDATE PROCEDURE

NOTE: THIS PROCEDURE COVERS THE REPLACEMENT OF BOTH FRONT SUPPORT BRACKETS AND BEAM END BRACKETS. THE FIRST PART COVERS THE SUPPORT BRACKETS, AND THE SECOND PART COVERS THE BEAM END BRACKETS.

PART 1: FRONT SUPPORT BRACKET REPLACEMENT

CRITERIA FOR THIS REPAIR

To determine whether this update can be made to a trailer the following criteria applies. Figure 1 below shows a bracket connected to a front support. A small crack extends along and to the outside of the bracket in the front support.

This procedure can be used if there is no crack, or if there is it must not extend beyond either of the starts of the two bend radii on the front support as shown in Figure 2 on the next page. If a crack does extend beyond either of the starts of the radii the front supports will need to be replaced as well as the brackets.

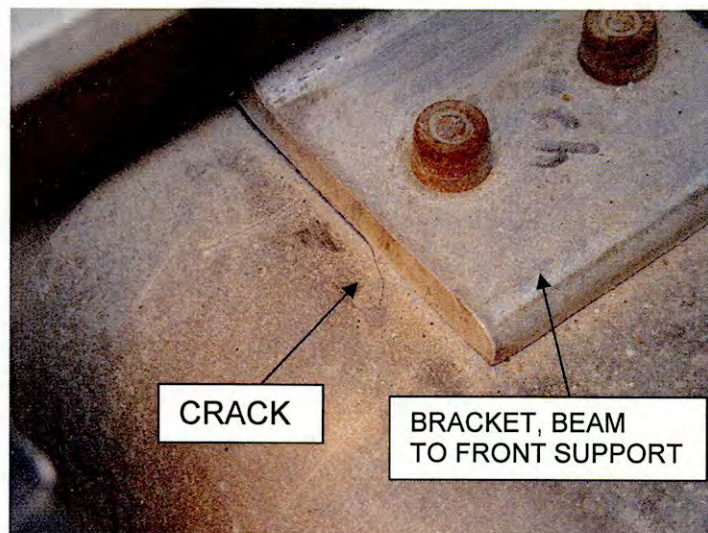


Figure 1

TOOLS REQUIRED

Drill, 'X' bit, 27/64" bit, die grinder, 4" x 1/8" abrasive cutoff wheel, Huck gun with 3/8 BOM and Huckbolt capability.

PROCEDURE

To perform this repair Timpte will provide you parts in update kit 577-50184.

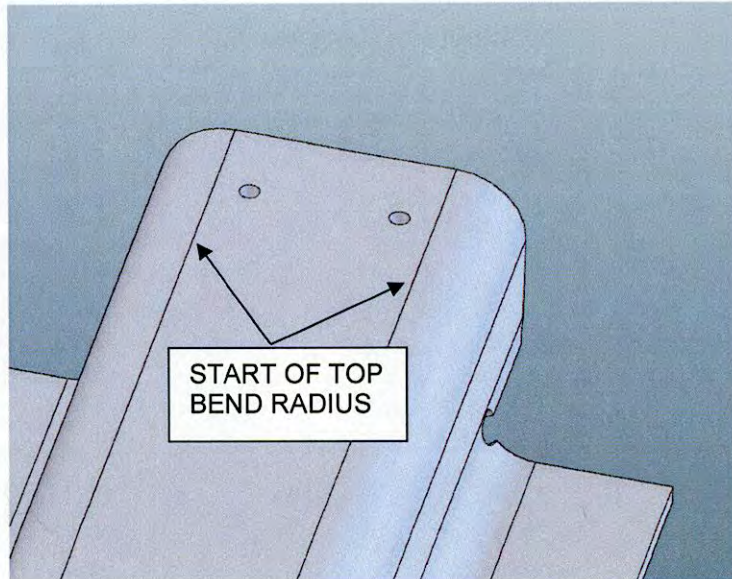


Figure 2

1. Remove the BRACKET, BEAM TO FRONT SUPPORT which connects the front support to the beam web (shown in Figure 1 on the first page). Cut the connecting bolts off with an abrasive cutting wheel or drill through the heads of them and then punch out - **do not chisel fasteners off as this will elongate holes you will need to reuse.**
2. Place the new top bracket on top of the front support with approximately equal amounts of the bracket extending over the sides (see Figure 3 below). Do not fasten the top bracket; the bracket is being located only to give the side brackets something to butt up against.

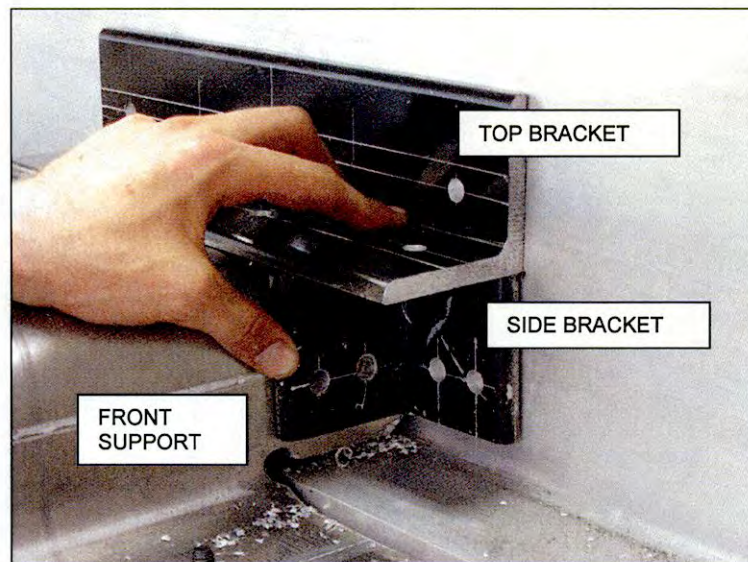


Figure 3

3. Place a side bracket as shown in Figure 3, making sure that the top of the bracket touches the bottom face of the top bracket. Note that the holes in the side bracket are offset from the bracket center line. Mark the center of the holes for the front supports and beam web using the side bracket holes as a template. Starting the holes with the bits used to make the holes will work well for this (see steps 4 and 5). Do the same for both sides of each front support.
4. Remove the brackets and drill .422" dia. holes through the front supports at the hole location marks (a 27/64 bit will work).
5. Drill .390" dia. holes through the beam web at the hole location marks (an 'X' bit will work).
6. Fasten the side brackets to the front support using Huck BOM-R12-12 blind fasteners and to the beam web using C6LB-R12-10 Huckbolts and 3LC-2R12G collars.
7. Place the top bracket on the front support and against the beam web as shown in the picture above. Center the bracket with the front support. Mark the location of the holes in the bracket on the beam web.
8. Remove the bracket and drill .390" dia. holes through the beam web at the hole location marks (an X bit at .397: will work).
9. Fasten the top bracket to the beam web using C6LB-R12-10 Huckbolts and 3LC-2R12G collars.
10. There are two holes in the beam web that were used to attach the original top bracket. Drill through these holes and through the new top bracket.
11. Complete the attachment of the top bracket to the beam web using C6LB-R12-10 Huckbolts and 3LC-2R12G collars. There is no need to fasten the top bracket to the front support.

Steps 1-10 will need to be performed for each front support. The final result will be as shown in Figure 4 on the next page except that the fasteners in the top bracket will be in a straight row, not staggered as shown. On the following pages are additional figures to show arrangement of the brackets.

Figure 5 below shows a picture of the coupler with the new brackets in place. The brackets on the left side are shown completely installed with fasteners. The brackets on the right side is in place, but the fasteners haven't been put in yet.

Notice the orientation of the side brackets: the holes in them are closer to the bottom plate than to the top bracket. This orientation must be observed. Also notice that there are only two holes in the top right side bracket, only outside ones. The brackets will come with only those two holes. Drill through those holes into the beam and install the 3/8" Huckbolts.

