

Vermeer MV Solutions, Inc.

Trenchless
 Piedmont, South Carolina 29673 USA

FIELD CAMPAIGN KIT #: VMV000103 Rev. 1

DATE: 2025 August 28

For Dealer Reference: Service Bulletin #: SMV2025-007 Rev. 1

Frame Update Kit - Heavy Units

CAMPAIGN TYPE:	Mandatory – Product Safety DEALER INSTALLATION ONLY QUALIFIED WELDER REQUIRED
CAMPAIGN CATEGORY:	Kit and Bulletin
	Revision 1: A. The service bulletin is being revised to update the labor hours to install from 38 hours to 28 hours and correct the kit number shown on the owner letter. B. Product safety department will send reports to dealers for units which are located in their area on August 28, 2025. C. Owner notifications, sample revision letter at end of this bulletin, will be sent to registered machine owners on September 11, 2025. The remainder of this bulletin is provided for reference as originally published on April 15, 2025.

MACHINE/ ATTACHMENT MODEL(S):	SERIAL NUMBERS:		Kit version
	Included	Excluded	
L PXDT	See attached listing on page 21 of this kit instructions for specific VIN and serial/unit numbers.	None	VMV01
L PSGT	See attached listing on page 21 of this kit instructions for specific VIN and serial/unit numbers.		
L PSDT	See attached listing on pages 22 – 27 of this kit instructions for specific VIN and serial/unit numbers.		



Purpose: TRAILER FRAME FAILURE MAY OCCUR. In certain applications, higher than expected loads increase the risk of a crack developing in the trailer frame. If a crack goes undetected the frame crack can start bending or distorting the frame. A crack in the trailer main frame could result in a loss of stability while towing. **DEATH OR SERIOUS INJURY POSSIBLE.** When towing the vacuum excavator trailer on public roadways, **death or serious injury** may result due to the loss of control of the vacuum excavator trailer and towing vehicle. A frame failure may increase the risk of a crash. Property or equipment damage may also occur.

VMV000103 has been created to provide the necessary parts and instructions to add reinforcement plates to the trailer frame. **The kit must be installed as soon as possible.**



WARNING: Use the following shutdown procedure before attempting to do any of the work described in this kit.

Stopping the Machine

1. Make sure end of vacuum hose is clear of all spoils, debris, and other materials.
2. Turn *Water Pump Switch* to **off**.
3. Push *Throttle Switch* down to slow the engine to idle.
4. Idle engine five minutes to allow vacuum pump to cool down. This helps to prevent the buildup of condensation.
5. Turn *Keyswitch* to **off** to shutdown engine.
6. Pull trigger on high pressure lines to relieve line pressure.



WARNING: If pressure is not relieved, serious injury may occur when attempting to disconnect water lines. Make sure water tools are pointed in a safe direction away from people.

- Unless indicated, new parts from kit have callouts with numbers. Callouts with letters indicate existing parts or general items.



WARNING: Pressurized fluid can penetrate body tissue and result in death or serious injury. Leaks can be invisible. Keep away from any suspected leak. Relieve pressure in the hydraulic system before searching for leaks, disconnecting hoses, or performing any other work on the system. If you must pressurize the system to find a suspected leak, use an object such as a piece of wood or cardboard rather than your hands. When loosening a fitting where some residual pressure may exist, slowly loosen the fitting until oil begins to leak. Wait for leaking to stop before disconnecting the fitting. Fluid injected under the skin must be removed immediately by a surgeon familiar with this type of injury.

These instructions are for adding the reinforcement plates to the LP873 heavy trailer frames. All cutting, grinding, and welding should be done by qualified personnel. Lifting and removal of components should be done with properly rated equipment (cranes, lifting devices, etc.) During disassembly, the frame should be inspected for cracks. Any cracks that cross from the flange into the web of the I-Beam cannot be repaired and the trailer should be replaced. Cracks solely in the flange or solely in the web of the I-Beam should be repaired as described in the “Cracks” section on page 4. Any cracks in brackets should be repaired, if possible, or the part replaced if necessary.

Vermeer Corporation Welding Instructions

- **Scope:** These field welding instructions are intended for use on weld repairs and addition of stiffener plates on the LP 873 heavy trailer frame, drawing W2-LP08-T-S5.
- **Limitations:** These welding instructions are intended for use only with Vermeer Corporation supplied or approved components and as directed by Vermeer Corporation.
- **Certifications:** All welding shall be performed by a welder qualified in the position and process used to AWS D14.3/D14.3M, Specification for Welding Earthmoving, Construction, and Agriculture Equipment or one of the following: AWS D1.1, ASME Section IX, ISO 9606-1.
- **Work Area Preparation & Safety:** The company performing the welding is responsible for supplying the appropriate protective equipment, complying with the appropriate safety regulations (e.g., ANSI Z49.1), and taking appropriate measures to protect their personnel in the welding environment. Further, they are responsible for protecting sensitive equipment and components from the hazards of welding (e.g., shielding electronics, paint, plastics, etc. from the heat, light, and sparks of arc welding). Follow the battery and/or controller disconnection specifications in the machine service manual. Disassemble the machine per instructions that follow.

Cracks

Prepping the crack(s) for repair: Determine overall crack length by visual inspection and/or preferably by magnetic particle or dye penetrate. Appropriately clean area before performing test. Mark the extent of the cracks to guide cutting/gouging them out.

