



SEI
INDUSTRIES

BATT[™]
BULK AVIATION TRANSPORT TANK

Diesel/Jet Fuel Only

JET A	
SERIAL NUMBER	1500001
MANUFACTURED DATE	01/2019
EQUIVALENCY CERTIFICATE	01/2019
MAXIMUM CAPACITY	1000 LBS
	1000 LITRES
FILL HEIGHT	IN 57
	CM 145
DRY WEIGHT	LBS 77
	KG 35
INITIAL WET DATE	
INSPECTION DATES	

**DO NOT OVERFILL
KEEP VENT OPEN
WHEN FILLING**

BATT[™]
BULK AVIATION TRANSPORT TANK

BATT (BULK AVIATION TRANSPORT TANK) OPERATIONS MANUAL

2019 VERSION K

BATT DIESEL/JET FUEL OPERATIONS MANUAL - Version K

US Patent No. 10029848

Issue Date: April 2019

PLEASE READ BEFORE USING.

SEI INDUSTRIES LTD.

7400 Wilson Avenue
Delta, B.C. Canada
V4G 1H3

Phone: (604) 946-3131

Fax: (604) 940-9566

E-Mail: seisales@sei-ind.com

Website: www.sei-ind.com

COPYRIGHT © 2019 SEI INDUSTRIES LTD. ALL RIGHTS RESERVED

PRINTED IN CANADA



We Engineer Solutions

2019 BATT Diesel/Jet Fuel Operations Manual (Version K)

Table of Contents

Section 1: BATT Introduction	1
Overview	1
<i>Tank Construction</i>	2
<i>Fittings</i>	3
Conditions of Use	3
Section 2: BATT Fittings	4
Installation of Fittings	4
<i>Description of Fittings</i>	4
<i>Thread Sealants</i>	4
<i>Fitting Installation Using Loctite 567 or Loctite 565 Thread Sealant</i>	5
<i>Fitting Installation Using Loctite 55 Thread Sealant</i>	5
Section 3: General Safety	7
Safety Procedures	7
<i>Common Safety Rules</i>	7
Section 4: BATT Operation	8
Installation and Operations	8
<i>Tank Positioning</i>	8
<i>Chain Links</i>	9
<i>Prevention of Static Electricity Build-Up</i>	9
<i>Fueling Procedure</i>	10
<i>Restraining the Tank</i>	10
<i>Defueling Procedure</i>	11
<i>Transporting the Empty BATT</i>	11
Section 5: Maintenance and Repair	12
Inspections	12
<i>Semi-Annual Inspection</i>	13
Repairs	14
<i>Emergency/Temporary Repairs (BATT Assembly)</i>	14
<i>Permanent Repair (Outer Bladder Only)</i>	16
<i>BATT Emergency Repair Kit Parts</i>	18
<i>BATT Patching Kit Parts</i>	18
Section 6: Repacking for Storage	19
Storage Procedures	19
<i>Emptying and Repacking the Tank</i>	19
<i>Shipping Instructions</i>	19
<i>Storing the Tank</i>	19

Section 7: Tank Life	20
Expectancy and Service Life	20
<i>Definitions</i>	20
<i>Service Life Extension Program</i>	20
<i>Service Life Clarifications</i>	21
Section 8: BATT Model Drawings	22
BATT Model 100 Drawing	22
BATT Model 210 Drawing	23
BATT Model 400 Drawing	24
BATT Model 430 Drawing	25
BATT Model 430H Drawing	26
BATT Model 476 Drawing	27
BATT Model 500 Drawing	28
BATT Model 630 Drawing	29
BATT Model 700 Drawing	30
BATT Model 750 Drawing	31
BATT Model 750H Drawing	32
BATT Model 1050 Drawing	33
BATT Model 1150-H Drawing	34
BATT Model 1150-2 Drawing	35
BATT Model 1220 Drawing	36
BATT Model 1300 Drawing	37
BATT Model 1600 Drawing	38
BATT Model 1800 Drawing	39
BATT Model 1800H Drawing	40
BATT Model 2100 Drawing	41
BATT Model 2480 Drawing	42
Section 9: Warranty	43
Semi-Annual Inspection Log	44

Section 1: BATT Introduction

Overview

Warning

This manual covers BATT models that are only designed for use with diesel or Jet A fuel. There is a separate model for use with gasoline.

Warning

The BATT is designed for the transportation of dangerous goods and its design is for limited access operations only. No passengers are allowed during bulk fuel transport operations.

This manual covers the assembly, installation, operation and maintenance of SEI's Bulk Aviation Transport Tank (BATT).

The BATT is approved for use in Canada under SEI Industries Ltd.'s Transportation of Dangerous Goods Equivalency Certificate (SU 10638) from Transport Canada allowing the BATT to be used without special permits for the transportation of jet or diesel fuels (a separate gasoline model is also available).

The BATT is limited to supplying fuel to areas with remote access or where other transportation options are not readily available or practical. It shall be used for fuel transportation purposes only and is not intended for long term fuel storage. The certificate also states that the fuel must be loaded into a flexible tank that meets all the specifications of the BATT as manufactured by SEI Industries Ltd.

Warning

The BATT's operational temperature range is from -46C to +50C on condition that transported fuel temperature deviance during one operational cycle does not exceed 50C.

Caution

A copy of SEI Industries Ltd.'s *Transport of Dangerous Goods Certificate (SA 10638)* must remain with the tank at all times during use.