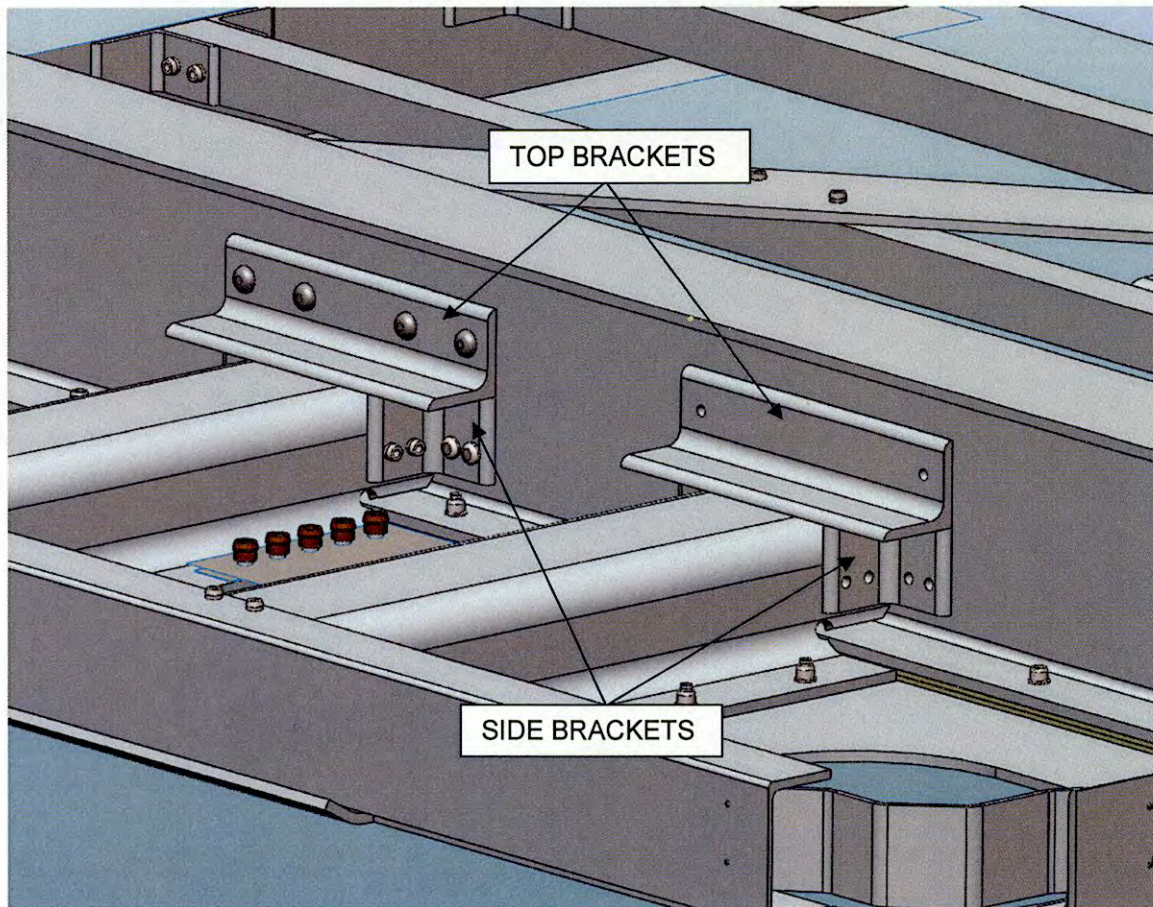


Figure 4

After the top brackets have been attached using the two existing holes in the bracket, two additional holes must be made in them. There are holes in the beam from the original brackets as shown in Figure 5 below. Drill through those and into the new top brackets and install 3/8" Huckbolts.

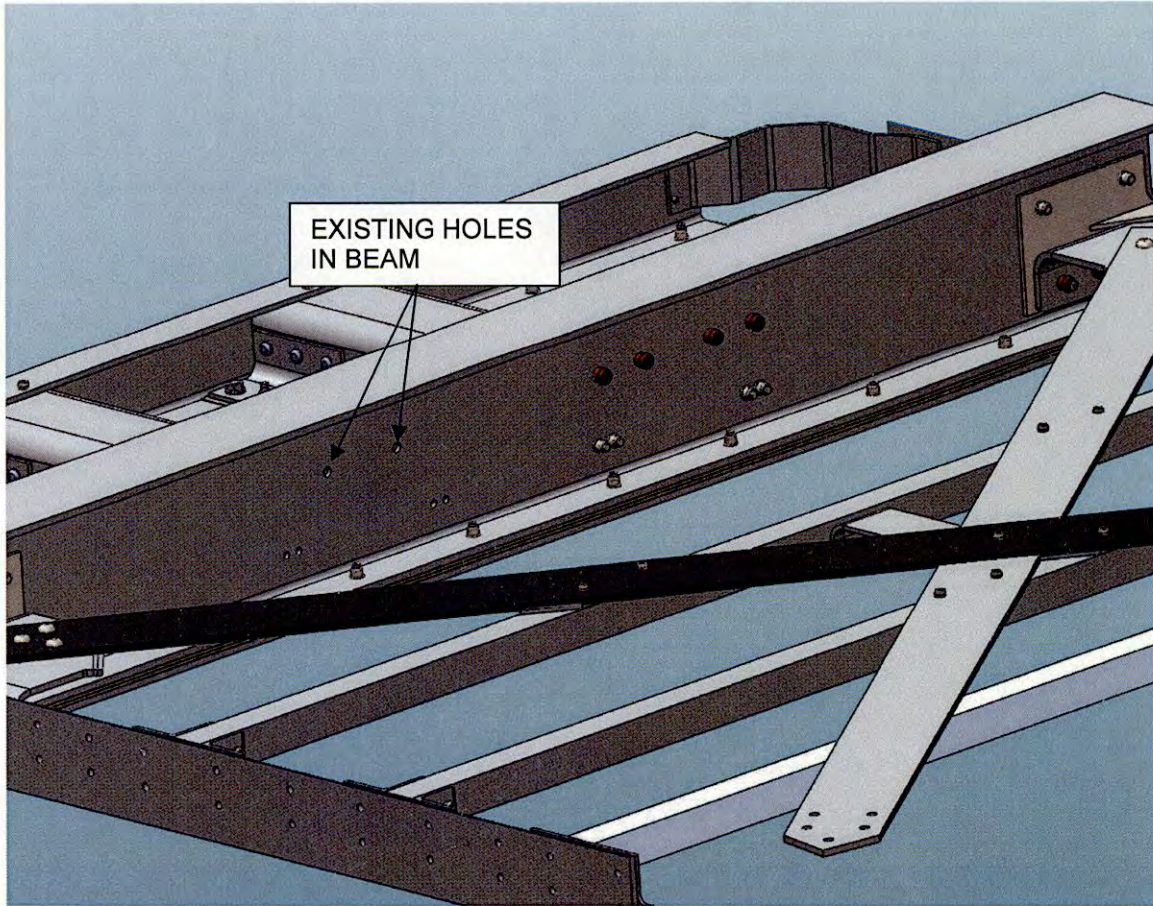


Figure 5

PARTS LIST

<u>QTY</u>	<u>DESCRIPTION</u>	<u>TIMPTE PART NO.</u>
16	C6LB-R12-10G Huck bolt	032-35110
16	3LC-2R12G Huck collar	032-37347
8	BOM-R12-12 Huck BOM	032-15706
4	Side Bracket	065-49482
2	Top Bracket	065-48482

PART 2: BEAM END BRACKET REPLACEMENT

CRITERIA FOR THIS REPAIR

At the end of the coupler main beam are cutouts as shown in Figure 1. Examine this area for a crack - If there is one this procedure cannot be used. Contact the Timpte warranty department for further instructions.