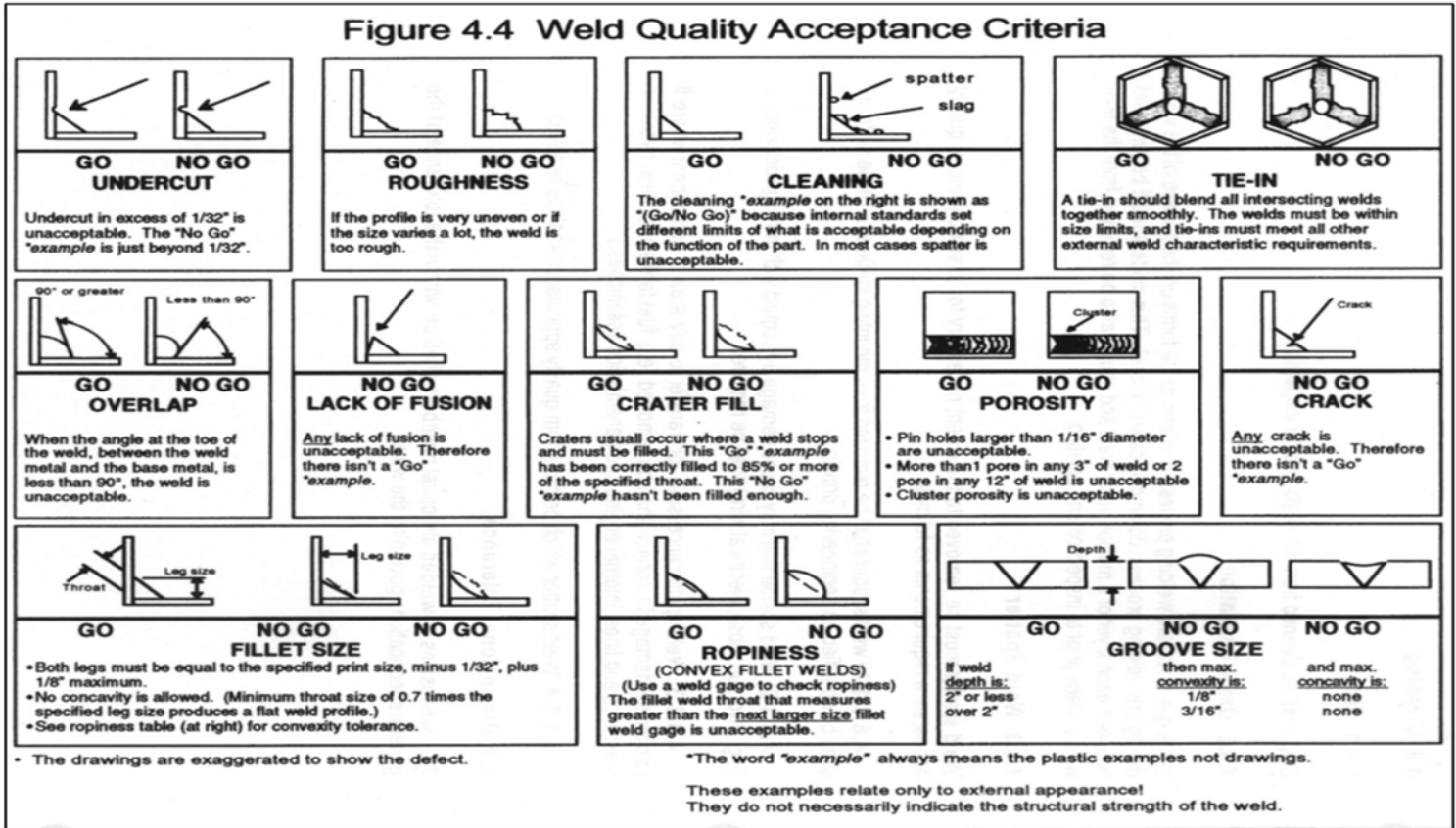
- 1) Once end of crack location is determined, drill a 1/8" diameter hole through the beam where the crack tip ends. If end location of crack is difficult to determine, then drill the hole 1/4" away from where the crack is believed to end to be safe.
- 2) Use a cut-off wheel or other appropriate tool to grind out the crack along its length. Cut out any cracked welds in the area too. Go from the origin of the crack to the OD of the hole that was drilled. Then widen root opening to 1/8" along the entire length of the crack area. The resultant should be a 1/8" wide cut in the beam that starts at the edge and goes to the drilled hole (reference figure 3) for flanges. For the web, the crack should be gouged out until no cracks are visible, which may or may not be through the entire web (reference figure 10).
- 3) Reinspect to ensure the entirety of the crack(s) has been removed. Use the same inspection process selected in step 1. If any remaining crack is found, repeat steps 1- 4.
- 4) At this time, clean all weld surfaces with a grinder. Surfaces within 1/2 inch [12 mm] of weld locations shall be free from any material that will prevent proper welding. This includes moisture, loose or thick mill scale, paint, slag, heavy rust, grease, dirt, or any other foreign material that will adversely affect the quality or strength of the weld.

Welding of crack(s): Follow the weld parameters and guidelines that are later in the document during this procedure.

- 1) Verify straightness of beam is still proper before welding.
- 2) For web cracks, weld the area that was gouged. Weld does not need to be ground flat as nothing is welded to this face. If cracks were through the beam, back gouge through the opposite side and weld the area on this face as well.
- 3) For flange cracks, start by using a run-on tab(s) (small piece of scrap metal) and tack to the inside edge of the beam frame so you can start the weld here and not the frame. This will increase the chance of a good quality edge tie-in. Use two pieces if necessary and set the same 1/8" root opening, the size of the run-on tabs is not important, only to match the 1/4" frame thickness.
- 4) Once run-on tab is tacked, weld the top side (inside) of the I-beam frame. Begin on the run-on tab and end where the hole is located.
- 5) Next, back gouge from the bottom side to sound metal using appropriate means (grind or carbon arc.) A full penetration weld is required here so be sure to verify gouge is deep enough.
- 6) Once back gouge is complete, finish the overhead weld.
- 7) When welding is complete here, cut off run-on tab and grind edges smooth. Also grind the top and bottom sides of the repaired weld face flat if the reinforcement is beyond 1/8" high or the toe angles are not optimal. (If weld looks good, you will still have to grind the top side (inside) weld because a plate sits there).
- 8) Retest finished weld by dye penetrant or magnetic particle to verify no cracks occurred during the repair process and weld repair is acceptable.

Final work:

- 1) Inspect all welds in accordance with the weld quality acceptance criteria listed on Figure 4.4. Repair any defective welds and reinspect. If defects (no go) are found, remove and repair them using one of the weld processes listed in this document.
- 2) Remove any temporary tacks that are outside weld joints.
- 3) Grind any hard notches or unacceptable weld profiles down. Pay particular attention to having a smooth leading edge on the run-out weld beads from the stiffener plates.
- 4) Reinspect general area to be sure no cracks formed during the repair process.
- 5) Paint area as required once weld has cooled.



