



## REPAIR DOCUMENT

### Front Spring Hanger Repair - UPS

Repair Document #: **RD-00064**  
Date: April 17, 2017  
Ref Eng Proj: 17004

#### **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](mailto:warranty@stoughtontrailers.com)).

#### **Subject:**

Repair procedure for front hanger cracks on UPS fixed axle suspension trailers.

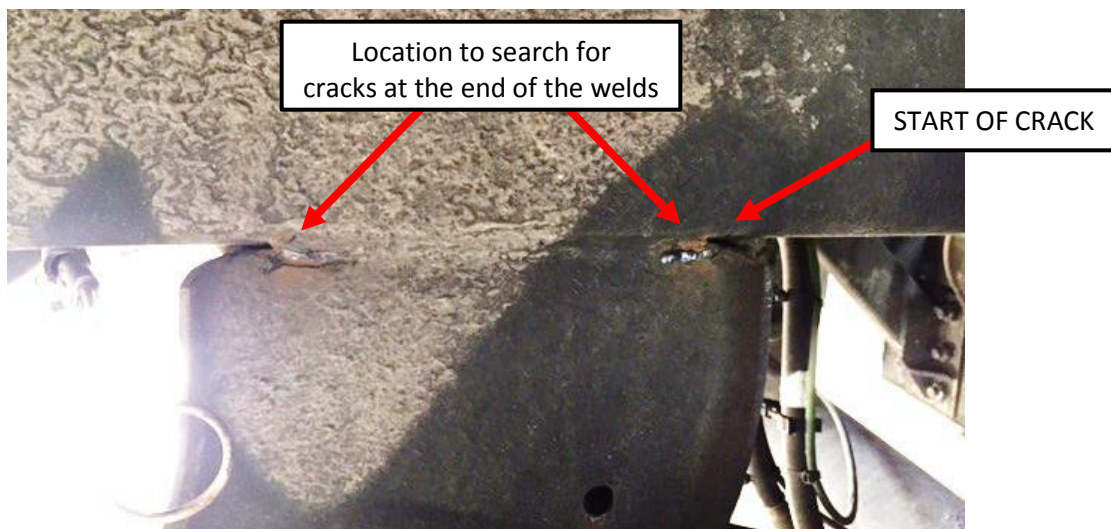
#### **Models:**

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

1. Model: DAVW-285S
2. Model Years: 2017, 2018
3. Order #: 27213, 27555, 27594
4. Quantity: 3050
5. VIN (last 6 numbers): 721300-724095, 755501-755504, 759400-759649
6. UPS #: 372987-375782, 725161-725164, 295287-295535

#### **Issue:**

The customer has reported finding cracks in the attachment of the front suspension hangers to the bottom of the channel suspension subframe.



Cracks at end of welds at side attachment of front hanger.

**Remedy:**

Front spring hanger 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 subframe channels above the front spring hangers 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.
- Remove undercoating in area to be welded to ensure good welds and less fire potential.
- Weld in a properly ventilated area.

**Parts Required (Kit # UPS-HANGER-KIT2017):**

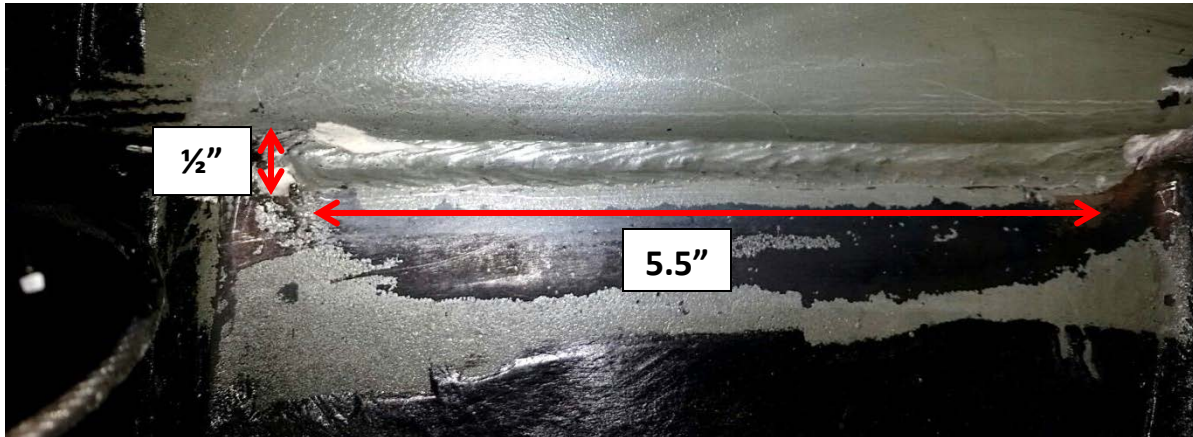
Item	Qty	Description
04-95570-000-00	4	LKNUT,HEX,3/8-16X1.5
01-29191-100-00	2	GUSSET
01-29191-200-00	2	GUSSET
04-98056-000-00	6	RVT,PULL,PROT HD,3/16
04-60635-000-00	2	CLIP,TUBE 5/8
04-60633-000-00	2	CLIP,TUBE 3/8
01-15486-003-00	4	BAR,1/4 x 1 FLAT