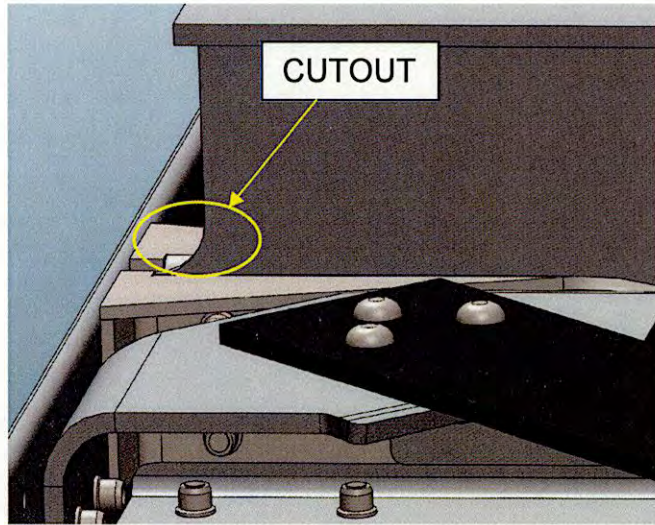


Figure 1

TOOLS REQUIRED

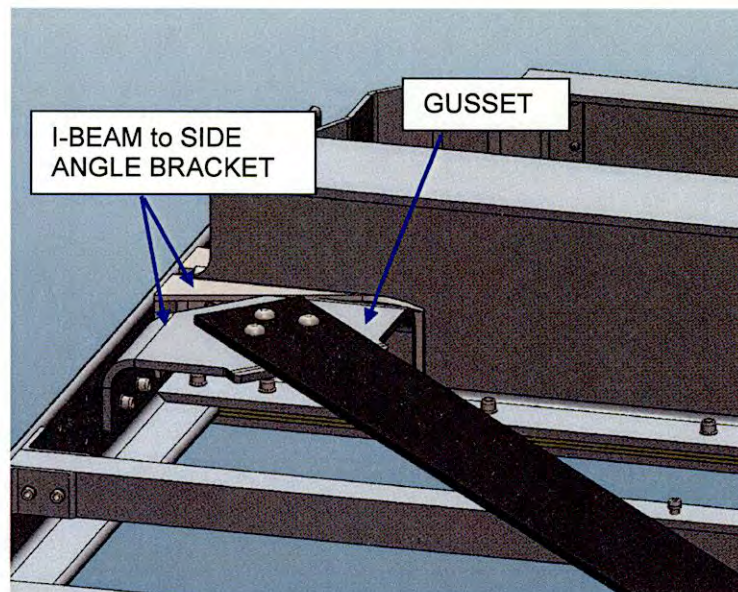
Drill, 'X' bit (0.397), die grinder with a 4" x 1/8" abrasive cutoff wheel, Huck gun with 3/8" (and 1/2" Huckbolt capability preferably), misc. as required.

PROCEDURE

To perform this repair Timpte will provide you parts in update kit 577-50482.

DISASSEMBLY PROCEDURE

When removing fasteners use an abrasive disk or drill the heads and punch out. **Do not chisel as this can elongate holes which must be reused.**



1. Remove the gusset and I-beam to side angle brackets from each end of the I-beam (see Figure 2 above). The gussets must be removed in order to install the new brackets.

REASSEMBLY PROCEDURE

The original brackets will be replaced with brackets similar in appearance but with a larger surface area and two additional bolt holes.

1. Install the new brackets and gusset at each end of the beam per Figures 3 and 4 below. Insert fasteners in existing holes to insure that all parts line up properly and then secure them with collars. If 1/2 Huckbolts cannot be attached, use 1/2-13 with serrated lock nuts and torque to 110 ft-lb.

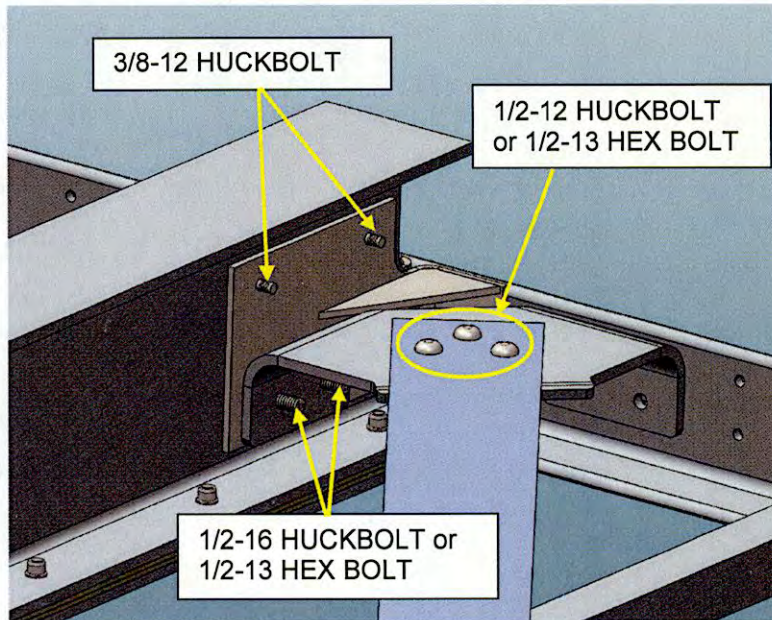


Figure 3

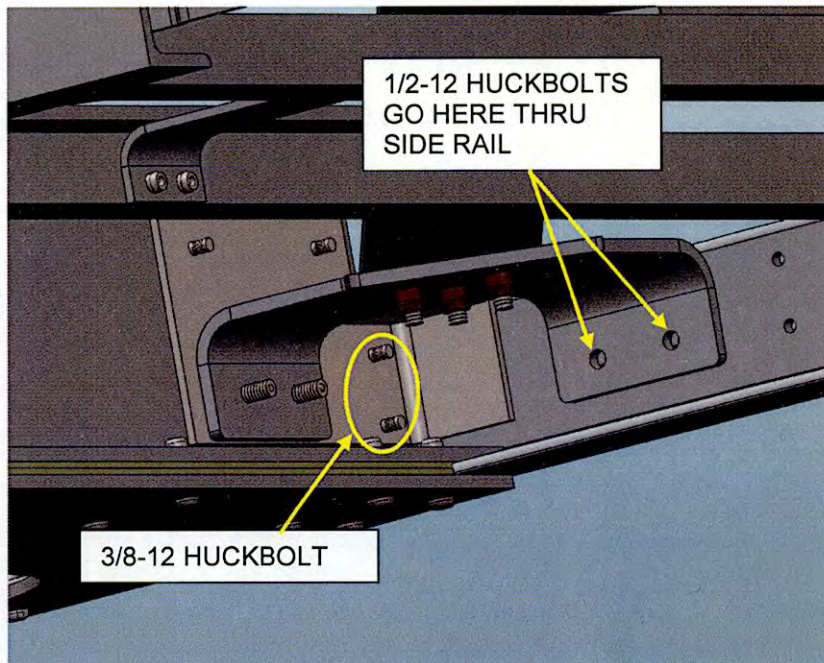


Figure 4

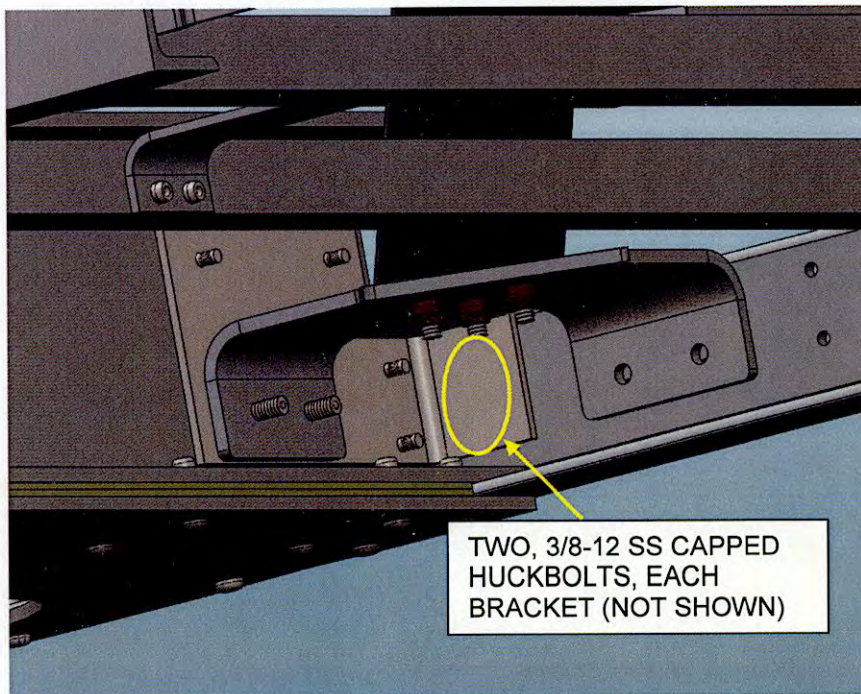


Figure 6

2. Each beam end bracket must be attached to the coupler side rail and trailer lower side rail. There are existing holes in the trailer lower side rail which were used to attach the original bracket. Drill through these holes and the new brackets using an 'X' bit and secure using 3/8-12 stainless steel capped Huckbolts.