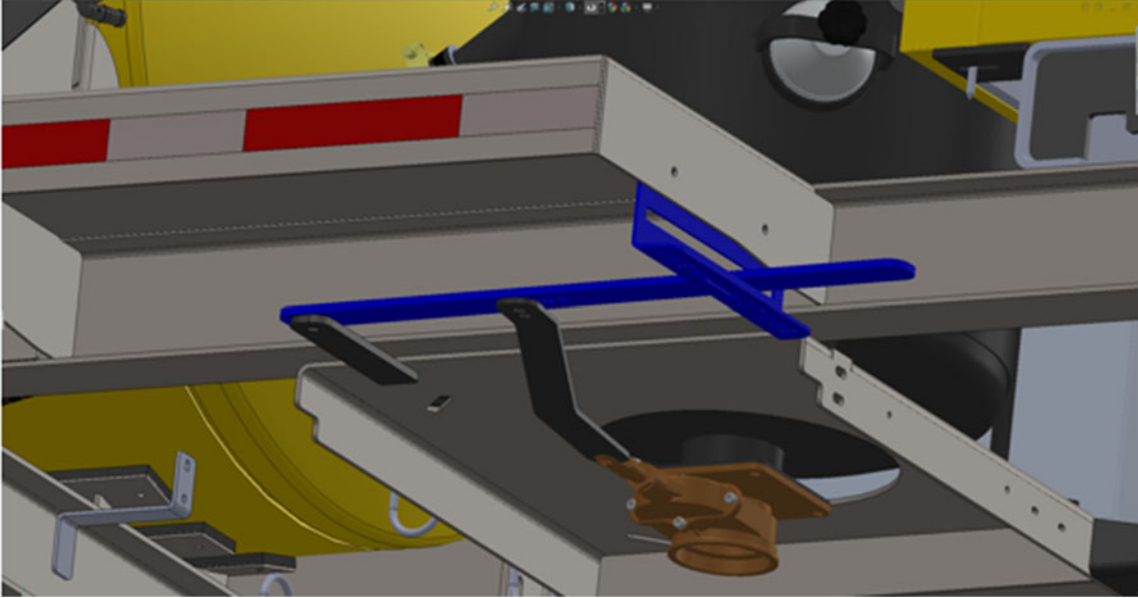
Allowable Welding

- **Gas Metal Arc Welding [GMAW/MIG/MAG]:**
- Environment: This process shall only be used when welding can be performed in a shop environment and the weld joints can be positioned in the flat or horizontal positions. If vertical or overhead welding is required, FCAW or SMAW are recommended.
- Electrode: AWS classification ER70S-3 or ER70S-6 [ER48-S6] (e.g., Lincoln L50 or L56)
- Size: 0.045" [1.2 mm]
- Wire Feed Speed: Minimum 350 IPM [9 MPM] - Maximum 520 IPM [13 MPM] (optimum 450 IPM [11.5 MPM])
- Voltage: Minimum 26 volts - Maximum 30 volts (optimum 27.5 volts)
- Amperage: Amperage is a function of wire feed speed, but should read in the range of 250-370
- Electrode Stickout: ½ " – ¾ " [12 mm – 20 mm]
- Shielding Gas: 95% Argon - 5% Oxygen or 90% Argon - 10% CO₂ at 40 cfh [1.1 cmh]
- Position: All welding should be in the flat or horizontal position. Vertical welding shall be uphill. No downhill welding is permissible.
- **Flux Core Arc Welding [FCAW]:**
- Environment: This process should only be used when welding can be performed in shop environment for all welding positions. Protect the area from wind and moisture. If field welding is required, SMAW is recommended.
- Electrode: AWS classification E71T-1M [E491T-1M] (e.g., Lincoln Ultracore 71A85)
- Size: 0.052" [1.3 mm] or 1/16" [1.6mm]
- Wire Feed Speed: Minimum 200 IPM [5 MPM] - Maximum 500 IPM [13 MPM]
- Voltage: Minimum 23 volts - Maximum 30 volts
- Amperage: Amperage is a function of wire feed speed, but should read in the range of 220-370
- Electrode Stickout: ¾ " – 1 " [20 mm – 25 mm]
- Shielding Gas: See electrode manufacturer recommendation (usually 75Ar/25CO₂ or 100 CO₂@ 40 cfh [1.1 cmh])
- Position: Flat, horizontal, vertical, and overhead positions are permissible. Vertical welding shall be uphill. No downhill welding is permissible.

Procedure 1:

Prepare the Unit for Installation Process

- Thoroughly clean the unit. Use the wash wand, soap, and water. This will help reduce contaminants in the welds and make it easier to paint.
- Remove the Baghouse Drain Handle and the Bracket that the handle rides in. Store the parts until re-assembly.



Remove the Boom

- Disconnect the Hydraulic lines, Plunger Wash lines and Electrical lines. Cap the hydraulic lines to prevent intrusion.



Hydraulic Lines

Electric Lines

- Remove the Bolts on the Slew Drive to disconnect from the Tank.
- Lift the boom off the unit and store until re-assembly.

Disconnect the Tank

- Unhook Hydraulic lines to the lift cylinders – Cap lines to prevent intrusion.



Hydraulic Lines

- Remove the pins from the bottom of the tank lift cylinders.



Lifting Cylinder Pins

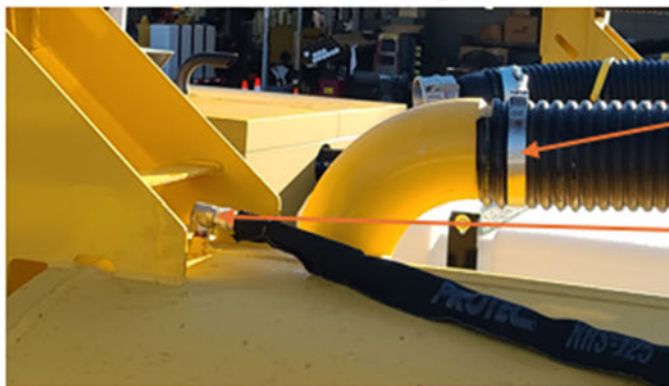
- Unhook the hydraulic lines running up to the Door Unlock Cylinder and Door Open cylinder.



Hydraulic Lines



- Unhook any light bar electrical wires. Drape all hoses and lines out of the way.
- Remove the Debris Hose and unhook the tank washout hose from the Top of the tank. Verify nothing is attached to the tank.



Debris Hose

Washout Hose

- Remove the bolts holding the rear bearings in the Frame Towers.