Tank Construction

The BATT is a pillow-shaped, collapsible, double-walled fabric container equipped with a number of internal liquid stabilizing elements (baffles), an external built-in harness as well as fill, drain and vent fittings and lifting handles.

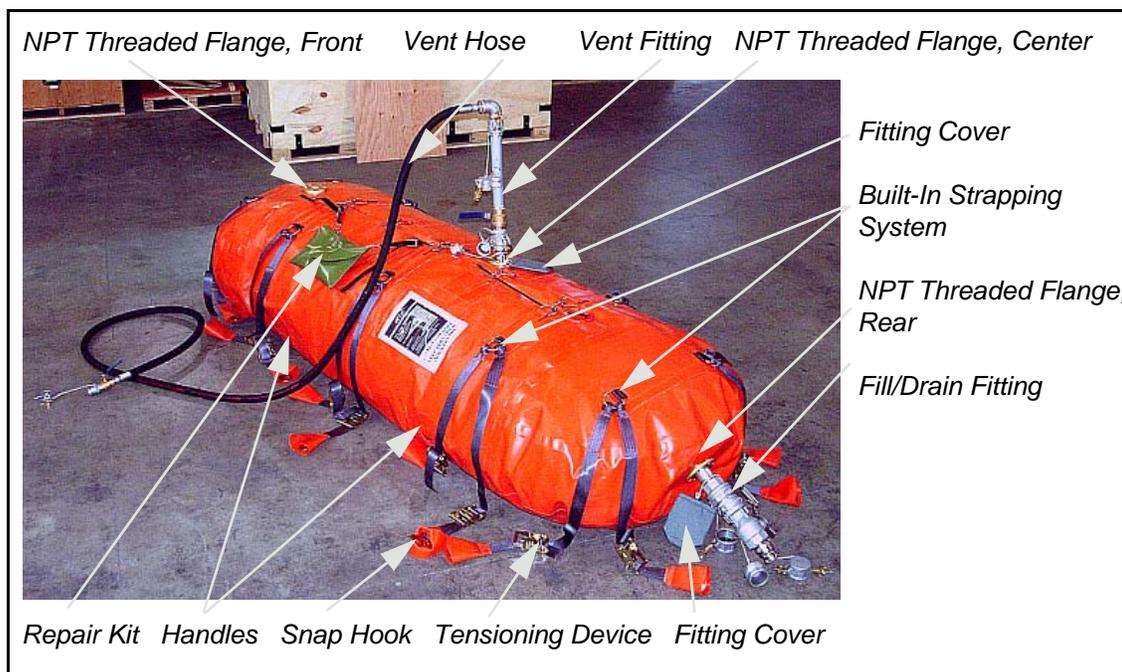
Structurally, the BATT consists of outer and inner bladders. The outer bladder provides secondary containment and protection for the inner bladder from abrasion. It has a built-in strapping system that enables the BATT to ensure a secure fit onto an aircraft cargo deck at various filled capacities. Each adjustable strap includes a tensioning device (ratchet buckle) and snap-hooks. The straps are connected to the tank through steel-forged D-rings and special fabric mounting points on the outer tank. Straps can easily be replaced in case of damage. The outer tank has a leak-proof, fuel-resistant liquid-tight zipper that can be opened to allow inspection of the inner tank for leaks or damage.

The inner bladder provides containment for transported fuel. It has built-in liquid stabilizing and bladder restraining elements with wall-like structures (baffles) to reduce fluid surge. Inner and outer bladders are interconnected by built-in handles aligned face-to-face, between the inner and outer bladders and the outside lifting handles, and by NPT threaded flanges which clamp inner and outer bladders.

The BATT is rated to its maximum volume. The BATT bladder and harness rating is based on $sg = 0.85$ of the transported liquid. If the specific gravity of the liquid you are transporting is heavier, you must decrease the capacity of your tank.

Each BATT has its own serial number (punched on top of the NPT threaded flanges) and is marked with its authorized fuel type, wet date, fill height, maximum capacity and dry weight.

For BATT model general parameters, please see *Section 8* of this manual.



Fittings

The BATT has one or more vent ports. During flight, the vent is closed unless it is connected to an external vent system (if one is installed in the aircraft already). If the vent is connected to an external vent system, ensure that the vent is secured and that it vents outside of the cargo area. The vent is only closed during flight and must be open on the ground.

The tank also has one or more fill/discharge ports. All these fittings come with valves and quick connections. Dust plugs or caps are tethered to the tank to keep dust or dirt out of the fittings.

Warning

It is the operator's responsibility to ensure that the tank capacity does not exceed the aircraft's gross load capabilities for specific mission profiles.

Warning

Tanks must be taken out of service five years after the manufacturing date and returned to the manufacturer for testing. See *Section 7* for more information.

Conditions of Use

It is the operator's responsibility to ensure the BATT is approved for use by the authority having jurisdiction. In Canada, the BATT is approved under the SEI Industries Ltd. Equivalency Certificate SU 10638. It is important that operators review this certificate and keep a paper or electronic copy. Equivalency Certificate SU 10638 and the BATT operations manual shall accompany all dangerous goods. Since this equivalency certificate has been updated numerous times, it is the air operator's responsibility to ensure that the most recent version accompanies the dangerous goods. You can download the latest version of the BATT Equivalency Certificate SU 10638 by visiting our website at <http://www.sei-ind.com/products/bulk-aviation-transport-tank>.