**Tools:**

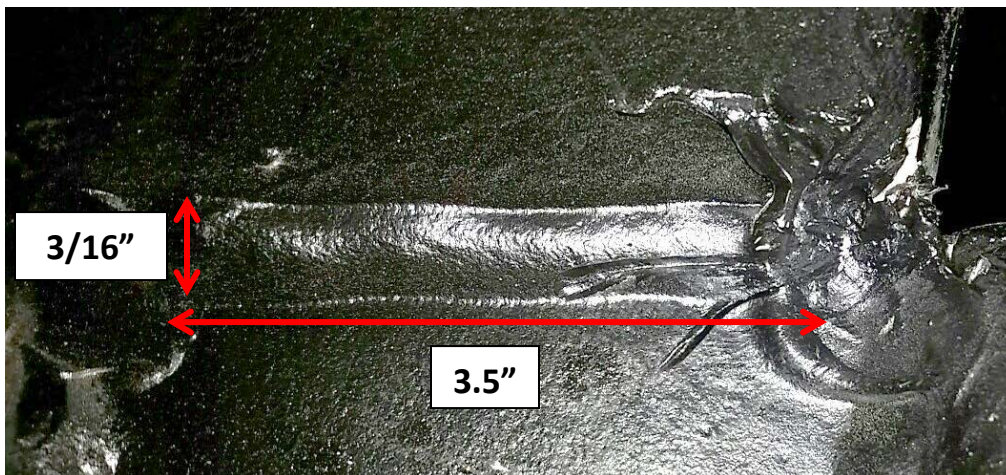
- Grinder
- Welder
- 9/16" Wrench/Socket
- Weld Blankets and or wet shop towels
- Scraper(for undercoating)
- Pop Rivet Gun
- 12" Long Steel Wire or bungee cord (Must be strong enough to hold air tank)

**INSPECTION:**

1. Inspect for cracks in the welds that attach the front hanger to the suspension subframe channel and inside the channels above the hanger welds.
2. When inspecting the weld on the outside face of the front hanger.
  - Determine if cracks are present at either end of the weld
  - Weld must be  $\frac{1}{2}$ " wide and  $5\frac{1}{2}$ " long.
  - End of welds must not have craters.



3. When inspecting the welds on the Front and Rear face of the front hanger.
  - Determine if cracks are present anywhere along the welds.
  - Welds must be equivalent to  $\frac{3}{16}$ " wide and be  $3\frac{1}{2}$ " long centered on the face of the hanger.



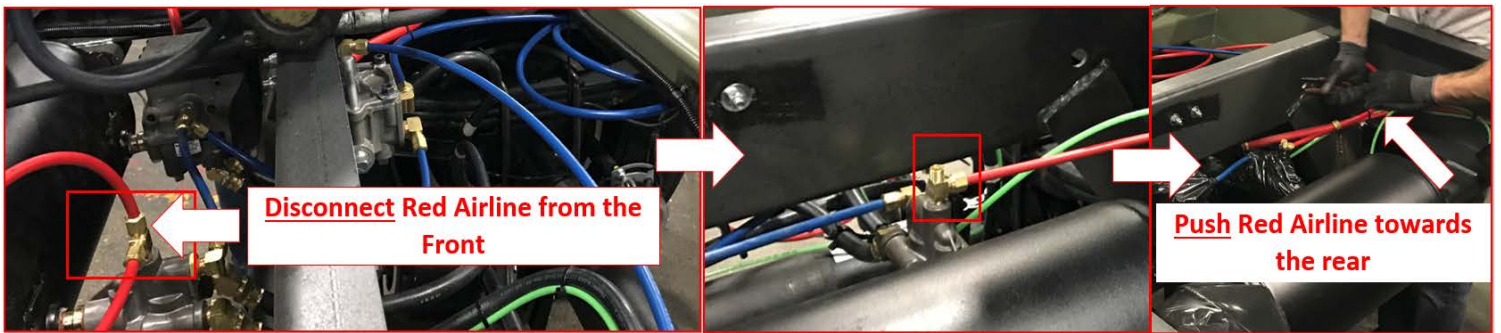
4. Inspect the inside of the C-Channel for cracks through the material in alignment with the hanger welds.