4 Bolts
each side

Lift the tank

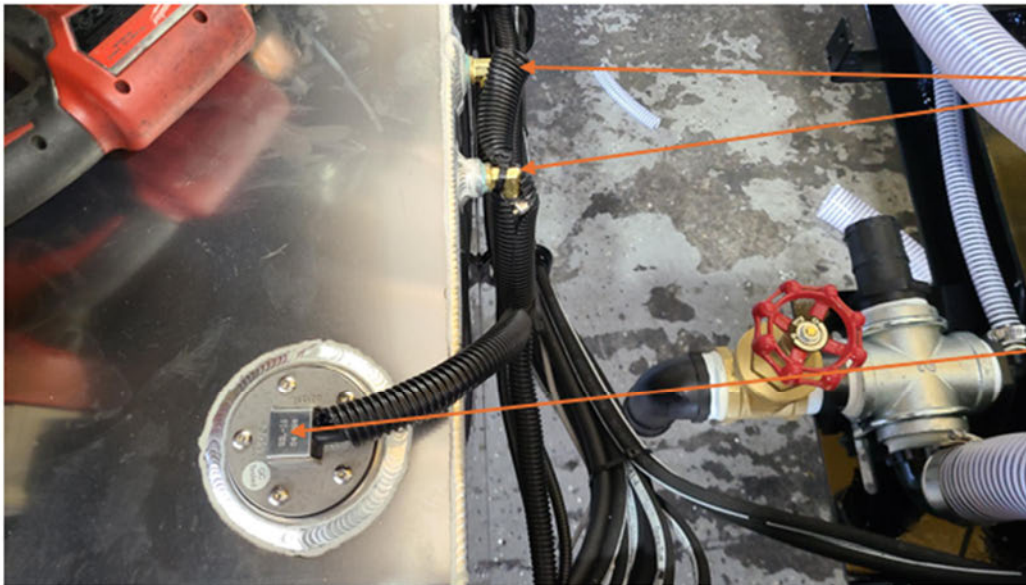
- Verify nothing is attached to the tank from the trailer.
- Using a crane or other suitable lifting device, lift the debris tank off the trailer.



- Store until re-assembly.

Remove the Fuel Tank

- Drain the fuel tank.
- Disconnect the hoses and electrical lines running to the fuel tank. Cap the lines to prevent intrusion.



Fuel Lines

Fuel Level Sensor

- Unbolt the fuel tank from the bottom.
- Slide the tank to the rear and lift off the unit.



- Store the tank until re-assembly.

Remove Water Tank Cross Over Lines

- Remove the water tank cross over lines. The hoses will need to be cut to get them off the pipe nipples. Discard any hoses that are cut, there are replacement hoses included in the kit (P/N's 135020225 and 135020226).

- Remove the two ¾" lines from the antifreeze valve. These hoses may need to be cut. Discard any cut hoses. There are replacement hoses in the kit (P/N's 135020223 and 135020224).

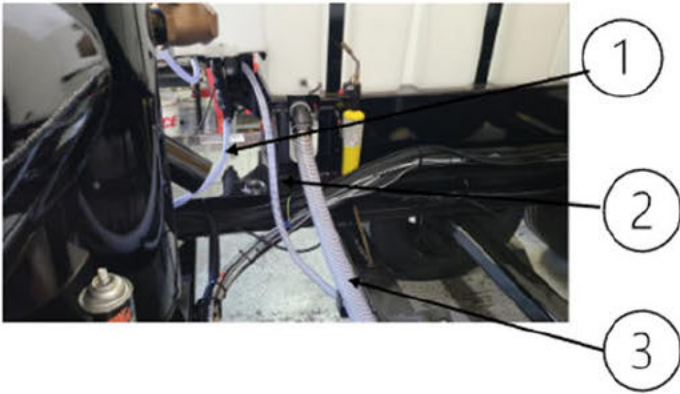


Figure 9

Prepare the Trailer for Cutting and Welding

- Tie the wires, hoses, and hydraulic lines up out of the way for cutting grinding and welding. Use weld blankets and bent metal shields where necessary.

Rear Trailer Gussets and Plates

- Cut the rear gussets off the trailer. Use a torch and/or grinder.
- Cut the plate off the I-Beam.



Rear Trailer Gussets and Plates

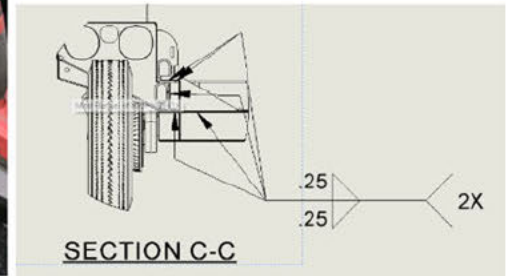
- Grind the welds back to parent material in the I-Beams.



- Weld the new gusset (P/N 135019627) in place between the cross member I-Beam and side rail I-Beam.



Figure 1



- Weld the gusset plate (P/N 135008253) onto the I-Beam.
- Weld the smaller gusset plate (P/N 135008258) onto the I-Beam.

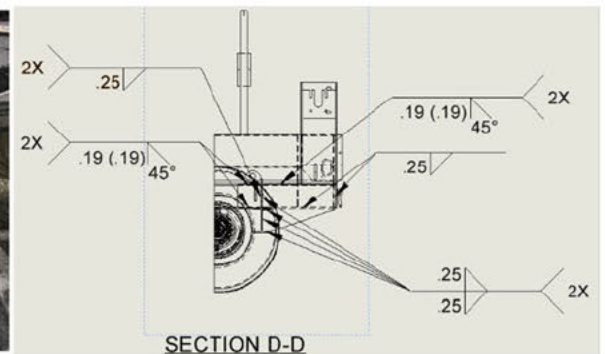
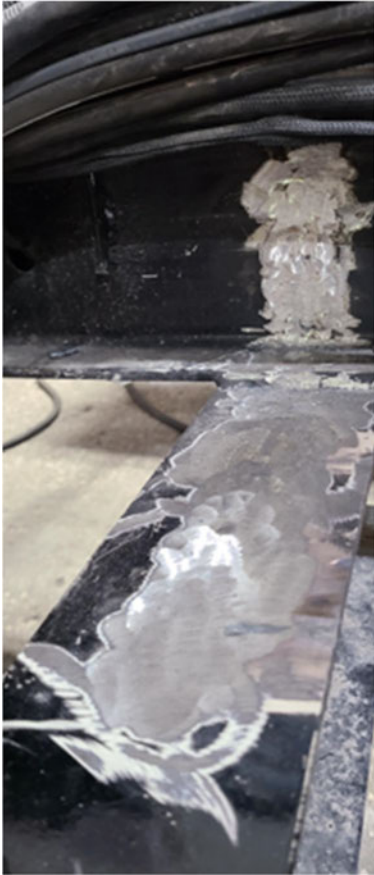


