



TECHNICAL INSTRUCTIONS

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30 Gallon Fuel Tank Installation

Models: X4 7700

Purpose: The intent of this technical instruction is to provide guidelines for installing 30-gallon sumpless fuel tank with electric fuel pump located at the tank.

Required Parts

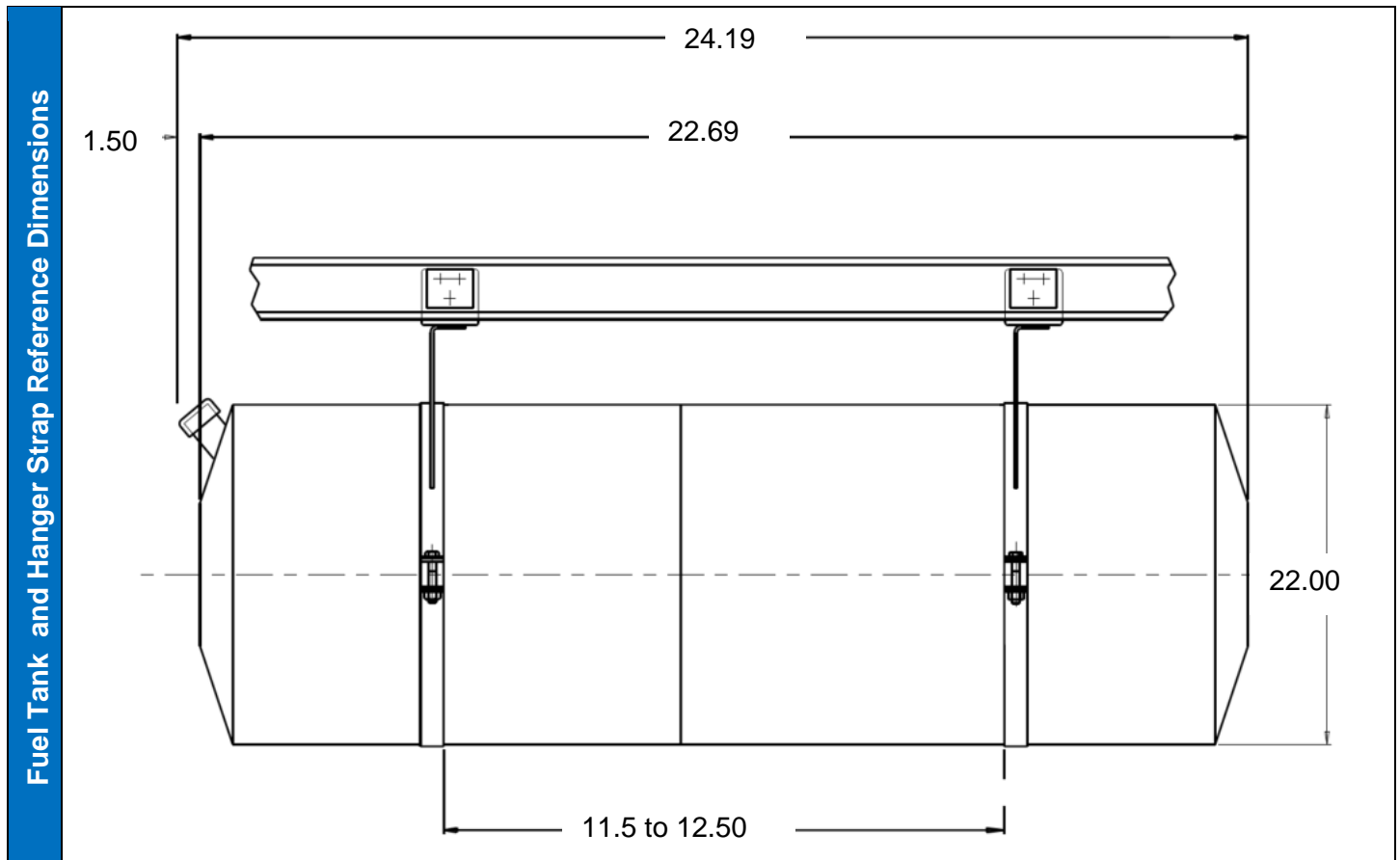
Quantity	Part Number	Part Description
1	12-00921-02	Tank, Fuel
1	76-00988-01	Kit, Installation
1	79-01623-06	Kit, Tank Strap
1	Loctite 577	Sealant, Thread