**PREPERATION FOR WELDING:**

1. Prior to starting the disassembly process, release the air from the air tank.



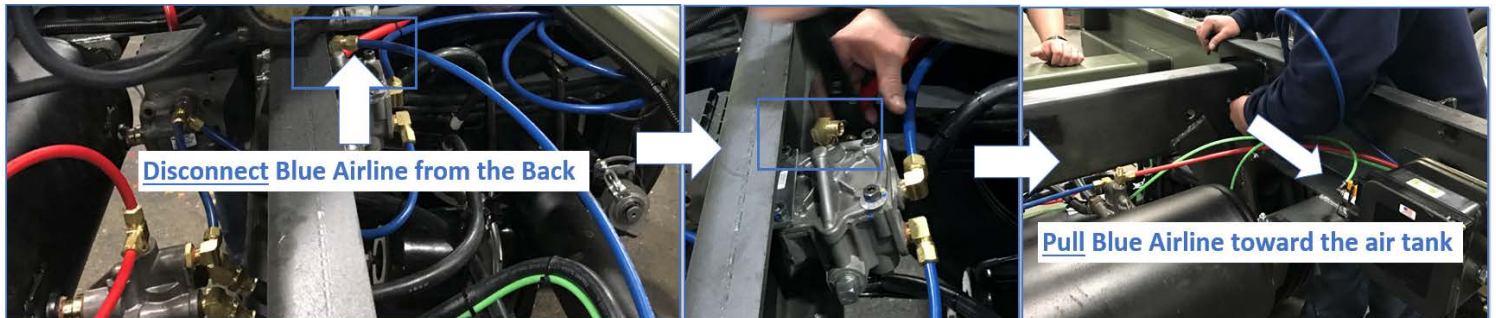
2. Disconnect the 3/8" diameter Red Emergency hose from the Male Tee which is connected to the Spring Brake Valve and runs to the rear of the trailer. Removing this connection will allow for the dropping of the air tank without kinking this hose. Push the hose back to the cross channel to move out of the way for welding.



3. Disconnect the 5/8" diameter red airline from the air tank and push this back to the cross channel, also moving it out of the way for welding.



4. Disconnect the Blue 3/8" diameter Service Line from the R12 Relay Valve, rearward of the cross channel. Pull the blue air line through the cross channel towards the air tank. Once through the cross channel, move the airline out of the way for welding



5. Drop the air Tank to allow access to the inside of the C-Channel. Use a steel wire or bungee cord to help hang the air tank from the air tank brackets on the subframe. This will help prevent kinking of the hoses. Allow air tank to hang approximately 6" down from the brackets.

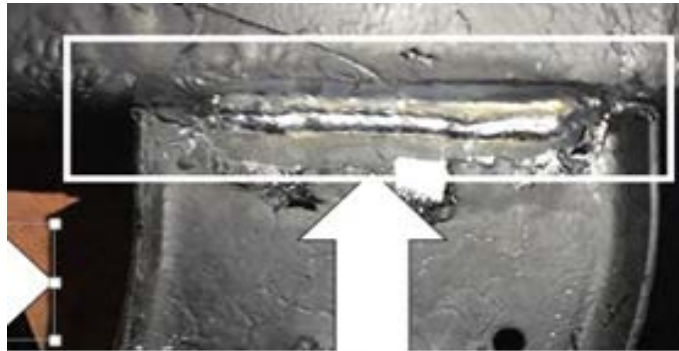


6. Ground welder to the frame, NOT to the axle or steel springs.
7. Protect the springs from weld spatter during the repair process.
8. Protect all hoses and harnesses from weld spatter during the repair process; this is crucial so that an airline is not punctured.
9. All areas to be welded must have undercoating cleaned off. Also clean off undercoating on the outside face of the C-Channel where it will be affected by weld heat.



## **REPAIRING CRACKS & WELDS:**

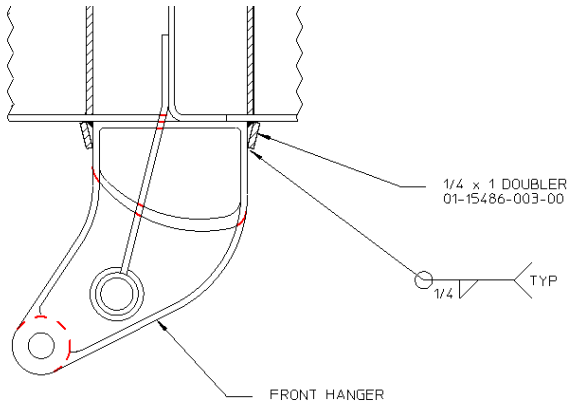
1. If cracks are found on the outer weld of the front spring hangers to the C-Channel, then re-weld front hangers to suspension subframe on the outer side
  - a. Grind down cracked welds even with base material. Insure that hangers stay tight against bottom of subframe, tack weld as necessary. Re-weld with  $\frac{1}{2}$ " wide and  $5\frac{1}{2}$ " long centered over the outer face of the hanger.
2. If no cracks are found on the outer weld of the front spring hangers to the C-Channels, but the weld is found to be undersized or have craters, then weld as follows.
  - a. Weld over existing welds to achieve the  $\frac{1}{2}$ " wide weld, making sure to back fill at the ends of the welds to prevent craters, as shown below.