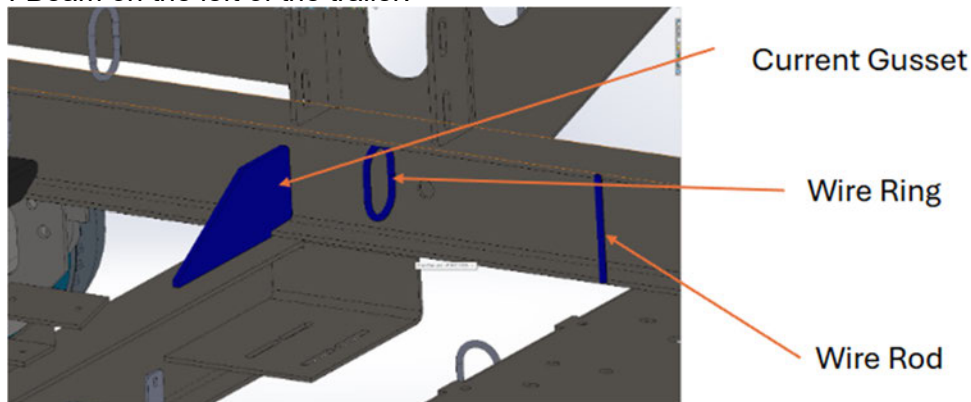
Figure 2

Mid Trailer Frame Gussets

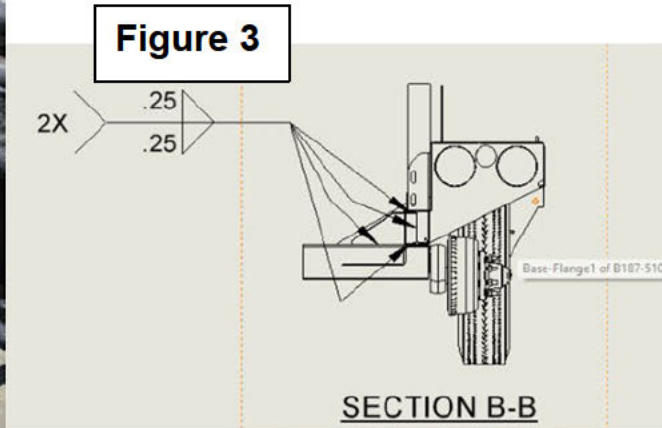
- Cut the front gussets from the trailer. Grind the welds back to the parent material.



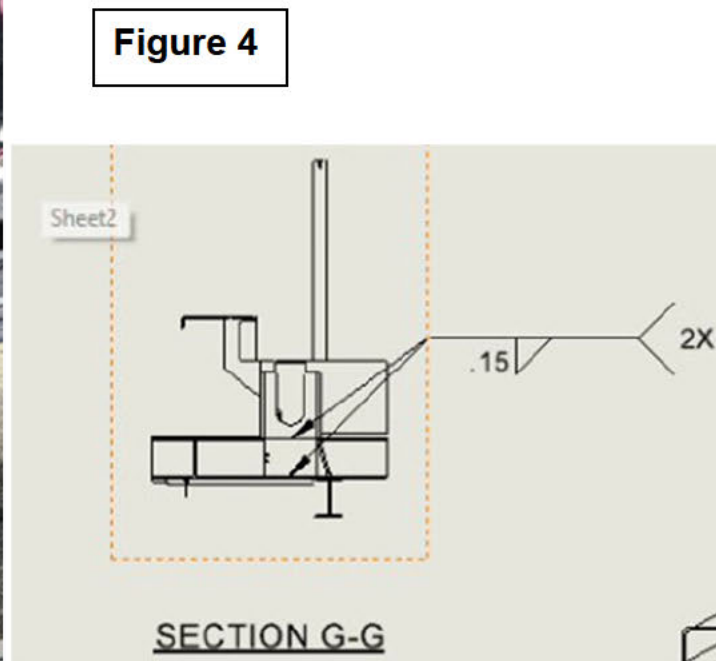
- Remove the wire ring or angle bracket near the fender reinforcement bracket. Disconnect the side marker lights and pull the wire out.
- It may be necessary to cut the wire rod or tube that holds the hydraulic lines where the belly pan meets the I-Beam on the left of the trailer.



- Weld the front gusset (P/N 135019659) onto the trailer (it welds at a slight angle).



- Weld the I-Beam reinforcement (P/N 135019965) in front of the gusset. Be sure the two holes are towards the front of the unit.

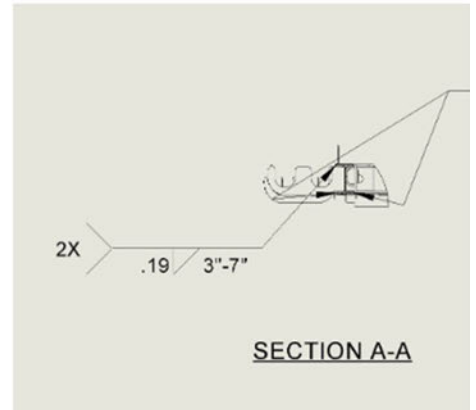


Top and Bottom I-Beam Reinforcements

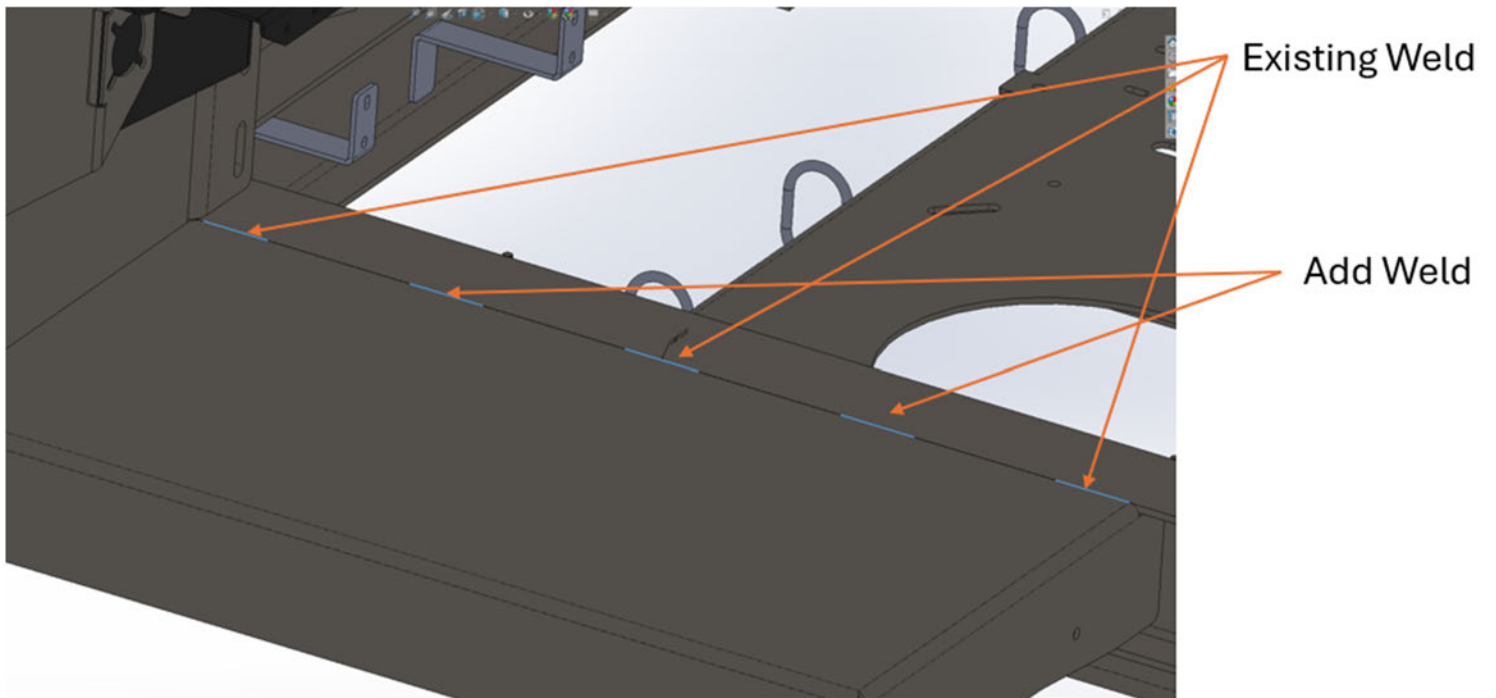
- Weld the left-hand top reinforcement (P/N 135019311) on the trailer.