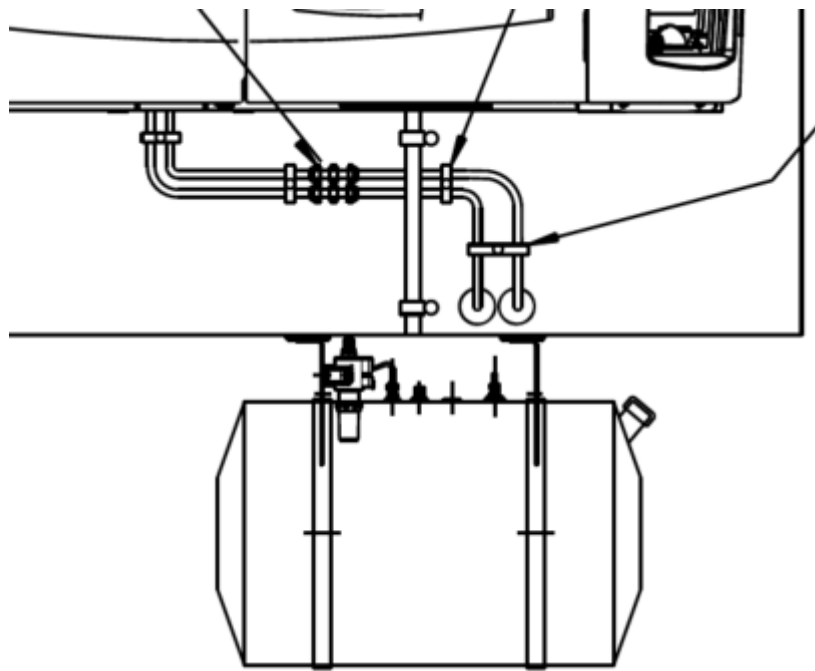
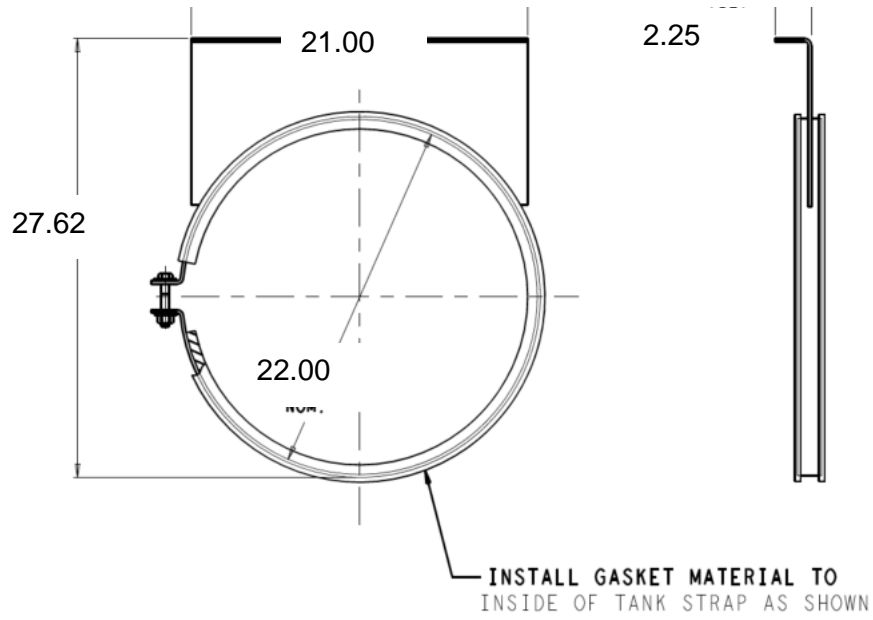
Required Tools

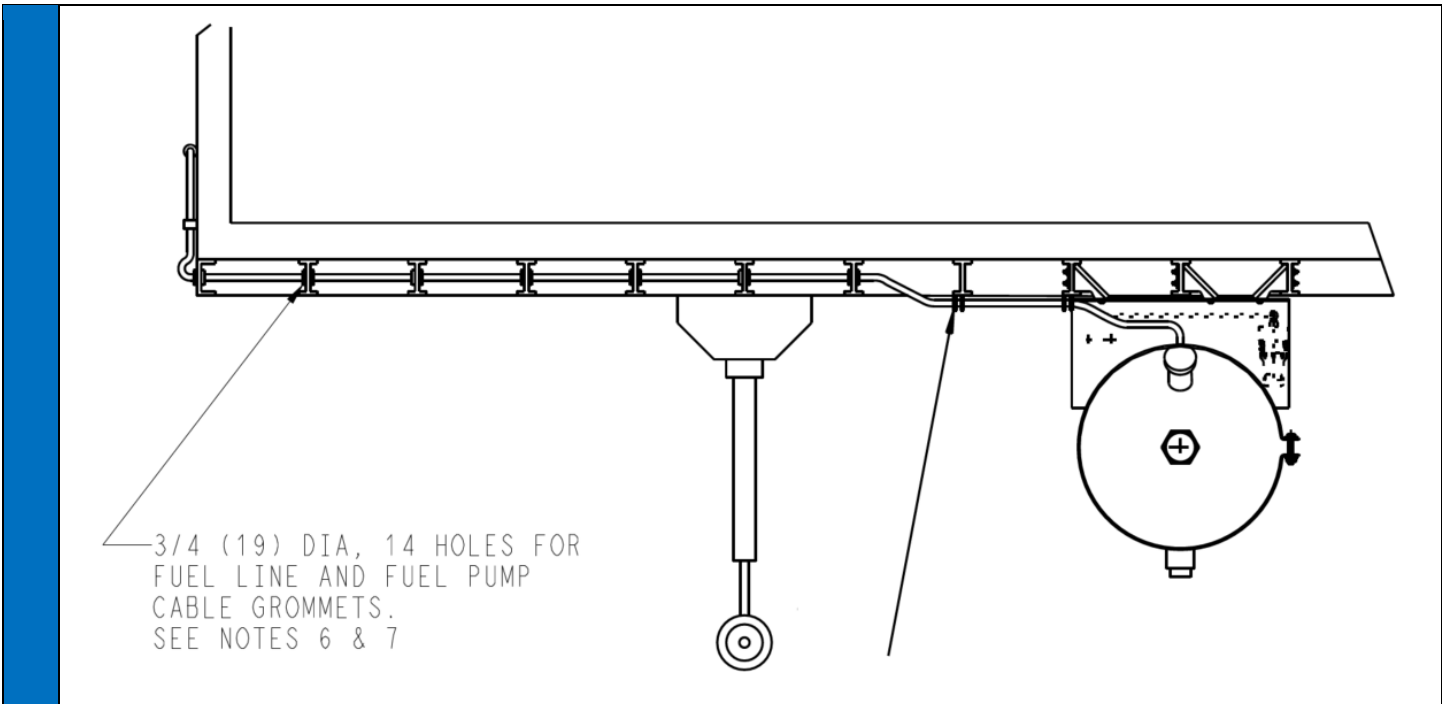
Part Number	Part Description
Customer Supplied	Drill
Customer Supplied	Bit, Drill 9/16” and 13/32”
Customer Supplied	Cutter, Hose
Customer Supplied	Crimper, Weather Pack 14-16 AWG
Customer Supplied	Wrench, Torque (9-60 ft-lb)