Operators need to ensure that the personnel handling and transporting the dangerous goods in the BATT are trained in regards to the conditions of Equivalency Certificate SU 10638. This training must be documented. SEI also recommends keeping a copy of the current revision of the BATT-Spec with the BATT Equivalency Certificate SU 10638 for reference. If you do not have a copy, you may request one by contacting SEI Industries at info@sei-ind.com or by calling 1-604-946-3131. SEI regularly sends updates to operators who have purchased the BATT. To maintain compliance, please make sure your latest contact details are on file with us.

Section 2: BATT Fittings

Installation of Fittings

Description of Fittings

BATT fittings include:

- Fill/discharge fitting, at least one per tank
- Vent fitting, at least one per tank

Each fitting consists of two main parts: a part attached to the tank using an NPT connection and a removable part attached to the first part using a quick connection. The vent fitting is complemented by a detachable vent hose. It is recommended to have a vent hose installed and a hose end directed outside the fuselage during tank venting in order to avoid contamination of the fuselage's inner space with fuel splashes and vapor. BATT fittings are supplied as pre-assembled units and don't require any additional assembly before installation on the tank.

Important Note

For aircraft fitted with tail dragger landing gear, the vent should be installed in the flange closest to the cockpit. For aircraft fitted with tricycle landing gear, the vent should be installed in the flange at the center of the tank.

Thread Sealants

Thread sealant must be used during the installation of threaded fitting parts into BATT flanges. Recommended thread sealants include:

- Loctite 567 or Loctite 565 paste threads sealant or equivalent. These sealants are preferable. They can be applied in ambient temperature + 10 C or higher.
- Loctite 55 pipe sealing cord

Warning

Do not allow the pipe fitting to cross thread into the flange as this will damage the flange thread. This flange cannot be replaced in the field.

Fitting Installation Using Loctite 567 or Loctite 565 Thread Sealant

1. Disengage fitting parts.
2. Remove protective plug from the BATT flange and protective cap from the fitting threaded part.
3. Clean thread surfaces (external and internal) with a cleaning solvent (e.g. Loctite) and allow to dry.
4. Spray thread surfaces (external and internal) with Loctite 7649 primer and allow to dry;
5. Apply a 360 degree bead of thread sealant to the leading threads of fitting part, leaving the first thread free.
6. Force the sealant into the threads to thoroughly fill the voids.
7. Install fitting threaded part into the BATT flange. As a general rule for 1", 1.5" and 2" threads, hand tighten the fitting part and then tighten three more full turns with a wrench. For 3" threads, hand tighten the fitting part and then tighten two more full turns with a wrench.
8. Allow the sealant to cure a minimum of 24 hrs.
9. Engage BATT fitting.

Important Note

Threaded connections can be disassembled with standard hand tools. Cured sealant can be removed with a combination of soaking in a Loctite solvent (or equivalent) and mechanical abrasion such as with a wire brush.

Fitting Installation Using Loctite 55 Thread Sealant

1. Disengage fitting parts.
2. Remove protective plug from the BATT flange and protective cap from the fitting threaded part.
3. Clean thread surfaces (external and internal) with a wire brush prior to application of the sealant.
4. Hold the end of the pipe sealing cord against the male nipple with one finger, approximately two threads away from the end.
5. Wind the fiber onto the pipe threads away from the end of the pipe. The grooves of the threads should be filled without completely masking the pitches or the thread (it is not necessary to follow the valley of the thread).

Caution

Do not over apply the pipe sealing cord. Excessive material tends to be pushed off as the thread connection is assembled and it also becomes mechanically more difficult to complete the engagement.

The following is a guideline for how much Loctite 55 to use per thread size:

Thread Size	Number of Turns (wraps)
1"	8 to 12
1-1/2"	10 to 15
2"	15 to 25
3"	25 to 35

6. Cut the required length off and smooth the loose end onto the pitches of the pipe thread.
7. Engage BATT fitting.

Important Note

Loctite 55 can be adjusted up to 90 degrees after tightening.

Section 3: General Safety

Safety Procedures

Common Safety Rules

The handling of petroleum fuels is a potentially dangerous operation. The following rules should always be observed:

- Keep fueling site free of debris and flammable material.
- Observe all normal safety practices such as a strict “no smoking” rule.
- Collect all intentional spillage in a container and discard safely.
- Keep all unnecessary personnel off site.
- Use grounding and bonding devices where applicable.
- Have a fire extinguisher staffed during refuelling and defuelling.
- Do not pack and ship containers with fuel residue inside.
- Keep fitting connections locked.
- Fill/drain valve(s) must be closed and locked except during fueling and defueling operations.
- Vent valve(s) must be closed and locked except during fueling operation.
- Before and during fueling and discharging operations, the BATT, the aircraft, tanker truck, pumps, hoses, loading facility and operator must be bonded.