Figure 5



- Add 2 more stitch welds to the platform. Grind all the welds flat.



- Weld the right-hand top reinforcement (P/N 135019311) on the trailer.

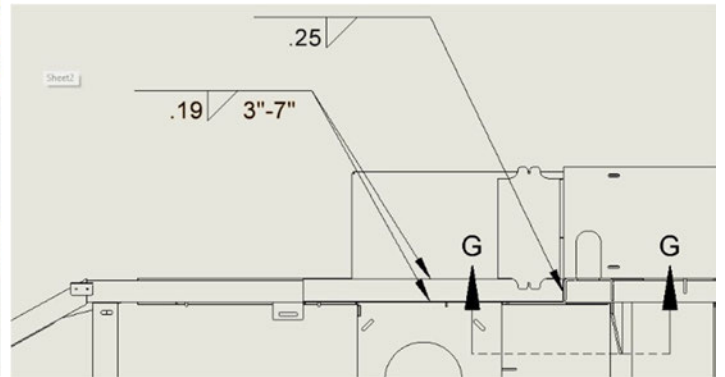
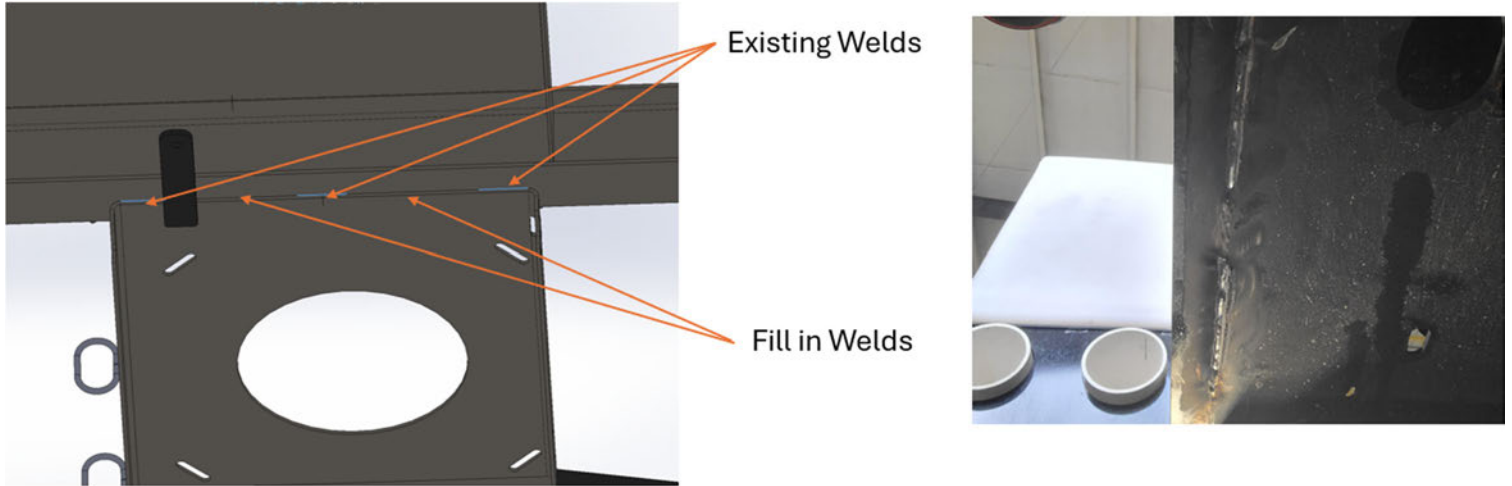
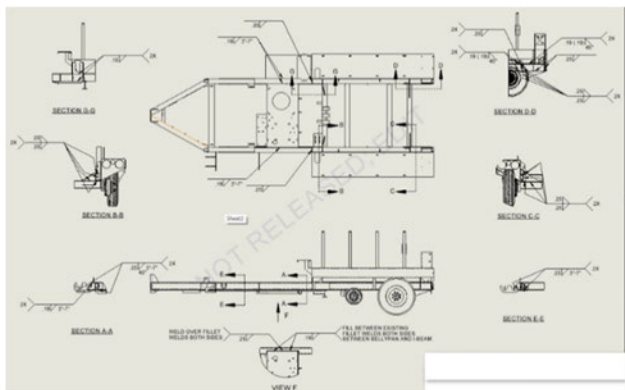
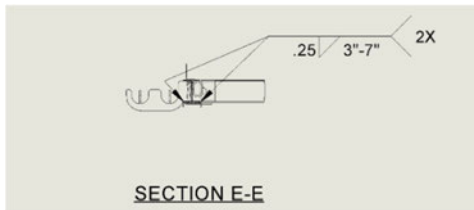


Figure 5

- Fill the stitch welds between the I-Beam and the belly pan on the bottom, both sides.