PARTS LIST

<u>QTY</u>	<u>DESCRIPTION</u>	<u>TIMPTE PART NO.</u>
16	3/8 Huck Collar	032-37347
14	1/2 Huck Collar	032-22786
4	1/2-16 Huckbolt	032-47218
8	3/8-12 Capped Huckbolt	032-28567
10	1/2-12 Huckbolt	032-22731
8	3/8-12 Huckbolt	032-01513
4	1/2-13 x 2 Hex bolt	032-37594
4	1/2-13 Flanged lock nut	032-03472

ALUMINUM COUPLER FRONT SUPPORT REPLACEMENT PROCEDURE

10-21-2010

CRITERIA FOR THIS REPAIR

If a crack in the front support is found to extend beyond the start of a top bend radius of the support, it will need to be replaced. Figure 1 is an example of a crack extending along and outside of the beam-to-front support bracket. If this crack were to extend beyond the start of a top bend radius as shown in Figure 2, both supports should be replaced. This procedure explains how to remove and replace the supports.

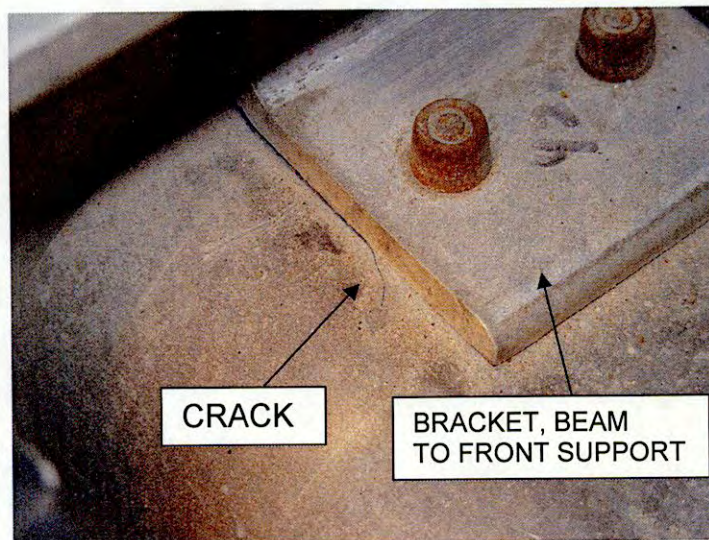


Figure 1

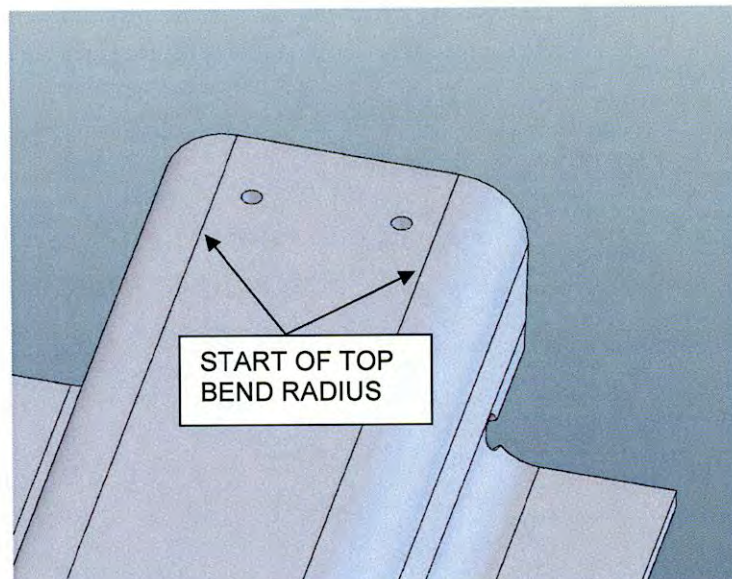


Figure 2

DISASSEMBLY PROCEDURE

When removing fasteners use an abrasive disk or drill the heads and punch out. **Do not chisel as this can elongate holes which must be reused.**

1. Examine the style of beam end brackets on the trailer. If they are the old style as shown in Figure 3 below, completely remove all of them (four total). If they are of the new style as shown in Figure 4 below, completely remove the rear two brackets, but for the front brackets remove only the fasteners connecting them to the beam; do not remove the fasteners holding them to the trailer lower side rail.