Section 4: BATT Operation

Installation and Operations

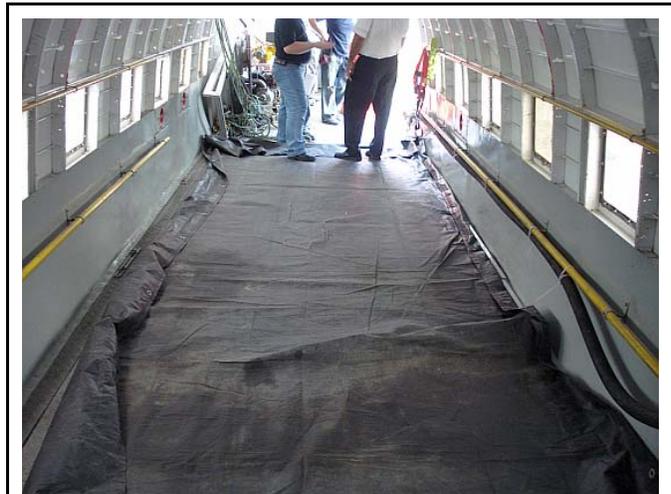
Important Note

Follows the conditions of the Equivalency Certificate (SU 10638)

Tank Positioning

Before the BATT's first installation, make sure that the wet date is recorded on the BATT label and in the BATT *Semi-Annual Inspection Log* which is included in the BATT operations manual (BATT service life starts from the wet date or 12 months from the date of manufacture, whichever comes first).

1. Before starting the installation, make sure the cargo area is clean and any sharp objects smoothed (if part of the aircraft) or removed, if they are not attached.
2. SEI recommends that a chafing liner be used in the aircraft. This liner can be a canvas sheet or any other low-cost liner material. This liner is used to protect the outer tank from any sharp objects found on the deck of the aircraft.
3. Once the liner is installed, it should look as shown. Make sure to keep the attachment points exposed by folding the liner back on the sides, front and back.



Low-cost chafing liner installed prior to BATT.

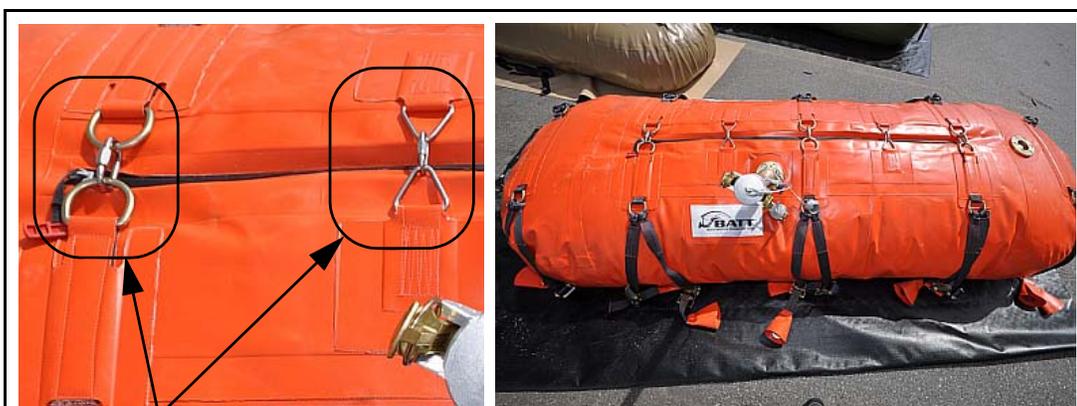
Warning

The BATT is designed for the transportation of dangerous goods and its design is for limited access operations only. No passengers are allowed during bulk fuel transport operations.

4. Unroll and position the tank, making sure the fill end is in the correct location and the tank is properly positioned to maintain its center of gravity. Use BATT handles to adjust the tank's position.
5. Secure the tank to the tie down points and adjust the straps so they are loose. Tie-downs shall be evenly distributed lengthwise. The tie-down arrangement shall be symmetrical on each side of the tank. For minimum distances between any two attachment points, refer to the aircraft cargo loading manual.



Chain Links



Operators need to ensure that the chain links are installed across the zipper before filling the tank. When the chain links are removed for inspection, they must be replaced. If they are not installed before filling, then it is possible to damage the zipper. If the zipper is damaged, the tank will need to be returned to SEI for repair. It cannot be field repaired.

Prevention of Static Electricity Build-Up

Before making any fueling connections to the BATT, the BATT fill/drain fitting shall be bonded to the aircraft by use of a cable and the fueling equipment shall be bonded to the aircraft, providing a conductive path to equalize the electrical potential between the fueling equipment, aircraft and BATT. The bond shall be maintained until fueling connections have been removed.

As clothing and footwear are major cause of static electricity build-up, personal involved in BATT refueling operations should minimize the amount of friction/rubbing on the tank and lining surfaces. It is recommended to wear anti-static clothing and footwear for personal involved in BATT operation. Using garments made of synthetic materials should be avoided. The person who operates the BATT has to be discharged by touching an aircraft metal part before touching any BATT fittings. Failure to fully discharge may ignite fuel vapours.

Fueling Procedure

Warning

All BATT models are rated to contain liquid with a specific gravity $sg = 0.85$. If the specific gravity of the liquid you are transporting is heavier, you must decrease the capacity of your tank.

Caution

Check the label on the tank for capacity. The tank shall be filled to at least 70% of its rated capacity. Never fill the tank over the rated capacity.

1. Perform BATT daily inspection (*see Section 5*).
2. Connect the BATT fill/drain fitting bonding cable to the airframe's exposed metal surface.
3. Attach hose to fill/drain fitting. Open fill and vent valves.
4. Start pumping. Monitor the volume being pumped into the tank to prevent the tank from being overfilled. Harness straps should remain loose during tank filling.
5. After filling tank, close the fill valve and keep the vent valve open for 1-5 minutes to let air escape. Then, close the vent.
6. Close the valve and leave it closed during flight.
7. Enter filling information into a tank logbook (provided by operator).