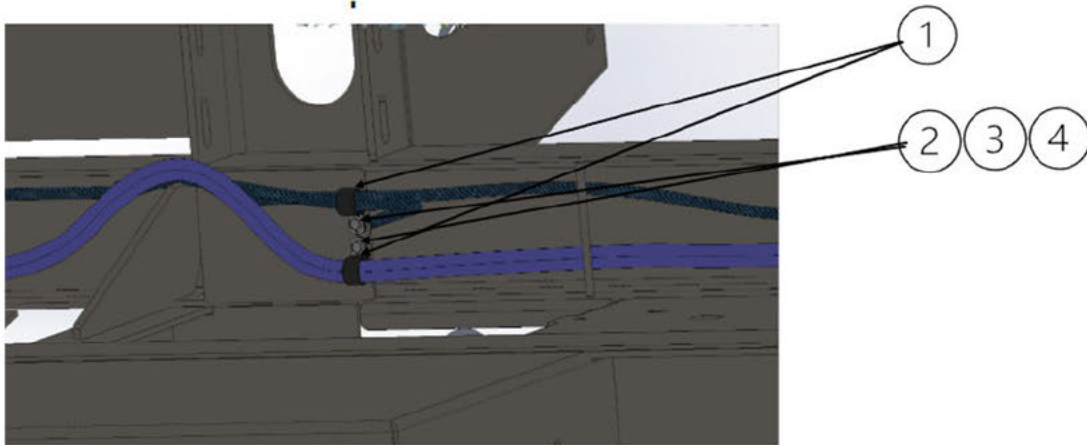


- Position the lower reinforcements (P/Ns 135019314 and 135019613) on the trailer. Mark any areas that interfere with the welds on the belly pan and cut/grind them away.
- Weld the reinforcement onto the bottom of the trailer taking care not to burn any hoses, lines, or wires.



Hose Constraints

- Right-side hydraulic hoses (2) previously constrained by the wire loop should be constrained by a 1" P-Clip (P/N 135012897).



- Left-side hydraulic hoses (2) previously constrained by the wire loop should be constrained by a 1" P-Clip (P/N 135012897).
- The right-side wire harnesses (2) should be constrained by another of the same P-Clip.

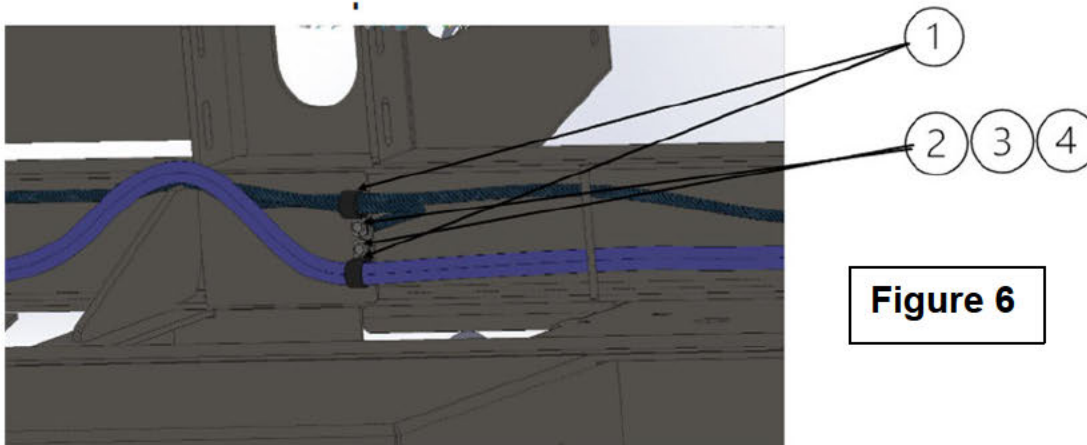
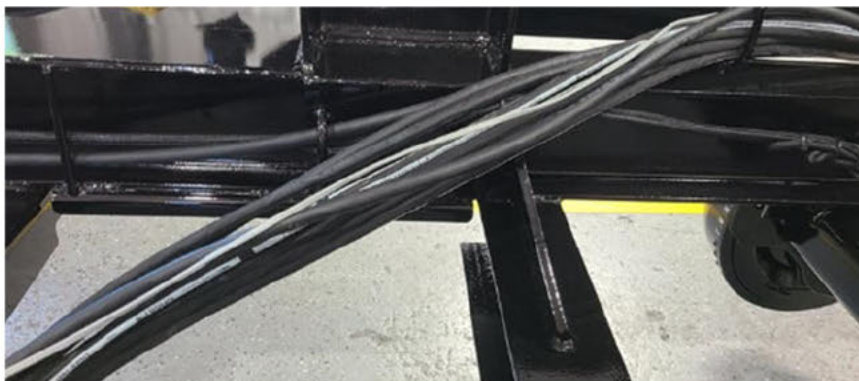


Figure 6



Paint

- Mask the various hydraulic lines, hoses, and electrical lines.
- Prime any areas of bare metal then paint it black.
- Re-Assemble the unit.

Decals

- Replace damaged/covered stickers.
- Conspicuity Tape
 - Inside the rear cross member



- Hydraulic Oil Decal
 - Left-hand rail near hydraulic pump



Figure 7

- Water Tank Drain Decal
 - Left-hand rail near drain valve



Figure 8

LPXDT AFFECTED MACHINES - VMV010103

MODEL	VIN	SERIAL/UNIT	MODEL	VIN	SERIAL/UNIT
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

MODEL	VIN	SERIAL/UNIT	MODEL	VIN	SERIAL/UNIT
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

UNIT OWNER COPY:
 Insert in parts manual
 for future reference.

Figure 1



Figure 1 parts list

REF. NO.	PART NO.	DESCRIPTION	IK01 QTY.
1	135019627	PLATE, CROSS MEMBER GUSSET	2
		Kit includes all items in Figure 1 parts list.	

UNIT OWNER COPY:
 Insert in parts manual
 for future reference.

Figure 2



Figure 2 parts list

<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>IK01 QTY.</u>	<u>Remarks</u>
1	13508253	GUSSET, REAR, 6" I-BEAM	2	
2	13508258	GUSSET, REINFORCEMENT, 6" I-BEAM	2	
		Kit includes all items in Figure 2 parts list.		

UNIT OWNER COPY:
 Insert in parts manual
 for future reference.

Figure 3



Figure 3 parts list

REF. NO.	PART NO.	DESCRIPTION	IK01 QTY.	Remarks
1	135019569	PLATE, GUSSET FRAME	2	
		Kit includes all items in Figure 3 parts list.		

UNIT OWNER COPY:
 Insert in parts manual
 for future reference.