Installation Requirements

Component	Requirement
Fuel Tank Support Straps and Brackets	Must attach to three steel crossmembers.
	Interface with three crossmembers for 12.00" center.
	Structural steel channel required to span between crossmembers if 15.00" center.
	Mylar spacer required between fuel tank hanger bracket and I-beam and between I-beam and backing plate.
	Mylar washers required between nuts and bolts where they contact fuel tank hanger brackets and backing plates.
	Routed through grommets when passing through holes in trailer
Fuel Lines	¾" conduit may be used for fuel line routing in place of grommets
	Separate supply and return lines from each other where possible
	Route separately from fuel lines where possible
	Apply pipe sealant to all pipe connections.
	Cut fuel lines with fuel line cutter. Cuts must be perpendicular.
	Supply/return lines 1.00" from bottom of tank.
	Avoid sharp bends in the line or rubbing on the trailer frame or tank/brackets.
Component	Requirement
Threaded Fittings	Apply Loctite 577 to all male NPT threads.
	Use backing wrench when tightening fittings.
Fuel Pump Harness	Route separately from fuel lines where possible.
	Secured every 12.00".
	Avoid sharp edges, pinch points, and heat sources.





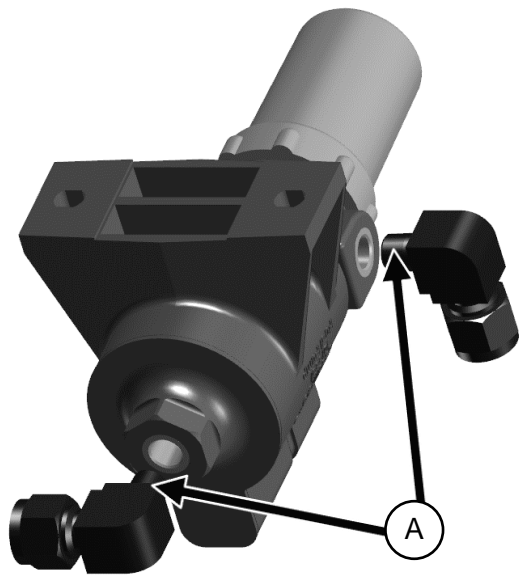


Tank Preparation and Strap Installation

<p>1</p>	<p>Apply thread sealant (A) (Loctite 577) to male threads of fuel line adapters and tank vent fitting.</p> <p>Screw fittings into tank until finger tight and then 1-1/2 to 3 turns with wrench.</p> <p>Align vent fitting so that barb will face rear of trailer when tank is installed.</p>
<p>2</p>	<p>Install fuel level sensor FLS (1) into sensor port on the tank (5).</p> <p>Refer to 98-02678-00 for FLS installation instructions.</p>

<p>3</p>		<p>Clean any dirt and oil from exterior surface of fuel tank.</p> <p>Apply Mylar sheets to fuel tank where tank strap gasket will contact the surface of the tank.</p> <p>Position sheet ends at least 0.5" away from weld seams.</p> <p>Note: Use of decal squeegee is recommended to avoid trapping air pockets during installation.</p> <p>Trim as required ensuring smooth cut edge.</p>
<p>4</p>	<p>INSTALL GASKET MATERIAL TO INSIDE OF TANK STRAP AS SHOWN</p>	<p>Install gaskets to inside of both tank straps.</p> <p>Align ends of gasket with end of tank straps.</p>
<p>5</p>		<p>Install the inner tank bracket so that the gasket is flush with the edge of the vent bung and rotated so that the fill neck will be vertical when installed.</p> <p>Install the outer tank bracket so that the centerline distance between the mounting holes is between 13.00" and 14.00" depending trailer crossmember configuration.</p> <p>Rotate tank bracket so that it is coplanar with the inner tank bracket mounting flange.</p> <p>Tighten hardware to 25 ft-lb.</p>

6



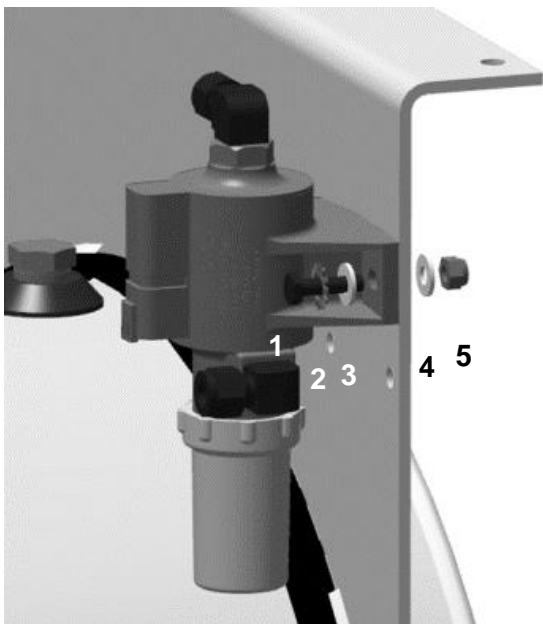
Apply thread sealant (A) to threads of elbow fittings.