Restraining the Tank

Tighten the straps to secure the tank. With ratchet tensioning devices, there should be a minimum of two full webbing wraps around the spool once the strap is fully tensioned.

All straps should not be twisted and should be equally tensioned, without any slack but also without any excess.



Defueling Procedure

1. Attach hoses to the fill/drain fitting.
2. Open all valves on the discharging fuel line.
3. Start pumping into the tank accepting the fuel load from the BATT.
4. Slow down the pumping as you near the end of defueling. Manually position the fill/drain fitting to minimize the amount of fuel left in the tank.
5. Once the discharging fuel is finished, confirmed by an empty/flat BATT tank, close all valves starting at the BATT tank and finishing at the accepting tank.
6. Disconnect all hoses and cap them over a drip tray or, if unable due to being on top of the tank, an absorbent pad.
7. Disconnect the BATT fill/drain fitting bonding cable from the airframe.

Transporting the Empty BATT

In a repetitive use environment, the BATT may be transported in a folded or unfolded state. In both cases, the tank should be emptied to the maximum extent possible. All fittings should be closed and the BATT should be secured to the airframe.

If the BATT will likely be folded, protection for the fill/drain fittings should be carried to prevent damage to the bladder.



Section 5: Maintenance and Repair

Inspections

The actual service life of a BATT will depend on the completeness and quality of meeting operational and maintenance requirements.

Warning

Never remove the flanges to extract the inner tank from the outer tank. This can only be done at an authorized SEI service centre.

Daily Inspection

Visual inspections of the outside surface of the tank shell, tank harness, vent fittings and fill/drain fittings should be conducted on a daily basis or performed every time a BATT tank is used.

1. Inspect the outer tank shell for signs of wear and tear, damages, leaks and excessive surface contamination. If contamination is found, the tank should be cleaned with mild soap and water. Contamination with spilled fuel must be cleaned as soon as possible. If repairs are required, see *Repairs* in this manual.
2. Inspect the tank harness for signs of wear and tear, damages and contamination. Special attention should be paid to the sewing on stitches and the serviceability of strap fittings. Webbing straps that have been contaminated with a substance (e.g. oil, grease, fuel etc.) that could affect successful tensioning should be replaced. Damaged straps must be replaced.



Strap installation step 1.



Strap installation step 2.

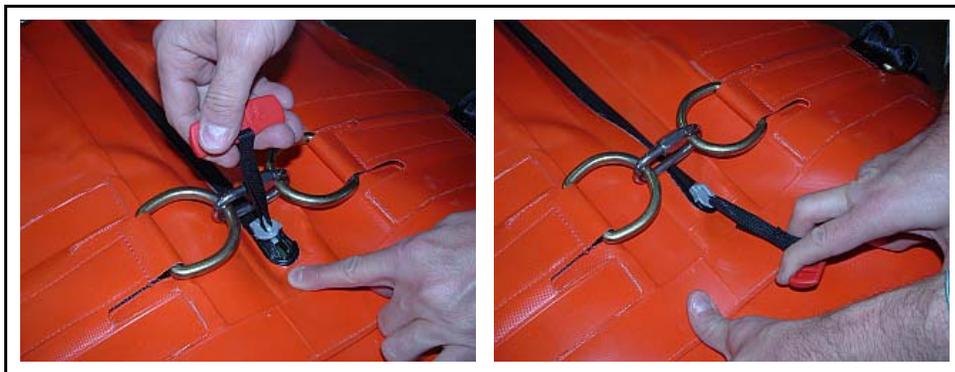


Strap installation step 3.

Semi-Annual Inspection

The semi-annual inspection should be performed six months (+/- two weeks) from the tank's wet date or 12 months from the manufacturing date, whichever comes first. The semi-annual inspection includes a visual inspection of the inner bladder condition.

1. Open the outer tank zipper. Inspect the space between the inner and outer tanks (within reasonable reach) for signs of leakage. Also, inspect the inner and outer bladder fabric condition. Special attention should be paid to the area closest to the handles and around the flanges. Do not disassemble flanges or disengage handles.
2. Before closing the zipper, lubricate both halves of the zipper with zipper lubricant. Close the zipper slowly to the end, making sure that all zipper teeth are engaged. Wipe away any excessive lubricant.
3. When the tank is filled for the first time after an inspection, open the zipper $\frac{1}{4}$ " to $\frac{1}{2}$ " just to create enough opening for air to escape. After filling tank and releasing the air from the space between the inner and outer bladders, close the zipper to the end.
4. Fill in the *Semi-Annual Inspection Log* which is provided in the back of this manual.

**Important Note**

If a leak is discovered, the BATT must be drained completely and sent to SEI Industries for possible repair and re-testing.

Repairs

Emergency/Temporary Repairs (BATT Assembly)

For emergency/temporary repairs, use the BATT emergency repair kit (attached to the tank). Temporary repairs can be performed only in emergency situations in order to reduce or eliminate fuel leakage caused by holes or cuts in the tank shell. Any BATT subjected to a temporary repair must be drained as soon as possible. After draining, the tank shall be sent to SEI Industries for evaluation and possible repair.