**Once clean, add an additional weld overlapping the previous weld and hanger**

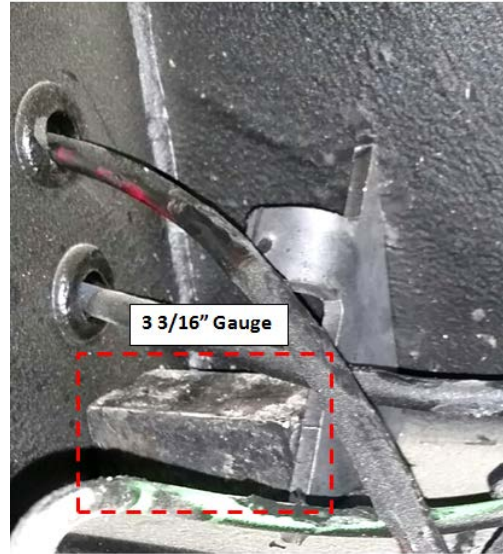
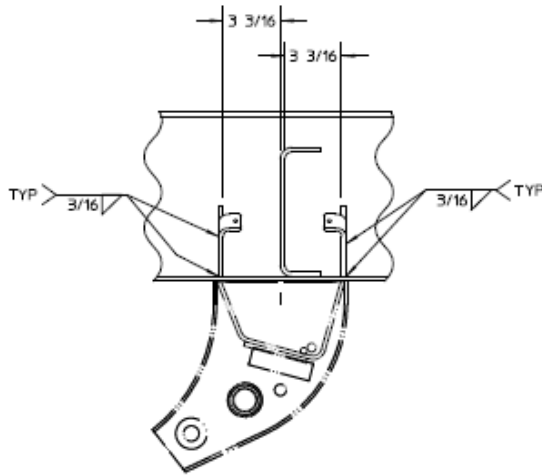
3. If cracks are found through just the welds at the front or rear of the hanger and not the channel material. Re-weld front hangers to suspension subframe on the front and rear.
  - a. Grind down cracked welds even with base material. Insure that hangers stay tight against bottom of subframe, tack weld as necessary. Re-weld with  $\frac{3}{16}$ " wide welds,  $3\frac{1}{2}$ " long, centered on the front and rear face of the hanger as shown in the inspection photo above.
4. If cracks are found inside the C-Channel at the front and rear of the hanger.
  - a. Groove out cracks on the inside of the subframe channel so that full penetration welds can be made. Weld with full penetration  $\frac{1}{4}$ " welds.

- b. Add  $\frac{1}{4}$ " x 1" x 3" (01-15486-003-00) doubler across the front and rear of the front hanger. Doubler will overlap weld and be tight against subframe channel at top and against hanger at bottom, as shown below. Weld around with  $\frac{1}{4}$  fillets.



Doubler at front and rear of front

5. Install two angled stiffeners (01-29191-100-00 & 01-29191-200-00) inside the subframe, directly in line with the front and rear of the hangers,  $3 \frac{3}{16}$ " from the face of the channel to the inside face of the stiffener. Weld and locate as shown below.



- a. It is suggested to use a gauge to keep the  $3 \frac{3}{16}$ " distance from the cross channel to the stiffener. This will ensure the stiffener is squared and located properly upon welding.
- b. The tabs must face inward towards the cross channel.



6. Reattach the air tank to the brackets on the subframe, make sure to use new lock nuts.
  7. After all welding and assembly is completed, spray protective undercoating to the areas of rework, including the gussets and the outside of the C-Channels. This will provide protection against corrosion.
  8. Reattach the  $\frac{3}{8}$ " red emergency air line to the Male Tee located on the Spring Brake Valve. Reattach the  $\frac{5}{8}$ " red air line to the air tank and the  $\frac{3}{8}$ " blue service air line to the frame anchor.
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The newly welded gussets, 01-29191-100-00 & 01-29191-200-00, will include tabs for connecting Tube Clips. Attach the blue airline on the roadside with the 3/8" clips to the two stiffener tabs. Attach the red airline on curbside with the 5/8" clips to the two stiffener tabs. This will prevent chaffing of the lines on the gussets.

9. Airlines should be tested to ensure that none of the hoses were either cut or melted during welding.
  - a. Pressurize air system and check for leaks.
  - b. If test fails, locate the leaking airline and replace accordingly.