Screw fittings into pump body until finger tight and then 1-1/2 to 3 turns with wrench.

Note: Use backing wrench on pump body when tightening fittings to avoid damage to pump. Do not overtighten fittings

Align fittings so that final position is as shown.

7



Secure electric lift pump to fuel tank bracket with hardware as shown.

1. Bolt
2. Star washer
3. Flat washer
4. Flat washer
5. Lock nut

Note: Use top set of holes to secure pump to bracket. Pump will contact fuel tank if mounted to lower holes.

Tighten hardware to 9 ft-lb.

8

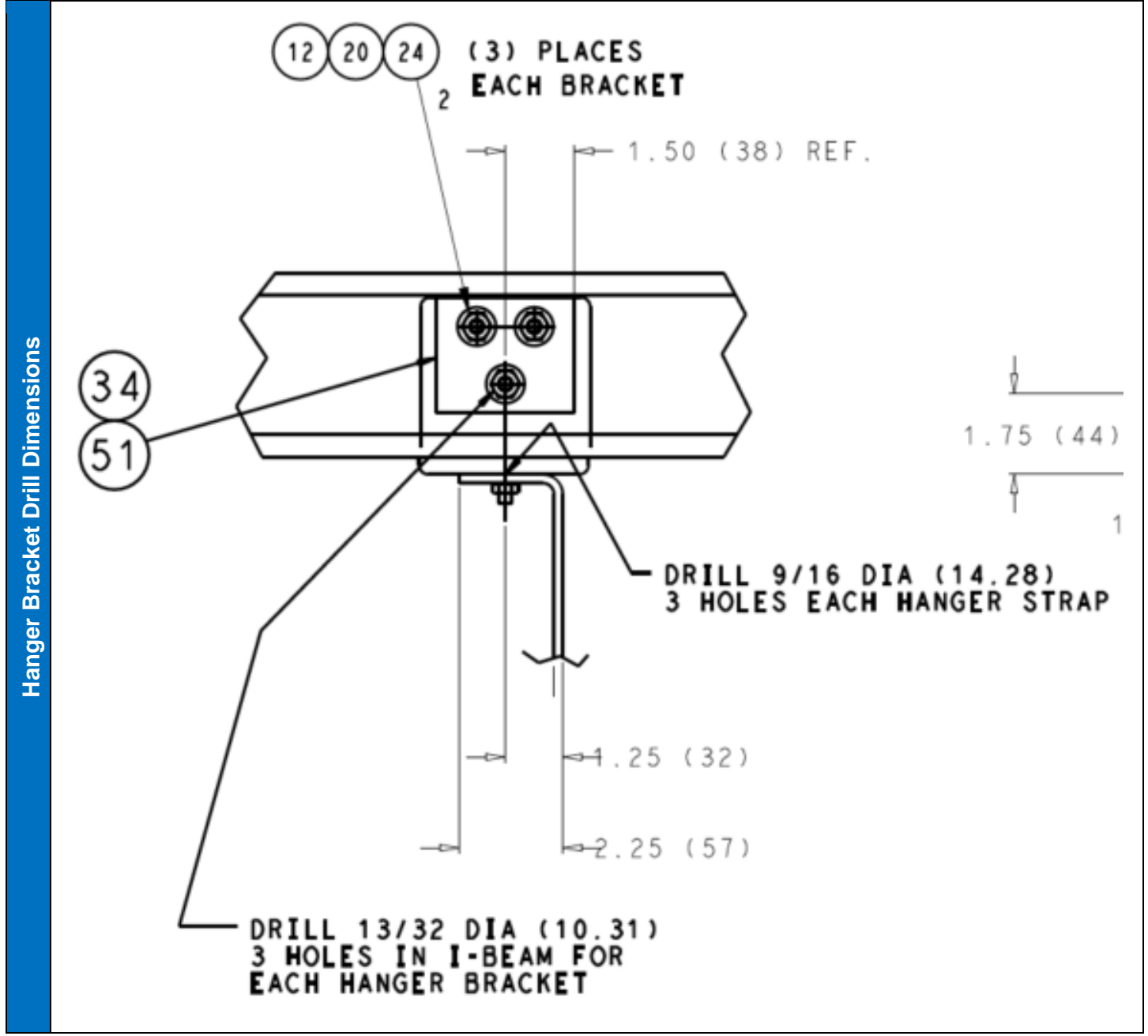


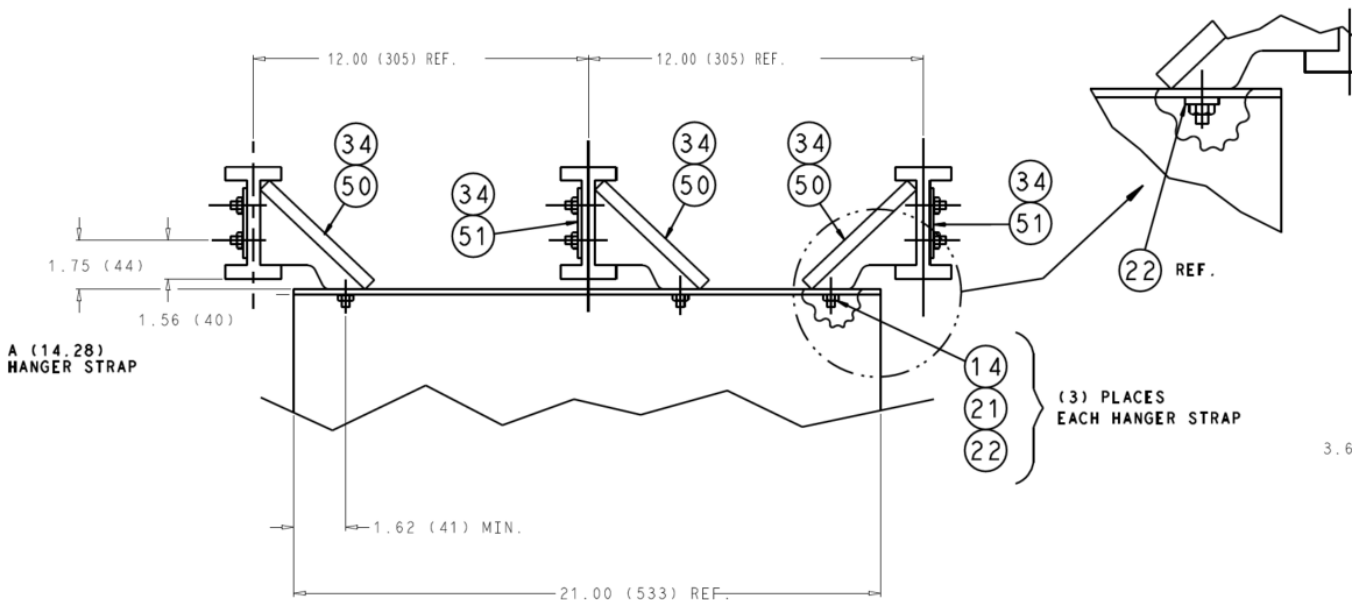
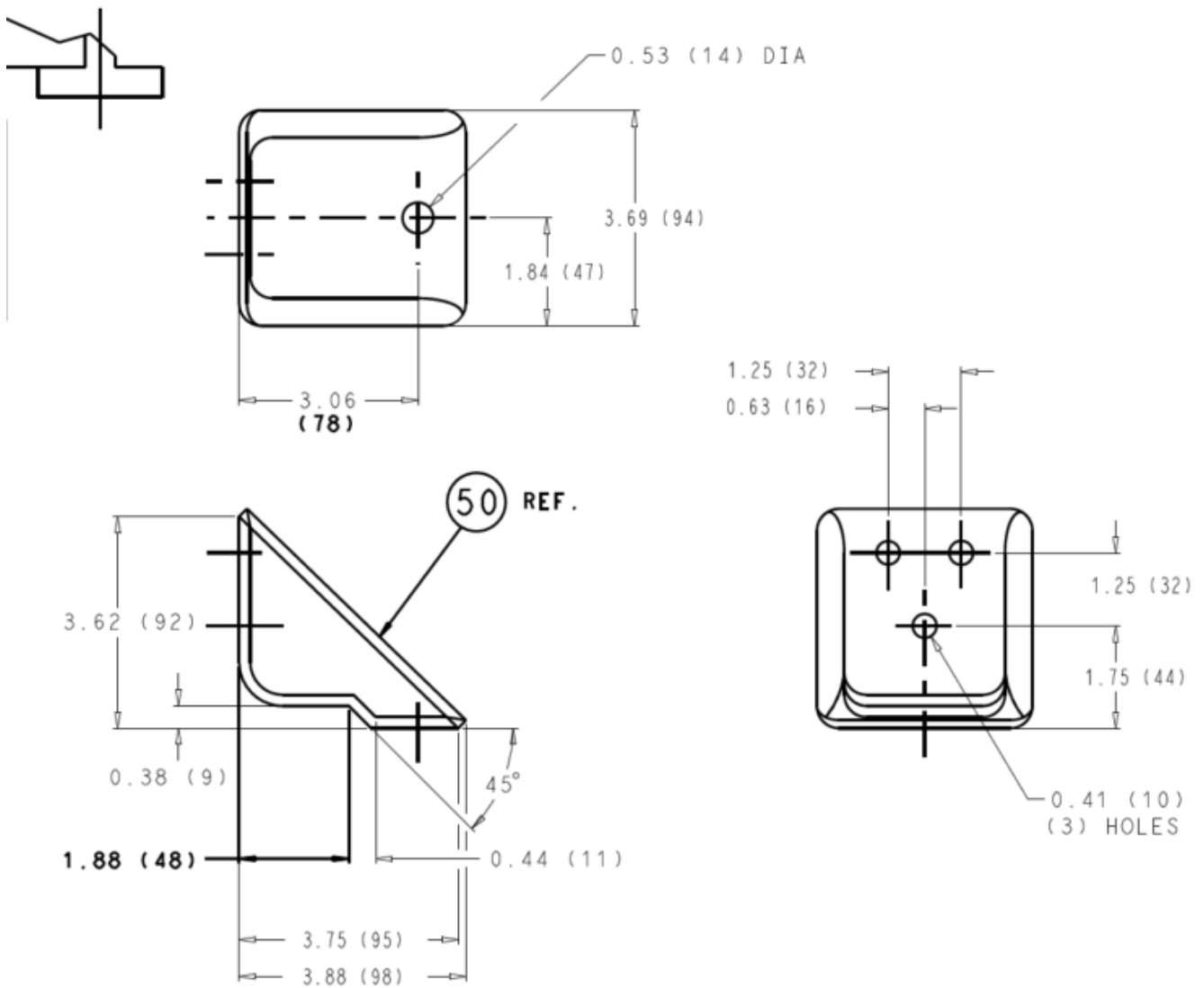
Connect piece of brown fuel line to to tank vent barb.