Small Holes (rips, cuts or holes up to 1")

Use wooden screws to plug small holes:

- If the hole is too small to insert a wooden screw, widen it up to ½" using a knife or other sharp object. The wooden screw method is best used on "round-shaped" holes. If the tear is slit-shaped, then use a knife to make the opening more round.
- Insert the plug into the hole and turn it clockwise until tight.



Large Holes (rips, cuts or holes up to 6")

Use sealing clamps to patch larger holes:

1. Select the largest clamp that will just slip through the hole. The size of cut or hole will determine the size of the sealing clamp to use. Use scissors if the hole requires adjustment.
 - For a cut or hole up to 2" (5 cm), use a 3" (7.6 cm) clamp.
 - For a cut or hole up to 4" (10 cm), use a 5" (12.7 cm) clamp.
 - For a cut or hole up to 6" (15 cm), use a 7.5" (19 cm) clamp.

2. Keeping hold of the string, slip one half of the repair clamp through the hole.



3. Pull the bolt up through the hole. Turn it until the clamp lines up with the hole.



4. Place the top of the clamp over the bolt.



5. Tighten the nut by hand.



Permanent Repair (Outer Bladder Only)

For outer tank minor permanent repairs, use the BATT patching kit (not attached to the tank). Small local damages on the outer bladder can be repaired using a special adhesive. SEI recommends Aquaseal urethane repair adhesive and Cotol-240 surface cleaner and cure accelerator for outer bladder permanent repair.

Important Note

If the size of the damaged area exceeds 1", please contact SEI Industries before making repairs.

Warning

Use of adhesive and accelerant can be dangerous and can have short term and long term consequences for human health. It is important to take precautions and wear all appropriate safety gear. Wearing gloves, a respirator, eye protection and working in a well-ventilated area can help to mitigate these risks.

Pinholes, Small Scratches and Tears

1. Clean the damaged area and ¼" beyond it with an abrasive pad and Cotol-240 (or isopropyl alcohol).
2. Create backing with wax paper or masking tape if needed (to prevent the glue leaking through and sticking to the inner bladder).
3. Paint the damaged area and ¼" beyond edge with Aquaseal or Aquaseal mix. Aquaseal will cure to full strength in 8 to 12 hours. To speed cure time to 2 hours, pre-mix one part Cotol-240 with two or three parts Aquaseal before applying. Additional Cotol-240 can be added to thin Aquaseal to desired viscosity.
4. If the defect is not sufficiently fixed, a patch repair may need to be applied.

Cuts and Holes up to 1"

1. Cut a patch. The patch should be at least 2" larger in every direction from the damaged area. A round patch is recommended but, if a rectangular patch covers the damage better, then round all corners.
2. Draw an outline of the patch on the surface to be patched.
3. Trim loose threads and loose coating on damaged area with scissors to a point where there is a solid bond between the reinforcing fabric or scrim and the coating.

4. Clean damaged area and 2" beyond it, and the corresponding patch side with an abrasive pad and Cotol-240 (or isopropyl alcohol). The area should be clean and dry with a dull matte finish.
5. Support the damaged area on a flat, solid platform. This platform should be strong enough to support the fabric (flat) and allow the patch to be rolled once it is in place.
6. Create backing with wax paper or masking tape.
7. Apply Aquaseal to both the patch and the area a little larger than the patch will cover (to ensure that no patch edges will peel up).
8. If not using Cotol-240, wait 1-2 minutes or so until the glue is tacky on both sides and place the patch on the area.
9. If use Cotol-240 mix (one part Cotol-240 with two or three parts Aquaseal), wait 30 minutes or so until the glue is tacky on both sides and place the patch on the area.
10. Roll patch down with the roller. Place the center of the patch down first and then roll it out towards the edges with the roller.
11. Place a piece of waxed paper over the patched area; place a heavy flat object over the top of the waxed paper.
12. Keep the repaired surface flat with a heavy object on top of it for 12 hours if not using Cotol-240 mix or 6 hours if using Cotol-240 mix.

Important Note

Aquaseal is a moisture-cure adhesive. To prevent the unused portion from hardening in the tube, follow these steps. Squeeze Aquaseal right up to the opening so there's no air pocket, then put some Vaseline or equivalent on the threads before screwing on the cap. Put the tube in a zip-seal bag and store it in the freezer. When you're ready to use the tube again, warm it at room temperature or in a bag in warm water.

BATT Emergency Repair Kit Parts

Part #	Description	Quantity
006308	Pouch, Repair, BATT	1
003074	Scissors	1
004507	Plug, Tapered, 5", WD, Threaded	3
004502	Clamp, Repair, Small, Al	1
004503	Clamp, Repair, Med, Al	1
004504	Clamp, Repair, Large, Al	1
006329	Lubricant, Zipper	1
006330	Manual, BATT Operations	1

BATT Patching Kit Parts

Part #	Description	Quantity
003612	Pouch, Repair	1
003064	Pad, Abrasive	2
003071	Roller, Seam, 1.25"	1
008905	Patch, Fabric, 8"x10", Orange	4

Section 6: Repacking for Storage

Storage Procedures

Emptying and Repacking the Tank

- Empty all fuel from the tank. If the fill or drain fitting is at a low point, capping the vent and pumping out the fuel will cause the tank to flatten out due to the pump suction, leaving very little fuel remaining in the tank.
- Remove fittings and apply tape over openings to keep dirt out. If it is impossible to remove fittings, they must be very well padded with sacking to prevent chafing when the tank is folded.
- Fold the tank starting from the narrow side at the opposite end to the fill fitting. Fold towards the drain fitting. Brush off any dirt on the tank or wipe off any fuel residue with a soapy rag. Then dry with a clean rag.
- Tie the folded tank with a large rope or webbing to keep it secured. The tank should be lifted or rolled, never dragged. Tanks can easily be damaged by forklifts or by dragging them over edges or sharp objects.