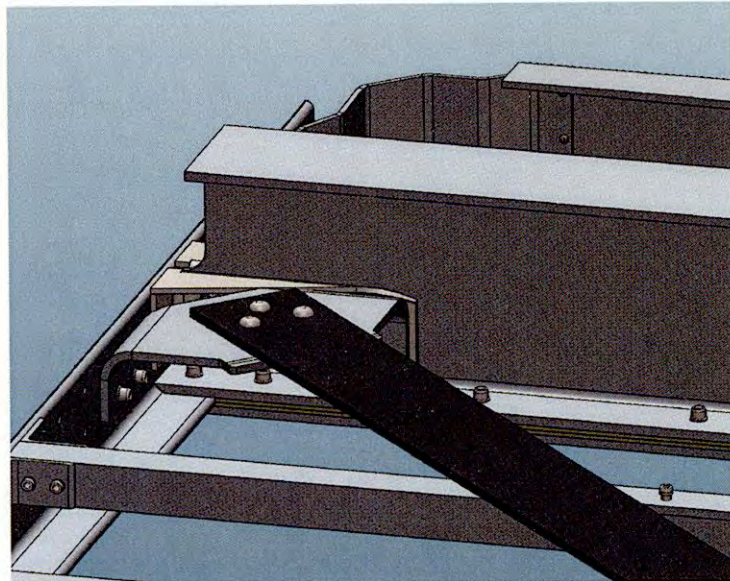


Figure 3

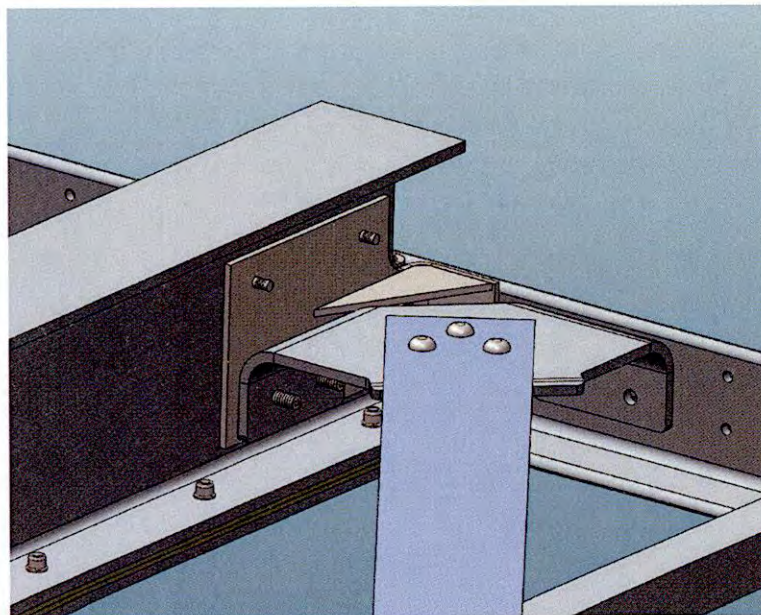


Figure 4

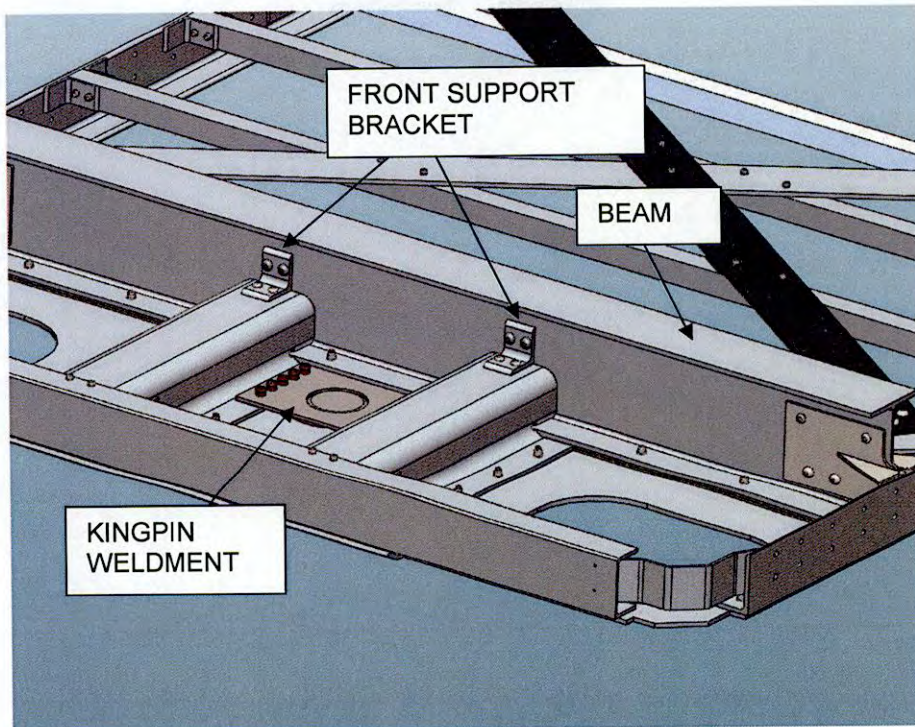


Figure 5

2. Remove the front support brackets and discard them. See Fig. 5.

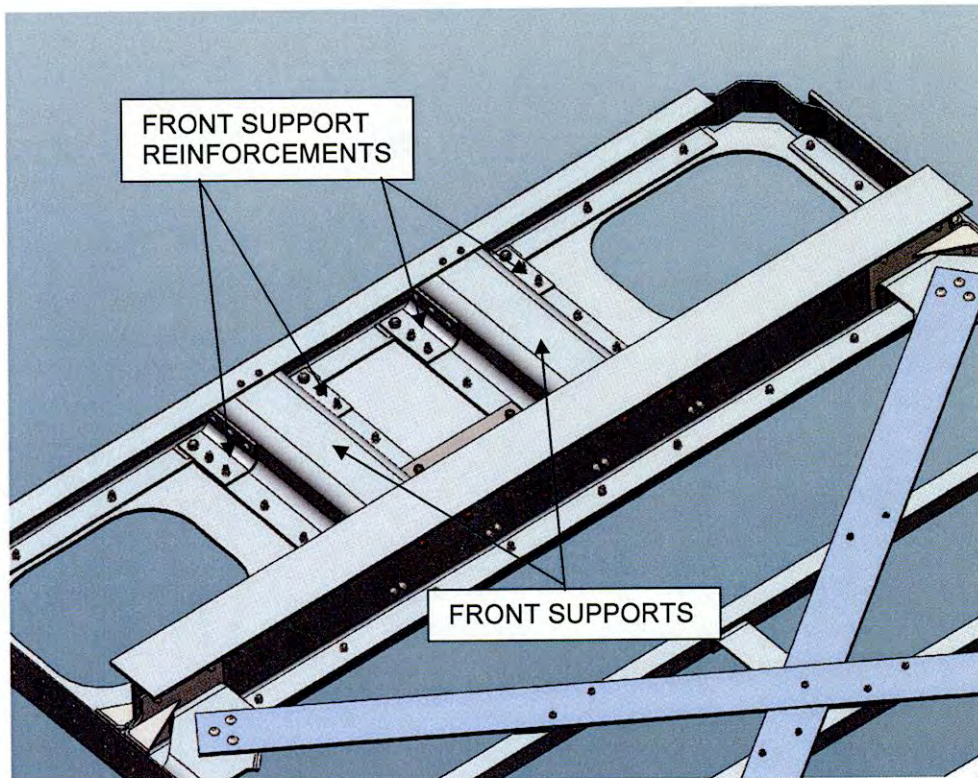


Figure 6

3. Remove the fasteners holding the kingpin weldment and beam on. Slide the beam back as far as possible and take the kingpin mounting plate off.
4. Remove the front support reinforcements and front supports (Fig. 6).

REASSEMBLY PROCEDURE

***** ATTENTION *****

The reassembly portion of this procedure has been rewritten after performing a front support replacement and discovering the mistakes that can easily be made by even an experienced trailer repair mechanic. Do not assume that steps can be skipped - this procedure must be followed as written. Disregarding steps or making assumptions may result in having to redo work.

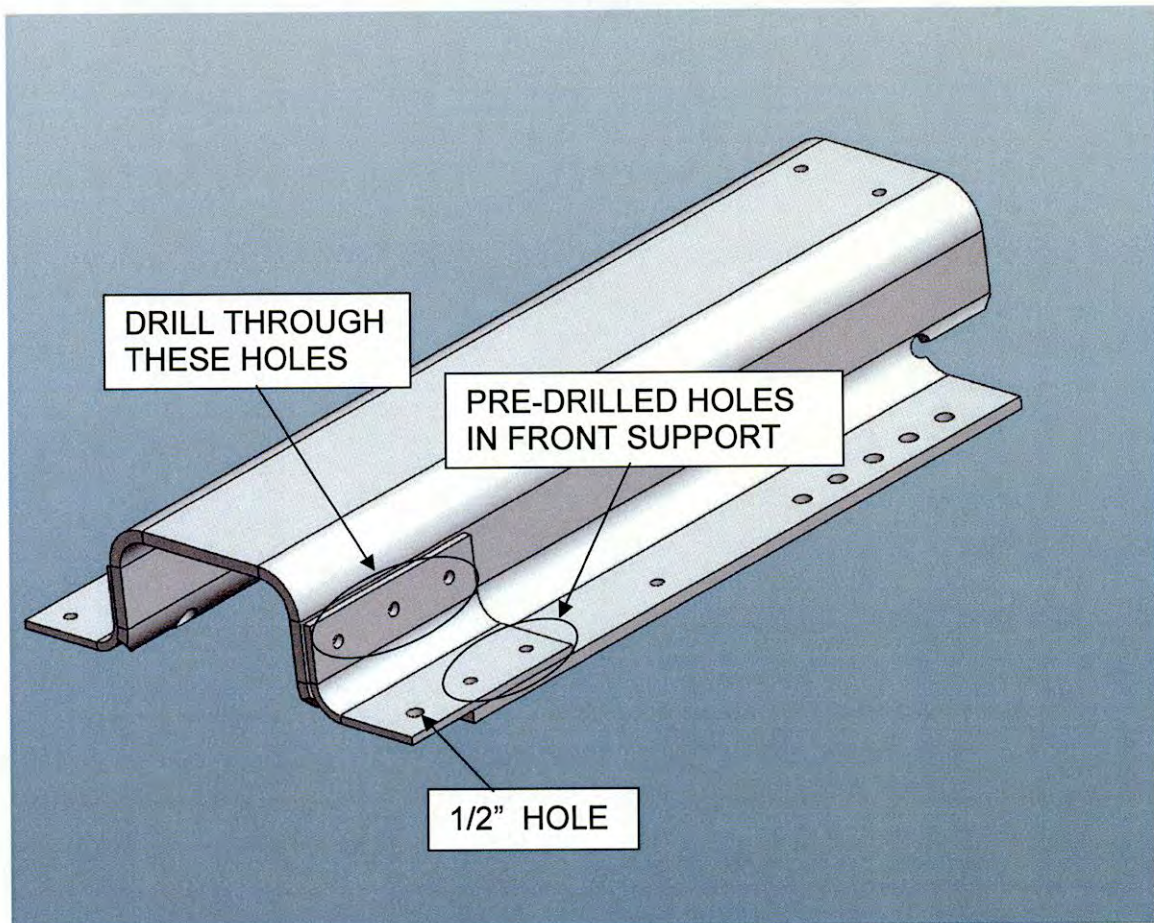


Figure 7

1. Using Figure 7 as a guide, attach the old front support reinforcements to the new front supports as follows.
 - a. The front supports have two pre-drilled holes on the inside at the nose end. Place a reinforcement on the side of the front support that has those