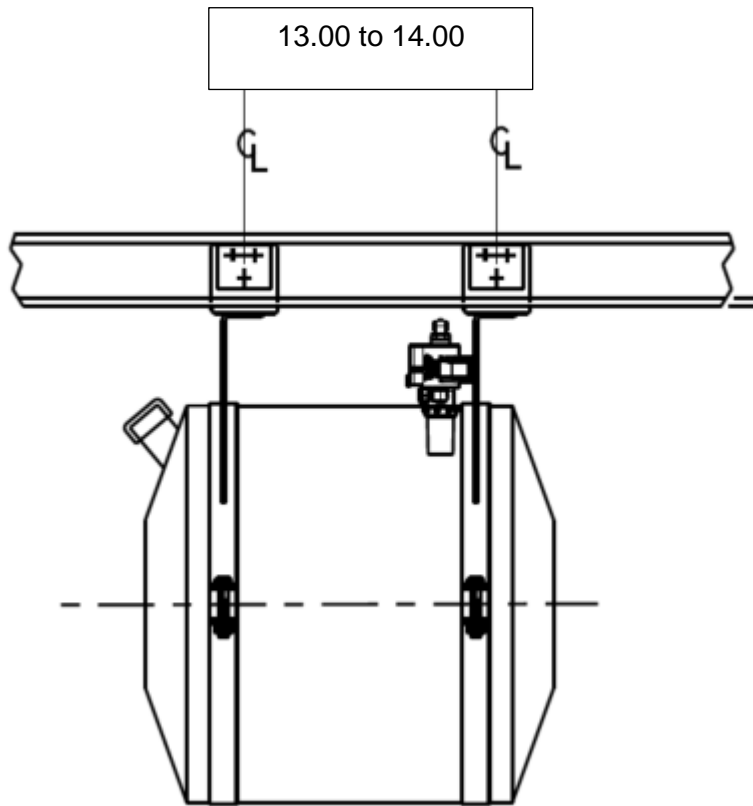
Route hose along tank bracket.

Secure hose to tank strap with cable tie.

Hanger Bracket Installation



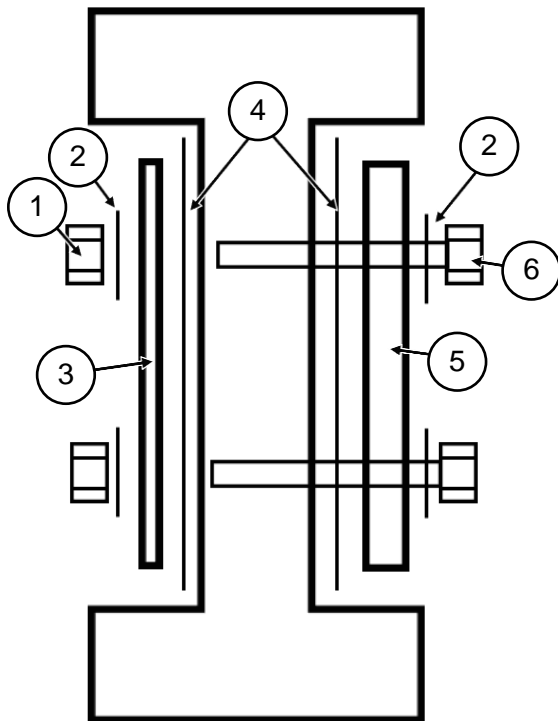




1

Drill holes in I-beam for each hanger bracket. Three brackets are required for each hanger strap. Refer to hanger bracket details above for drill dimension and spacing.

2



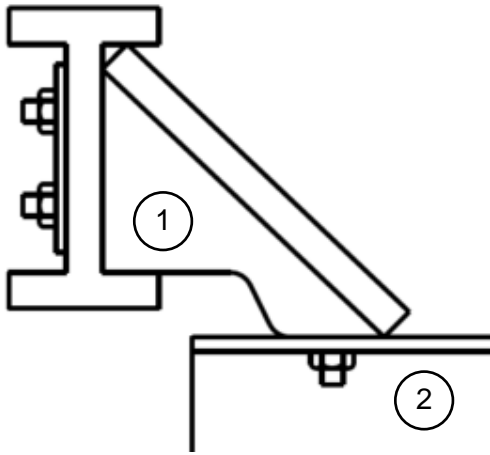
Secure hanger bracket to I-beam with hardware as shown.

1. Nut
2. Mylar washer
3. Backing plate
4. Mylar sheet
5. Hanger bracket
6. Bolt

Note: Hanger bracket partially hidden for clarity.

Tighten hardware to 30 ft-lb.