Shipping Instructions

Do not attempt to move the tank when it is partially filled. The tank should never be shipped with fuel still inside. To prevent damage, the tank should be shipped in the crate originally supplied or in an equivalent sturdy, well-padded crate.

Storing the Tank

For best storage life, the tank should be stored in depot-conditions out of direct sunlight. SEI Industries defines depot-conditions as an indoor environment with relatively even temperatures between 10° C (50° F) and 43° C (110° F) and low humidity of 50-70%. Lower humidity and temperature is preferred to help extend the tank's life span.

Section 7: Tank Life

Life Expectancy and Service Life

Definitions

Life expectancy is the combined shelf and service life.

Wet date is the date when a petroleum product or allied petroleum product is first introduced into the BATT.

Service life is the operational life of a tank. BATT service life starts from the wet date or 12 months from the manufacturing date, whichever comes first.

Shelf life is the storage life of a new tank before the wet date starting from the manufacturing date.

Service Life Extension Program

The maximum life expectancy of a BATT that follows the required *Service Life Extension Program* is up to 10 years from the date of manufacture. The initial service life of a BATT is five years on the assumption of normal operation (in accordance with the operations manual). Based on the BATT's actual technical condition, SEI offers a *Service Life Extension Program* that can increase its service life.

The BATT technical condition is evaluated based on the parameters of the SEI BATT *Service Life Extension Program*. Scope of work within this program includes BATT inspections and, if required, corrective actions (BATT repair and upgrade), which would be performed by SEI personnel at the SEI production facility. SEI shall perform two factory inspections on the BATT to determine how the tank is aging. The inspections occur at the end of year five and seven from the start of service life. SEI shall issue a certificate to the operator to maintain with their service log.

The maximum service life of a BATT shall not exceed nine years following the required *Service Life Extension Program*. The service life can never be stopped or reversed. Periods during which a BATT is withdrawn from the service continue to be counted as part of its service life.

Shelf life of a BATT is up to 10 years, if it is stored in depot-conditions; indoor environment, out of direct sunlight, with relatively even temperature between 10 and 43 degrees C, and with humidity between 50% and 70%.