holes and line up the holes in the reinforcement with the front support holes. (Note that in the line of holes on the reinforcement there is a 1/2" hole). Keep the reinforcement located properly by inserting bolts in the 3/8" holes.

- b. Pull the reinforcement against the vertical wall of the front support with a clamp and drill through the holes in the reinforcement and into the side of the support with an 'X' bit (0.397) .
- c. Place the front support in its permanent place on the coupler as shown in Figure 8 below. Secure it with 3/8" bolts placed in the existing holes at the front of the support. This will keep the support secured for the next step.
- d. Drill two holes in the front support shown in Figure 8 below by going through the existing holes in the bottom plate. Use an 'X' bit (0.397).

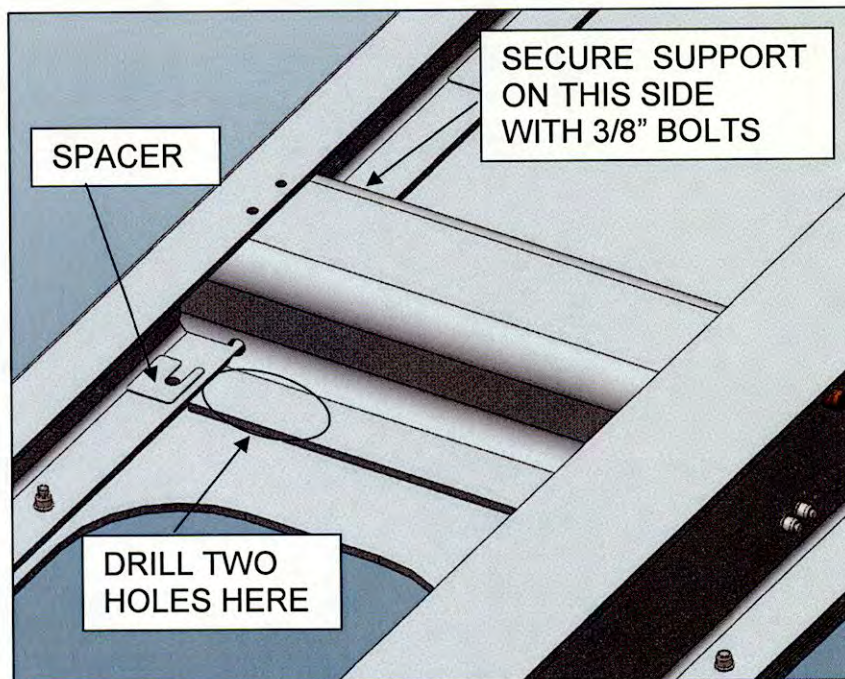


Figure 8

- e. Remove the front support. Place a reinforcement on the side of the front support with the new holes and line up the holes in the reinforcement with the front support holes. (Note that in the line of holes on the reinforcement there is a 1/2" hole). Keep the reinforcement located properly by inserting bolts in the 3/8" holes.
- f. Pull the reinforcement against the front support with a clamp and drill through the holes in the reinforcement and into the vertical side of the support with an 'X' bit (0.397) .

- g. Perform steps 1 through 6 with the other front support and reinforcements.

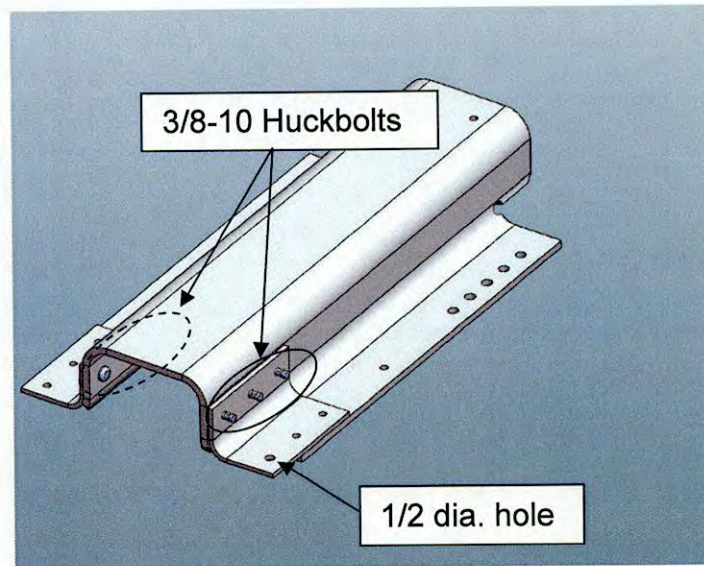


Figure 9

2. Temporarily attach the reinforcements to the front supports using Figure 9 above as a guide. Place 3/8-10 Huckbolts through the holes on the vertical face of the front supports from the inside. While holding the bolts in place, put the reinforcements over them. Ensure that the existing 1/2" diameter hole in the reinforcements is on the horizontal leg of the front supports. DO NOT permanently fasten the Huckbolts – they need to be kept loose for now.
3. While ensuring that the bolts and reinforcements placed on the front supports do not fall off, place the front supports on top of the bottom plate as shown below in Figure 10. Notice how they are towards the outside of the beam.

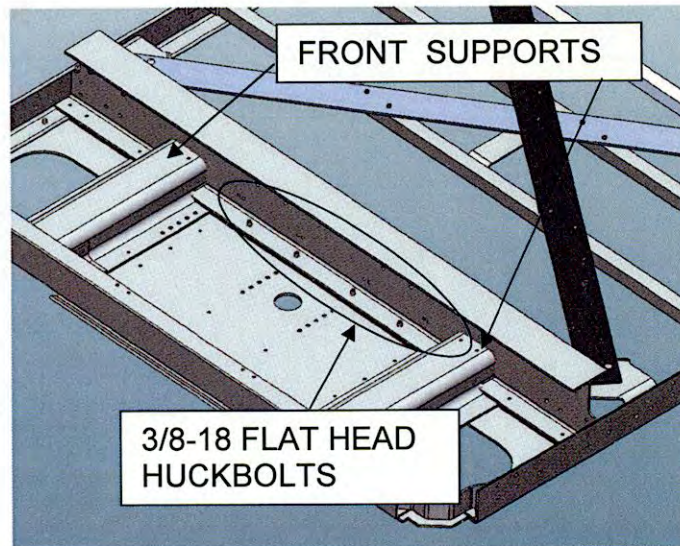


Figure 10

4. Move the beam and beam spacers forward into place so that they may be attached to the bottom plate. Make sure that the reinforcements on the front support do not fall off – the bolts holding them in place are loose.
5. Connect the beam to the bottom plate with eight 3/8-18 flat head Huckbolts circled in Figure 10 on the previous page.
6. Move the front supports into place to be attached to the bottom plate. It may be necessary to tip the rear of the front supports up in order to move them. Place the spacers in between the coupler 'C' channel and front supports (see Figure 8 on page 5). **MAKE SURE THAT THE BOLTS HOLDING THE REINFORCEMENTS DO NOT FALL OUT.** If the bolts fall out the beam will have to be removed or BOM fasteners will have to be used to attach the reinforcements to the front supports.