3



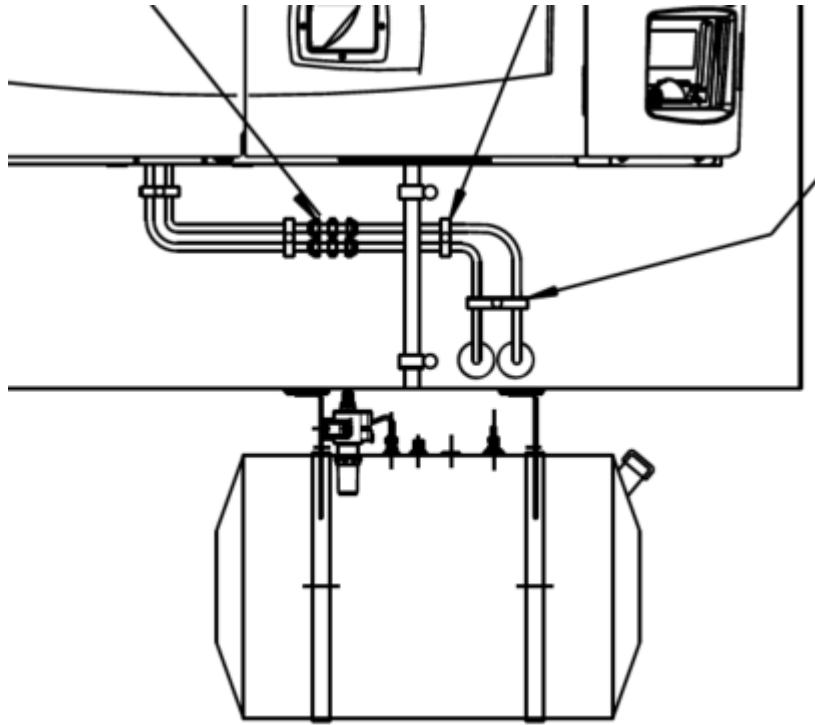
Lift fuel tank/hanger strap assembly into place with appropriate lifting device.

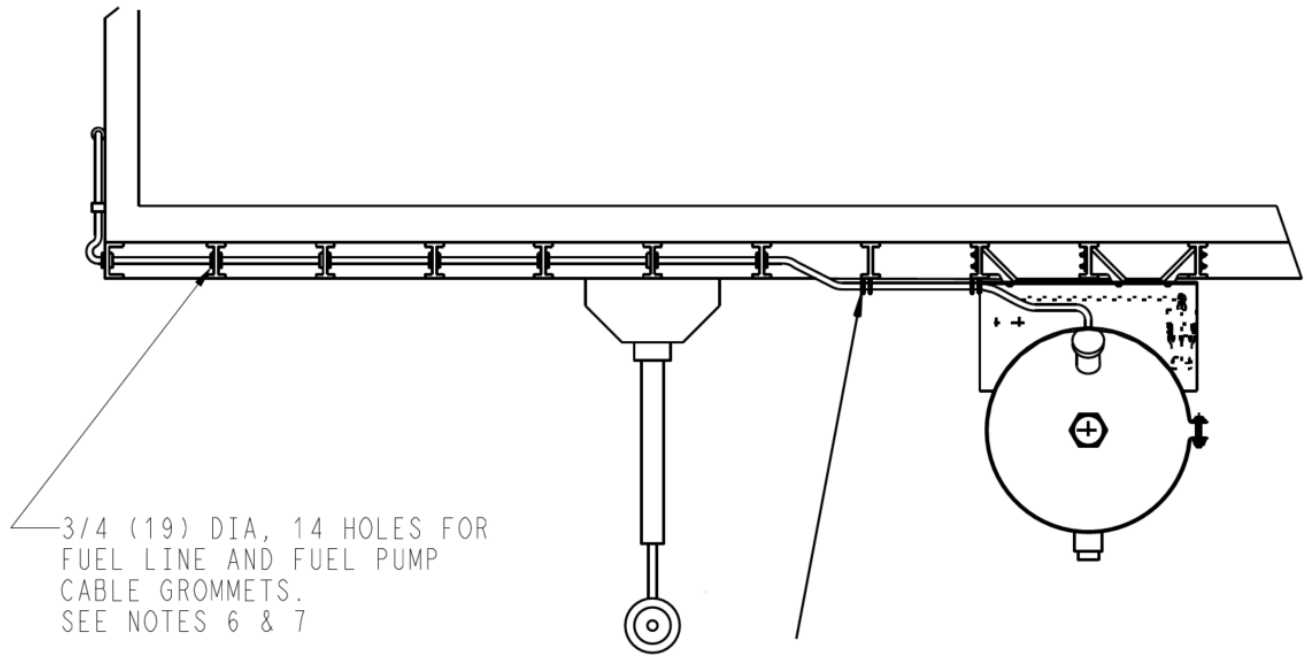
Secure hanger brackets (1) to hanger straps (2).

Tighten hardware to 60 ft-lb.

