



DRAFT - REPAIR DOCUMENT

Rear Frame Repair – STEEL V1

Repair Document #: **RD-00067**
Date: November 07, 2017
Ref Eng Proj: EP17010



Contact Information:

If you have any questions about this Repair Document, please contact the Stoughton Trailers Customer Service Department by toll free at (866)-725-0044 or by email (warranty@stoughtontrailers.com).

Subject:

Repair procedure for Rear Frame cracks on steel "version 1" roll up rear door trailers.

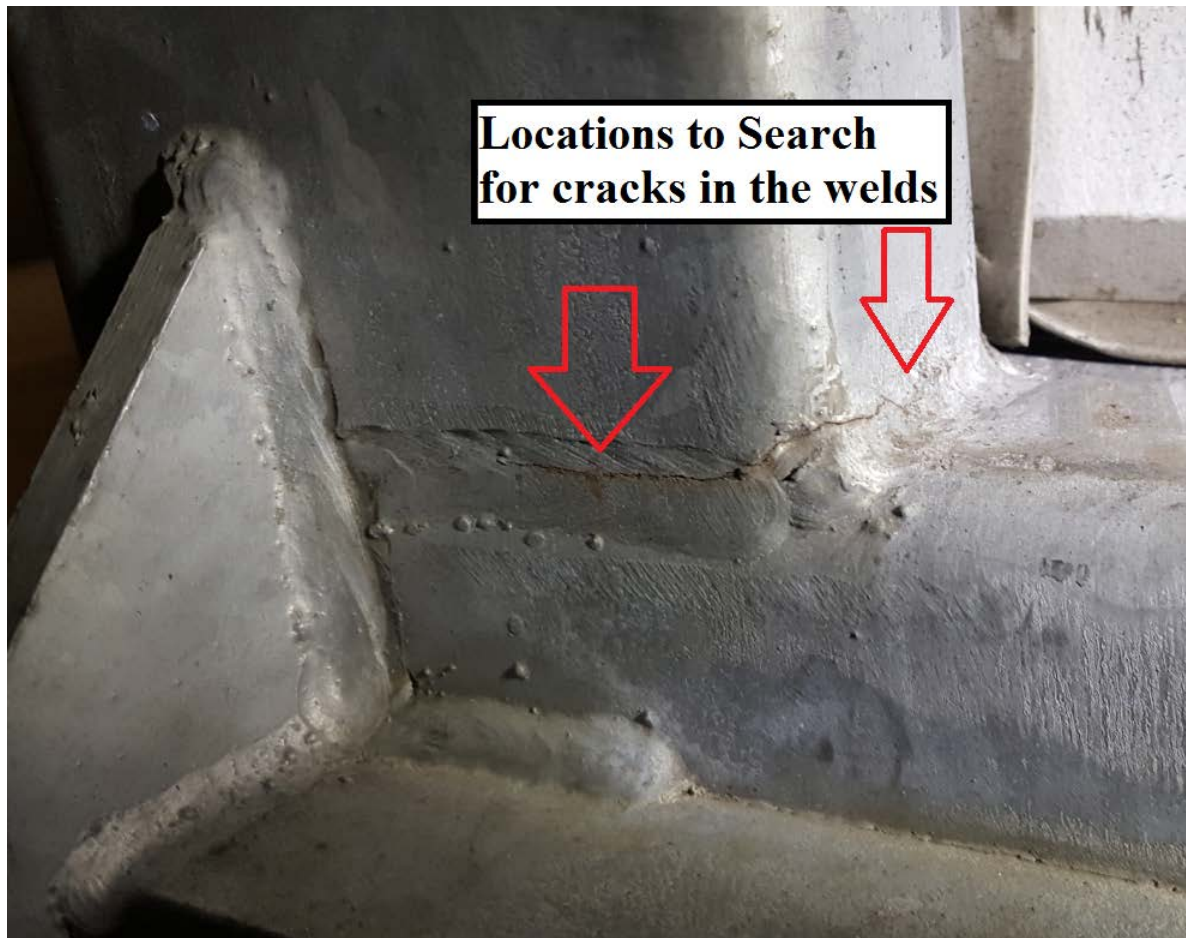
Models:

Trailers that qualify for this upgrade can be identified by the following:

1. Model: XXXX-XXXX
2. Model Years: 20XX, 20XX
3. Order #: XXXXX, XXXXX,X XXXX
4. Quantity: XXXX
5. VIN (last 6 numbers): XXXXXX-XXXXXXX, XXXXXX-XXXXXXX
6. XXXXX #: XXXXXX-XXXXXXX, XXXXXX-XXXXXXX

Issue:

The cracks were discovered in the door opening corners of the rear frames.



Cracks at corner of rear frame door.

Remedy:

Rear Frame welds must be inspected for cracks and proper weld size. Any cracks or undersized welds must be repaired according to the following procedures.

ALL units must have gussets installed inside the rear frame structure just below the side posts near the back side of dock bumpers and outside by the light guards regardless if cracks are present or not.

Warning:

During all steps of the repair procedure one must use appropriate safety precautions.

- Use personal safety equipment when working on any trailer (i.e. safety glasses, hearing protection, safety shoes, etc.).
- Trailer must be properly supported at all times to prevent movement throughout the upgrade process.
 - Check to insure landing gear is in proper working order and providing proper support prior to repair.

- The trailer must be empty before any repairs are made.
- Ensure proper welding precautions are in place.
- Check both sides of areas to be welded for material that may need to be removed or protected to minimize fumes, damage potential and chance of fire.
- Weld in a properly ventilated area.

Parts Required (Kit # 001-SV1RFRAME-2017):

Item	Qty	Description
01-29708-000-00	2	3.75"x3.75" Triangle GUSSET
01-29706-000-00	2	2.5"x2.5" Triangle GUSSET
04-97033-000-00	8	¼" Rivets .080-.375 thickness

Tools:

- Welder with proper weld wire and gas for 8 Gauge (0.164") thick HSLA STL A1011 50K MIN YLD
- "Anti-Spatter" spray for less clean up around welds
- Clean wire brush
- Grinder
- 2 5/16" Spacer Block
- Hammer
- Pop rivet gun
- 1/4" drill bit
- Drill
- Punch
- Zinc rich galvanize repair paint, or another galvanize repair method meeting ASTM A780
 - ASTM A780 states zinc-rich paint with zinc dust in the ranges of 65-69% or above 92% in the dried film are equally effective.
- Solvent for paint preparation (acetone or a spray solvent)
 - Removes oil, grease and other residue
 - Leaves no residue that could interfere with galvanize repair behind
- Nitrile gloves for solvent clean up
- Clean up towels or clean rag for wiping up solvent
- Tape measure and angled corner blocks for checking if rear frame is square
 - Measure diagonal across blocks placed in inside corners
- Fixturing to hold rear frame square during the repair if required
 - Straps and hooks capable of pulling frame square
- Power Tool (air, corded or cordless) with clean wire wheel for faster weld prep and cleanup
 - Grinder / sander for removal of surface zinc coating where welding
- Chisel (cleaning up any larger bits of weld slag)

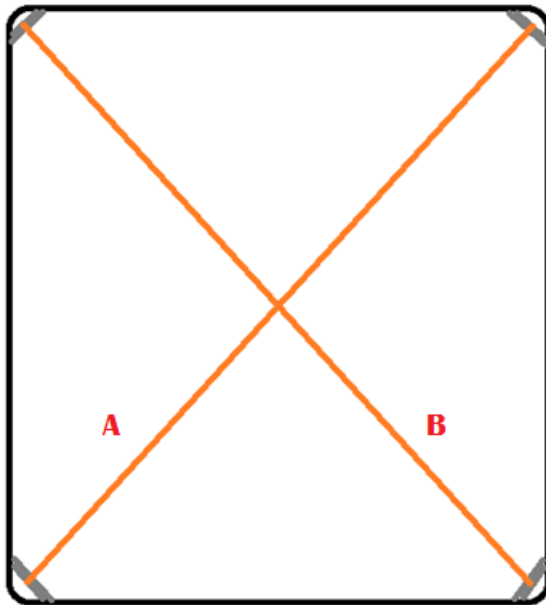
INSPECTION:

1. Inspect for cracks in the welds in the lower and upper inside corners of the rear door opening
 - o Any cracks or welds not meeting weld acceptance criteria must be ground to base material and rewelded
2. When inspecting the weld in the corners of the rear frame.
 - o Determine if cracks are present at any of the corner welds
 - o Weld must meet welding visual inspection criteria
 - o End of welds must not have craters



PREPERATION FOR WELDING:

1. Measure rear frame door opening for squareness. Measuring diagonally across the inside lower corner to opposite inside upper corner with corner blocks as shown below. The difference between A and B must be less than or equal to ½ inch ($|A - B| \leq 1/2\text{inch}$).
 - a. If the door frame diagonal measurements are more than ½ inch off from one another move the trailer to level ground and remeasure and or brace frame square prior to welding.



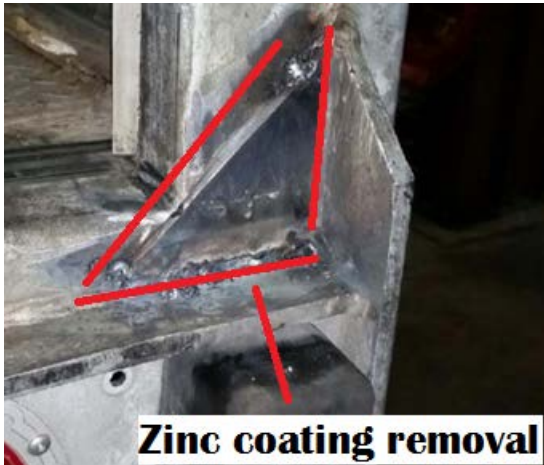
2. Drill out 4 rivets and remove wiring harness protection box as shown behind bumper
 - a. Cover wiring harness with weld blanket or wet towel



3. Apply weld blankets or wet towels around wiring harness on both sides of trailer near where the gussets will be welded in: See Above
4. Prepare entire weld perimeter of gussets on both sides of trailer
 - a. Clean up all areas to be welded with a clean wire brush and or power tool

WELD REPAIR PROCEDURE:

1. Wear proper PPE including a respirator when using strong solvents, removing or welding on zinc coated surfaces- Inhalation of zinc oxide and other fumes have a negative health impact
2. When cracks, craters or undersized welds are found in the corners of the rear frame, grind out the weld to base material and re-weld
 - a. Grind down cracked welds even with base material. Insure that the rear frame door opening is braced square as detailed in Weld Preparation - step 5 in previous section.
3. Locally and carefully grind away the surface layer of zinc prior to any welding
4. Locate the rear frame gusset 01-29708-000-00 as show below.



5. Install 3 ¾ inch angled gussets one on each side (01-29708-000-00). Locate and weld 3/16" / fill all gaps around the full perimeter weld as shown below.



6. Install angled gussets one on each side (01-29706-000-00) under the rear frame bolster, directly in line with the inside edge of the side post using the 2 5/16" spacer block. Locate and weld as shown below.



- a. On both sides hold 2.5" Gusset 01-29706-000-00 and 2 5/16" Spacer block positioned toward the outside of the trailer behind the dock bumper bolt in location. This will ensure the stiffener gusset is squared and located properly upon welding.
- b. Tack gusset in place, then weld around entire side of gusset toward inside of trailer.
7. Clean up around welded areas using clean wire brush, chisel and power tools with clean wire brushes as they are available at location of repair.
 - a. Apply solvent prior to galvanize repair
 - b. Spray galvanize touch up paint or other method meeting ASTM A780





REASSEMBLY:

1. Reinstall 4 rivets holding the wiring harness protection box on each side for a total of 8 rivets