SEE FIGURE 11 FOR STEPS 7 - 11

7. Insert 3/8-18 flat head Huckbolts through the bottom plate and into the reinforcements and secure with 3/8 collars.

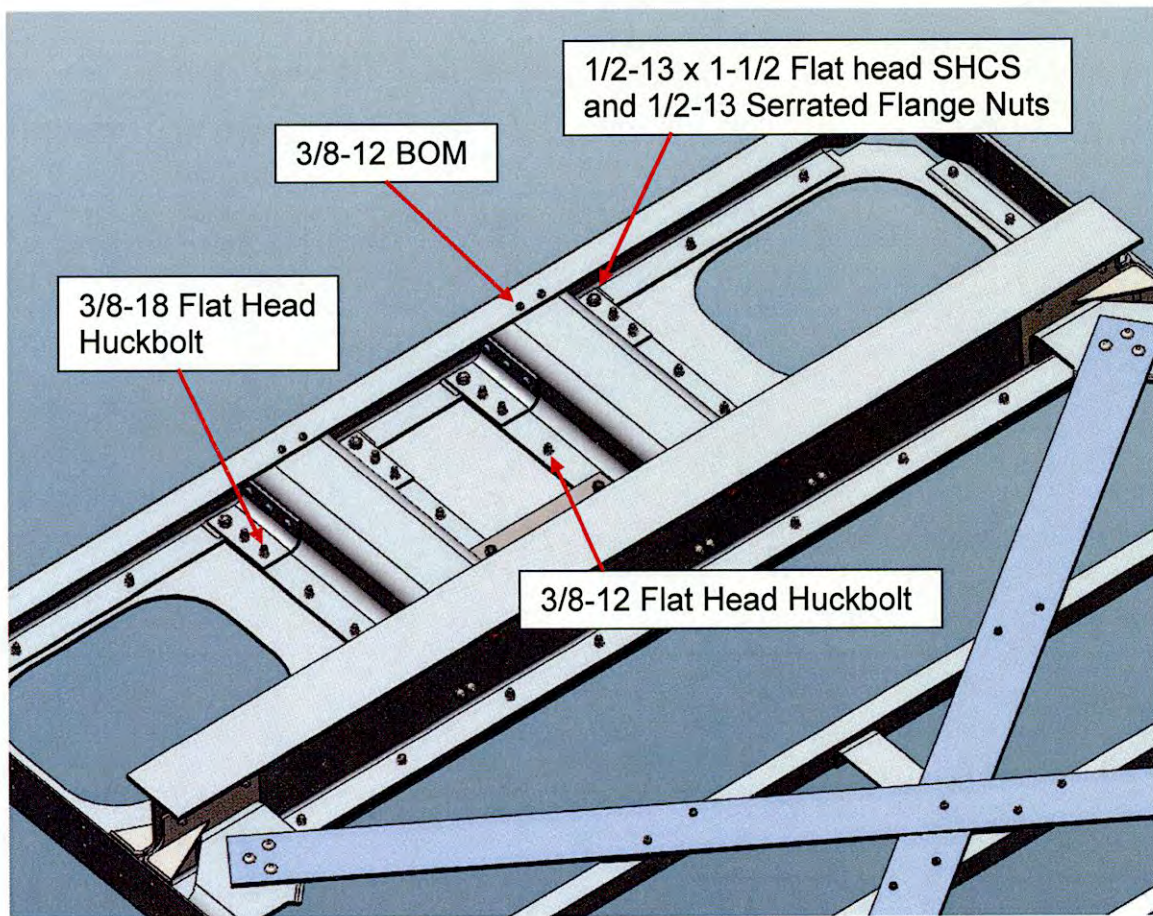


Figure 11

8. Carefully place 3/8 collars over the Huckbolts that have been holding the reinforcements on and secure. Be careful not to push the Huckbolts into the front supports as they are loose.
9. Fasten the reinforcements to the bottom of the front 'C' channel with 1/2-13 x 1-1/2 flat head sock head cap screws and torque to **113 ft-lbs**.
10. There are four more attachment points to hold the front supports to the bottom plate, not counting the kingpin mounting plate. Install 3/8-12 flat head Huckbolts into these holes and secure.
11. Fasten the front supports to the top of the 'C' channel by drilling through the existing holes with a 27/64" bit. Install 3/8-12 BOMs.

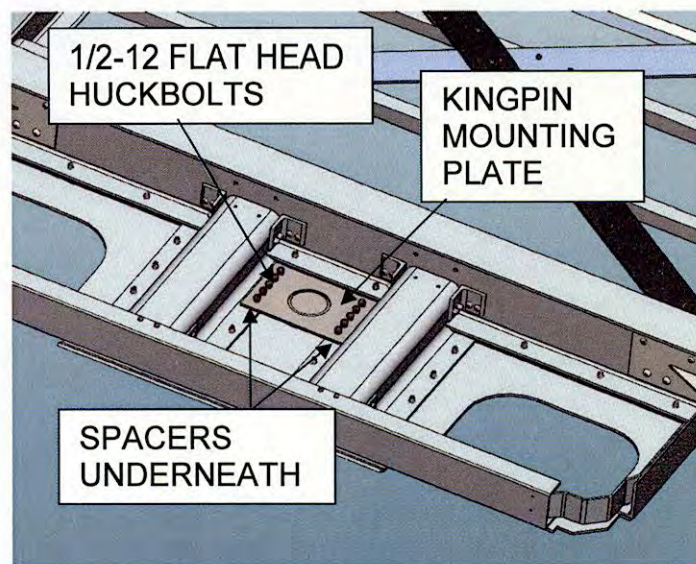


Figure 12

12. Set the kingpin mounting plate on top of the kingpin mounting plate spacers per Figure 12 above. Ensure that all holes line up properly on all parts. Fasten the mounting plate using 1/2-13 flat head Huckbolts
13. Finish connecting the beam to the bottom plate per Figure 13 on the next page. Insert 3/8-18 flat head Huckbolts and secure with collars.
14. See figure 14 on the next page to attach the brackets to the top of the front support and the beam. Place the new top bracket on top of the front support with approximately equal amounts of the bracket extending over the sides. Do not fasten the top bracket; the bracket is being located only to give the side brackets something to butt up against.
15. Place a side bracket as shown, making sure that the top of the bracket touches the bottom face of the top bracket. Note that the holes in the side bracket are offset from the bracket center line. Mark the location of the holes

on the front supports and beam web using the side bracket holes as a template. Starting the holes with the bits used to make the holes will work well for this ($27/64$ " for the side bracket to front support and an 'X' bit for the rest of the holes). Do the same for both sides of each front support.

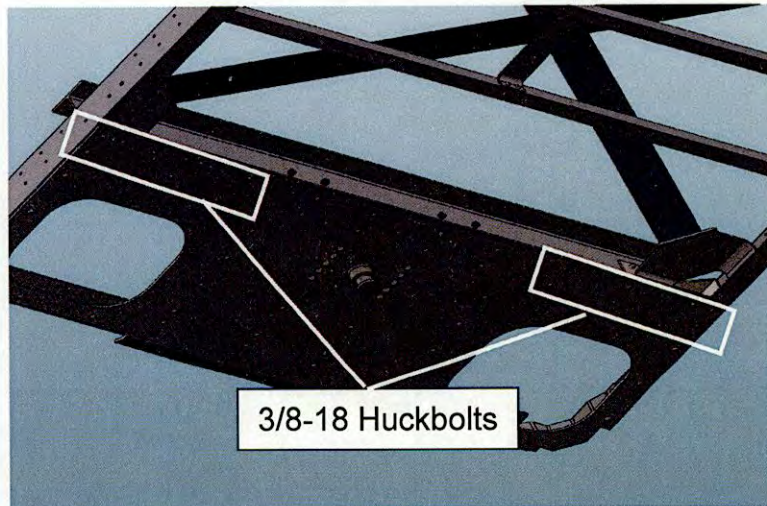


Figure 13

16. Remove the brackets and finish the holes using a $27/64$ " bit for holes through the front supports and an 'X' bit ($.390$ " dia. holes through the beam.
17. Fasten the side brackets to the front support using Huck BOM-R12-12 blind fasteners and to the beam web using $3/8-10$ Huckbolts and $3/8$ " collars.
18. Attach the front support top brackets to the beam as shown in Figure 14 below. Center the brackets on the front supports, drill through the existing bracket holes with an 'X' bit, and secure with $3/8-10$ Huckbolts. There are also two holes in the beam behind each bracket that were used for the original brackets. Drill through these holes and through the new brackets and