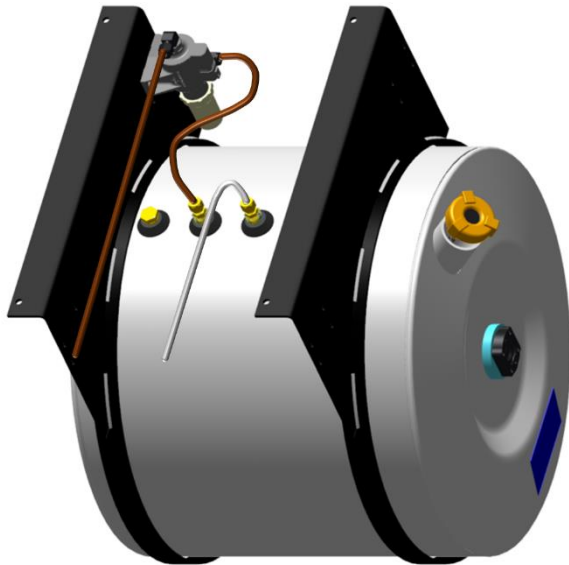
Fuel Line Installation

Fuel Line Routing Detail





1



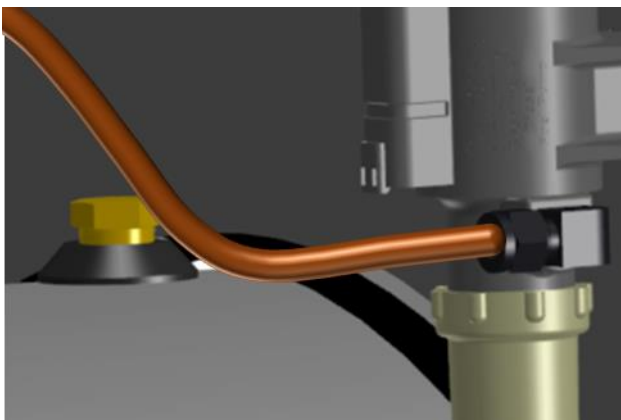
Insert grey fuel line into the fuel line fitting closest to the fill port.

Insert the brown fuel line into the fuel line fitting closest to the vent fitting.

Continue inserting the fuel lines into the tank until the line contacts the bottom of the tank. Pull the fuel line back out of the tank 1.00"

Tighten the compression nut 1-1/4 turns past finger tight.

2



Route the brown fuel line from the tank to the elbow fitting on the side of the pump.

Avoid sharp bends in the line or rubbing on the trailer frame or tank/brackets.

Cut the end of the line with fuel line cutter. Cuts must be perpendicular to end of line.

Insert the line into the fitting.

Tighten the compression nut 1-1/4 turns past finger tight.

3



Insert brown fuel line into the elbow fitting at the top of the fuel pump.

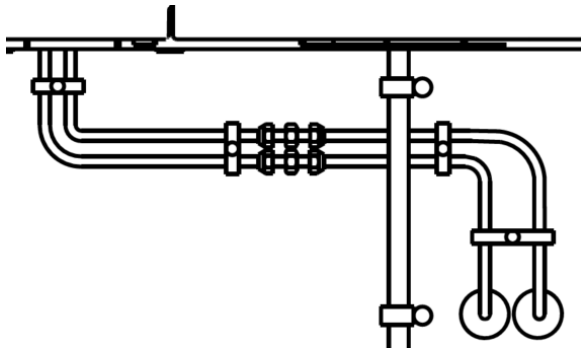
Tighten the compression nut 1-1/4 turns past finger tight.

4

Route the brown fuel line (top of the fuel pump) and gray line (tank) to the front of the trailer.

Fuel line routing must follow installation requirements.

5



Route the fuel lines from the front of the trailer to the bottom of the TRU.

Extend the fuel lines from the TRU and through the bottom panel.

Connect the fuel lines from the tank to the TRU fuel lines with fuel line unions.

- Brown to Brown (Supply)
- Gray to Grey (Return)

Tighten compression nuts on unions 1-1/4 turns past finger tight. Use backing wrench.

Individually clamp fuel lines across front of the trailer at the following locations:

- Fuel lines exit TRU.
- Fuel line union
- Start/end of fuel line bends.
- Every 12.00" of fuel line length (As required)

Fuel Pump Electrical Connections

<p style="font-size: 2em; font-weight: bold; text-align: center;">1</p>		<p>Connect fuel pump harness connector to the electric lift pump.</p> <p>Route the fuel pump harness from the electric fuel pump to the FP connector at the reefer.</p> <p>Secure harness every 12.00”.</p> <p>Use gromets when passing through holes in the trailer.</p>
	<p>WHITE WIRE, FP+, CAVITY A</p> <p>2" STRIP BACK REQ'D.</p> <p>TO FUEL PUMP</p> <p>0.1" STRIP</p> <p>5</p> <p>BLACK WIRE, FP-, CAVITY B</p> <p>70</p> <p>70</p> <p>65</p>	<p>Cut the fuel pump harness to length.</p> <p>Trim 2.00” from the fuel pump harness jacket.</p> <p>Strip 0.10” from the ends of the black and white wires.</p> <p>Install seals on both wires. Ribbed portion away from stripped end of wire.</p> <p>Crimp terminals to wire/seal.</p> <p>Insert wires into fuel pump harness connector.</p> <ul style="list-style-type: none"> • White to A • Black to B
	<p>FP+ (WHITE) C</p> <p>TO REEFER COM</p> <p>FP- (BLACK)</p> <p>FP CONNECTOR ON REEFER</p>	<p>Insert fuel pump harness connector into FP connector on TRU.</p> <p>Secure fuel pump harness with cable ties or clamps as needed.</p> <p>Loop (Min 6.00” diameter) any excess harness and secure with cable tie.</p>