Figure 4

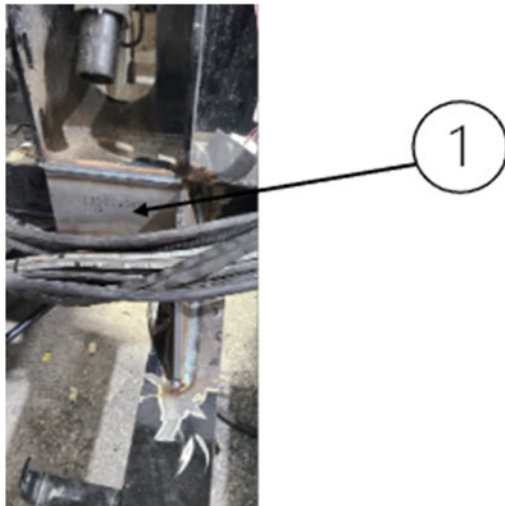


Figure 4 parts list

REF. NO.	PART NO.	DESCRIPTION	IK01 QTY.	Remarks
1	135019965	PLATE, I-BEAM REINFORCEMENT	2	
		Kit includes all items in Figure 4 parts list.		

UNIT OWNER COPY:
 Insert in parts manual
 for future reference.

Figure 5



Figure 5 parts list

REF. NO.	PART NO.	DESCRIPTION	VMV01 QTY.	Remarks
1	135019311	PLATE UPPER FRAME REINFORCEMENT	2	
		Kit includes all items in Figure 5 parts list.		

UNIT OWNER COPY:
 Insert in parts manual
 for future reference.

Figure 6

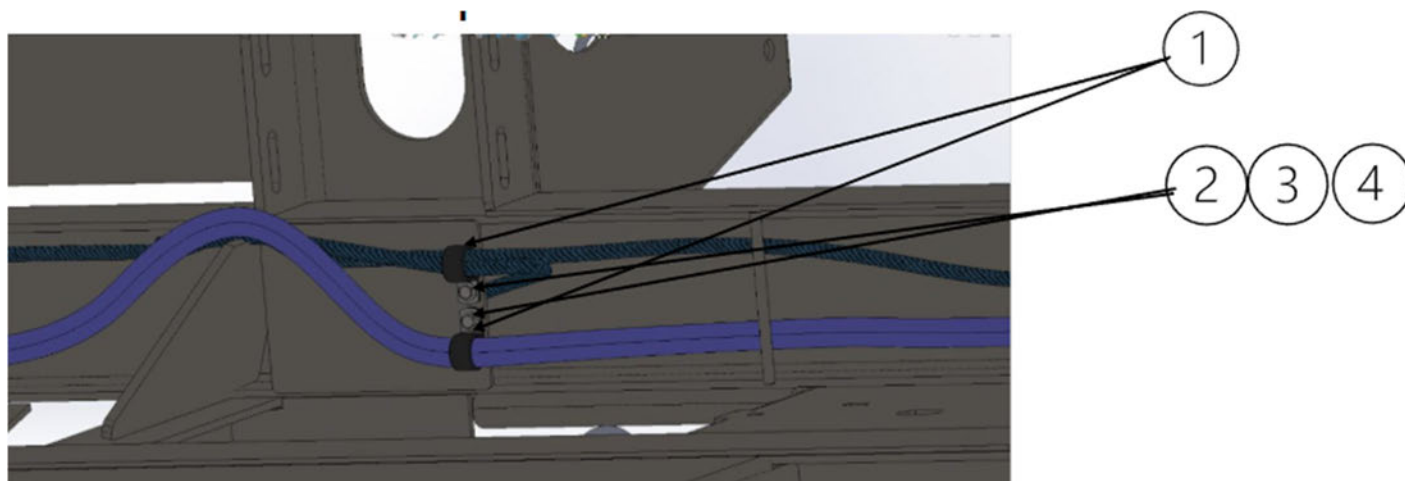


Figure 6 parts list

REF. NO.	PART NO.	DESCRIPTION	VMV01 QTY.	Remarks
1	135012897	1" DIA VNL OF HOLE	4	
2	U000080	SCEW, HC .250-20x1.25ZP G5	4	
3	U120000	NUT LOCK NY .250-20 ZP G2	4	
4	U200020	WASHER FLAT ¼ ZP	4	
		Kit includes all items in Figure 6 parts list.		

UNIT OWNER COPY:
 Insert in parts manual
 for future reference.

Figure 7



Figure 7 parts list

REF. NO.	PART NO.	DESCRIPTION	VMV01 QTY.	Remarks
1	P-3478-DEC	Decal, "HYDRAULIC FLUID ONLY"	1	
		Kit includes all items in Figure 7 parts list.		

UNIT OWNER COPY:
Insert in parts manual
for future reference.

Figure 8



Figure 8 parts list

REF. NO.	PART NO.	DESCRIPTION	VMV01 QTY.	Remarks
1	P-0763-DEC	DECAL, "WATER TANK DRAIN", BLACK AND WHITE	1	
		Kit includes all items in Figure 8 parts list.		

UNIT OWNER COPY:
Insert in parts manual
for future reference.

Figure 9

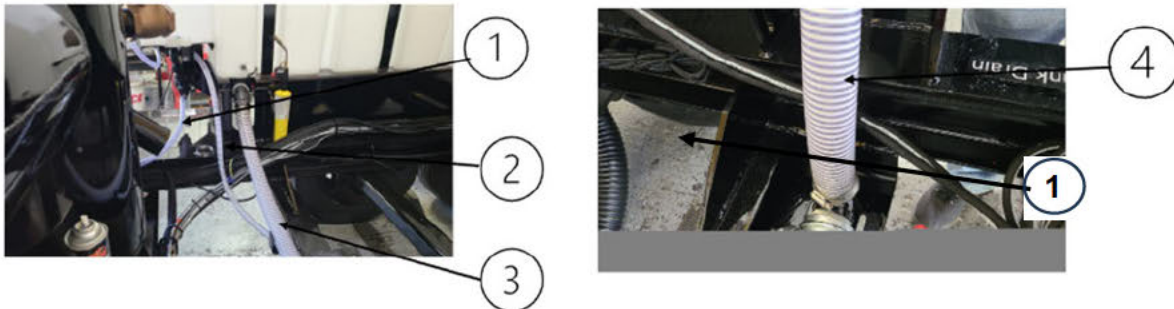


Figure 9 parts list

REF. NO.	PART NO.	DESCRIPTION	VMV01 QTY.	Remarks
1	1350020223	HOSE, 3/4" CLEAR – 78"	1	
2	1350020224	HOSE, 3/4" CLEAR – 136"	1	
3	1350020225	HOSE, 2" CLEAR – 24"	1	
4	1350020226	HOSE, 2" CLEAR – 54"	1	
		Kit includes all items in Figure 9 parts list.		