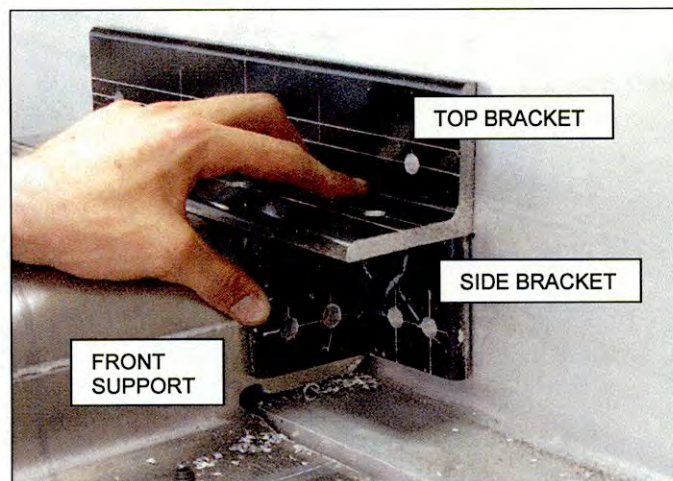


Figure 14

install 3/8-10 Huckbolts. There will be a total of four Huckbolts securing the bracket to the beam. The top bracket is not connected to the front support.

19. Place the new beam end brackets in their proper location (see Figures 15 below). Insert fasteners through all existing holes to insure that all parts line up properly and to hold them in place (Figures 15 and 16). If 1/2 Huckbolts are not available as shown in Figure 15, use hex bolts. Drill through the top two holes of a bracket and through the beam. Insert 3/8-12 Huckbolts and secure with collars at these hole locations. DO NOT secure the other four bolts that are in the brackets yet.

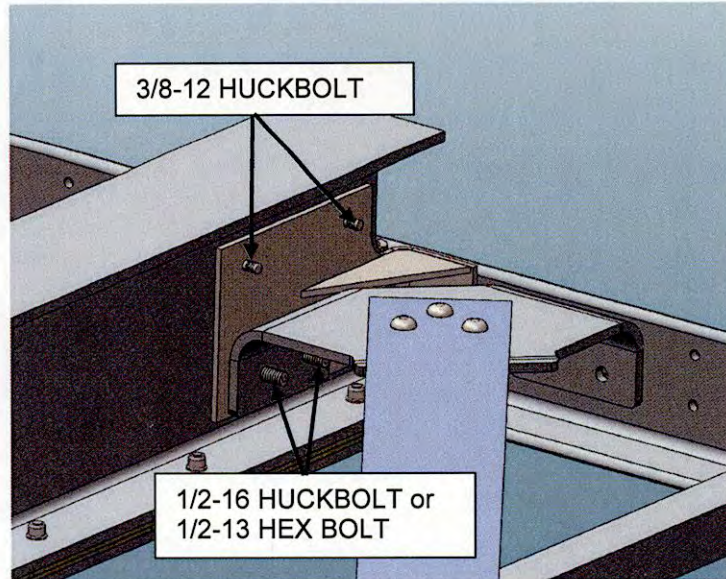


Figure 15

20. Each beam end bracket must be attached to the coupler side rail before the rest of the bracket fasteners are secured. There are existing holes in the trailer lower side rail which were used to attach the original brackets. Drill through these holes and into the new brackets using an 'X' bit and secure using 3/8-12 stainless steel capped Huckbolts. See Figure 16.

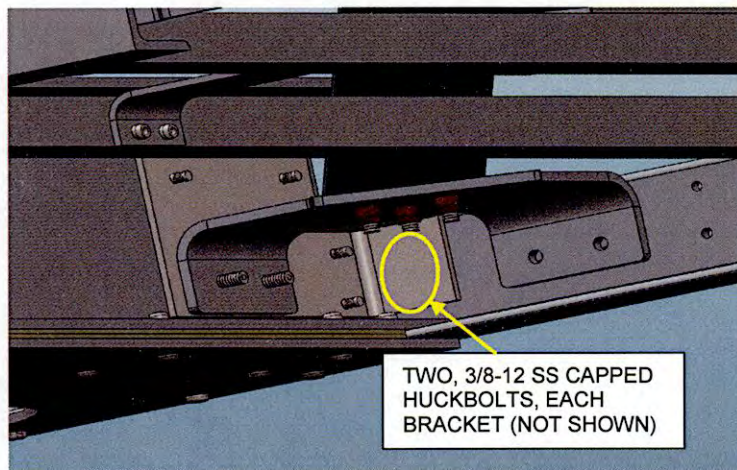


Figure 16

21. Secure the other two 3/8-12 Huckbolts on the brackets with collars. See Figure 17 below.

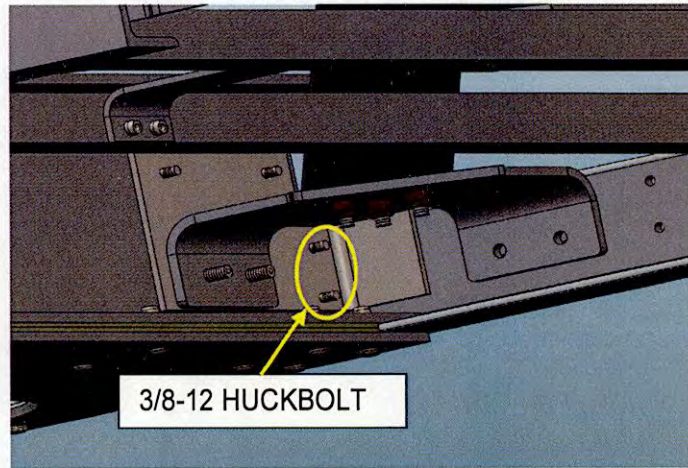


Figure 17

PARTS LIST¹

<u>QTY</u>	<u>DESCRIPTION</u>	<u>TIMPTE PART NO.</u>
4	1/2-13 x 1-1/2 FH Hex Screw	032-49222
8	1/2-13 Serrated Nut	032-03472
16	3/8-18 Flat Head Huckbolt	032-47257
84	3/8 Huck Collar	032-37347
12	3/8-10 Huckbolt	032-35110
8	3/8-12 Flat Head Huckbolt	032-47239
12	3/8-12 Huck BOM	032-15706
10	1/2-12 Flat Head Huckbolt	032-47240
14	1/2 Huck Collar	032-22786
16	3/8-18 Huckbolt	032-36797
4	1/2-16 Huckbolt	032-47218
24	3/8-12 Huckbolt	032-01513
8	3/8-12 Capped Huckbolt	032-28567
10	1/2-12 Huckbolt	032-22731
4	Side Bracket	065-49482
2	Top Bracket	065-48482
1	Front Support, CBSD	041-45786
1	Front Support, RDSD	041-45787
4	1/2-13 x 2 Grade 8 Hex bolt	032-37594
2	I-Beam to Side Bracket, LH	577-49219
2	I-Beam to Side Bracket, RH	577-49220

¹ Both 1/2" Huckbolts and 1/2" hex bolts are listed, but only one type of fastener will be used.

SPECIALTY TOOLS: Huck guns to fasten 1/2" Huckbolt, 3/8" Huck BOM and 3/8" Huckbolt fasteners. Torque wrench capable of measuring up to 113 ft-lb.