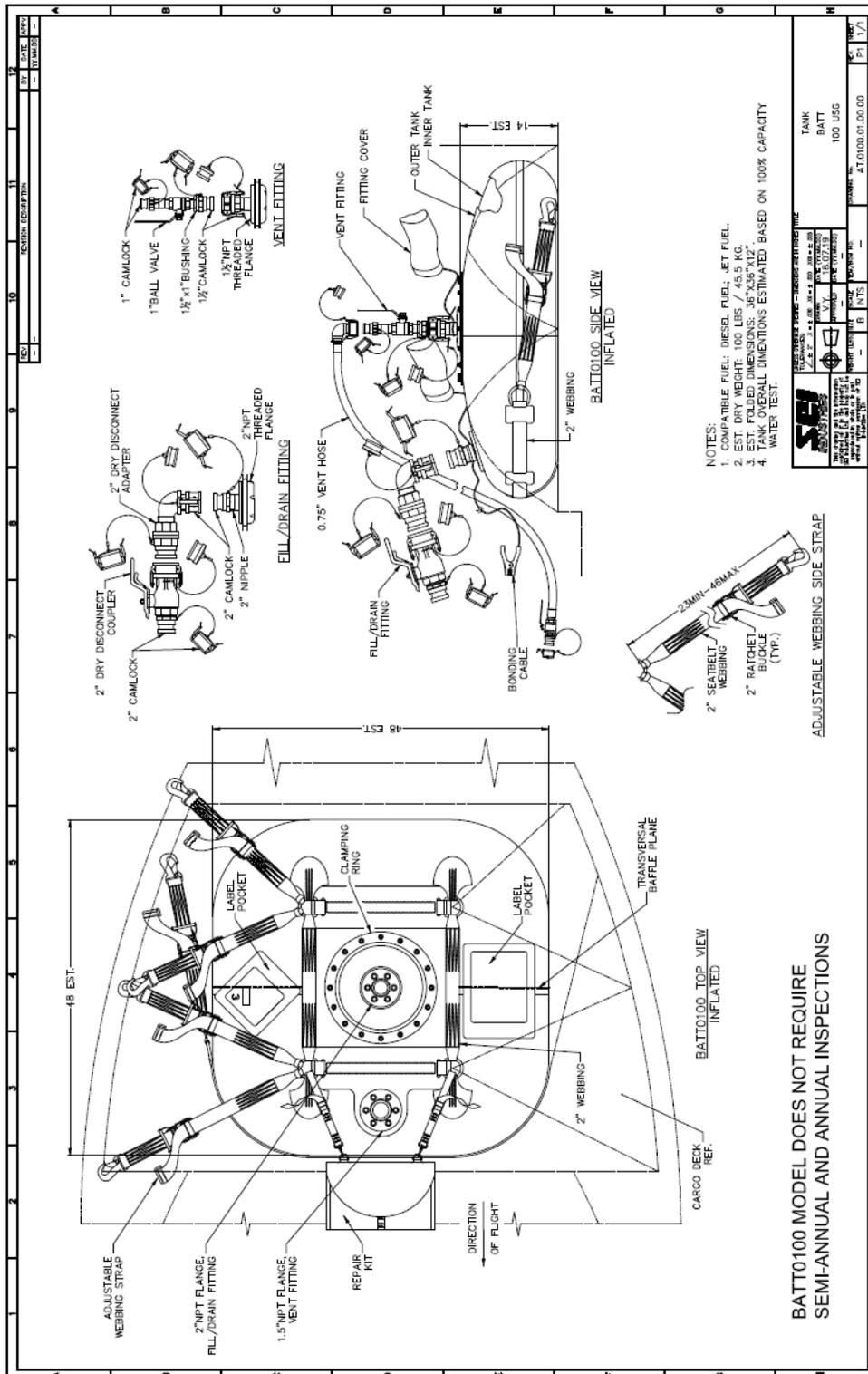


Service Life Clarifications

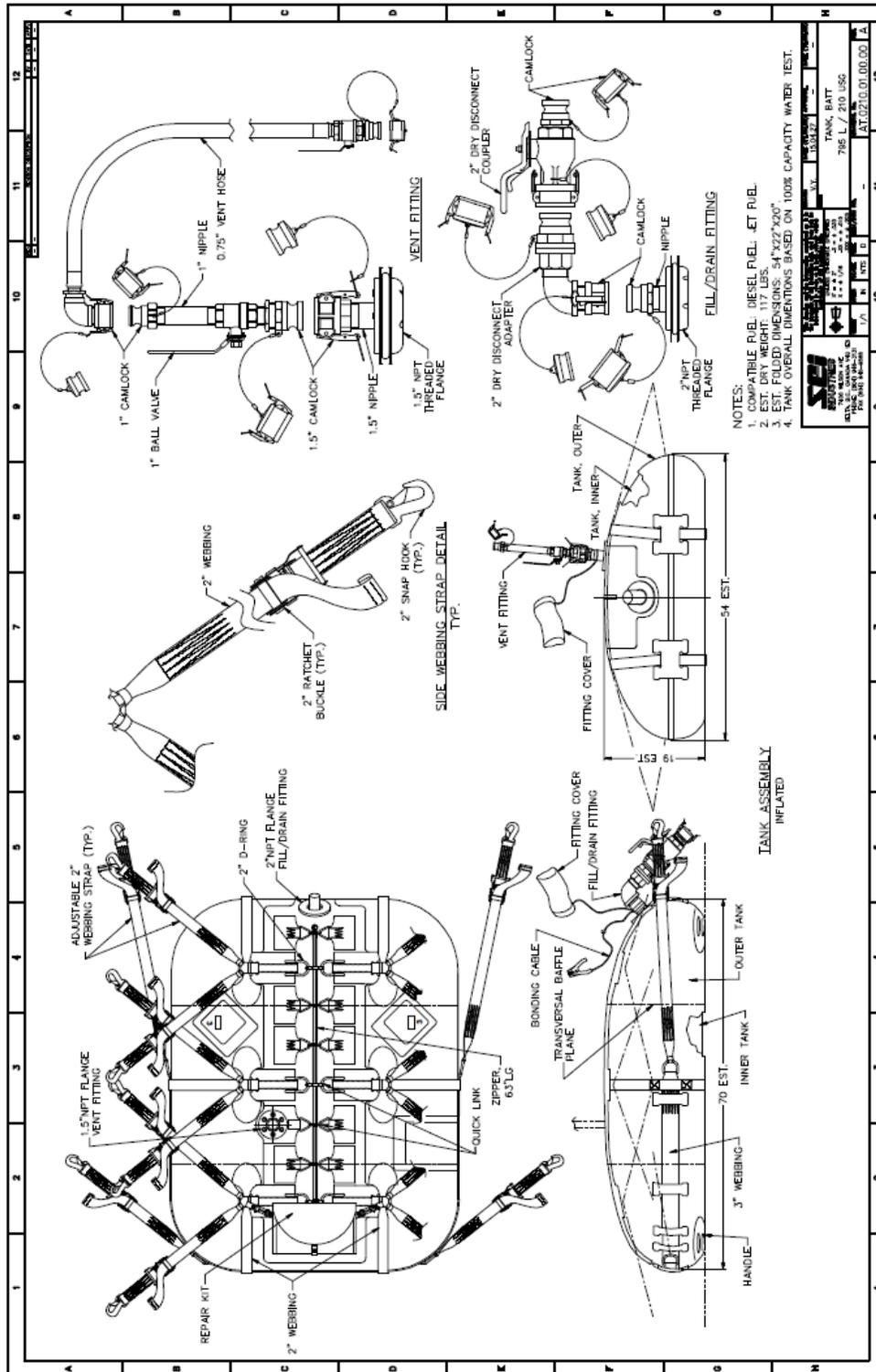
- If an operator does not have a BATT 5-year certificate from SEI, the product is deemed to have reached its useful service life six years from the date of manufacture.
- If an operator does not have a BATT 7-year certificate from SEI, the product is deemed to have reached its useful service life eight years from the date of manufacture.
- If the *Semi-Annual Inspection Log* is completed, the product has reached its useful service life.

Section 8: BATT Model Drawings

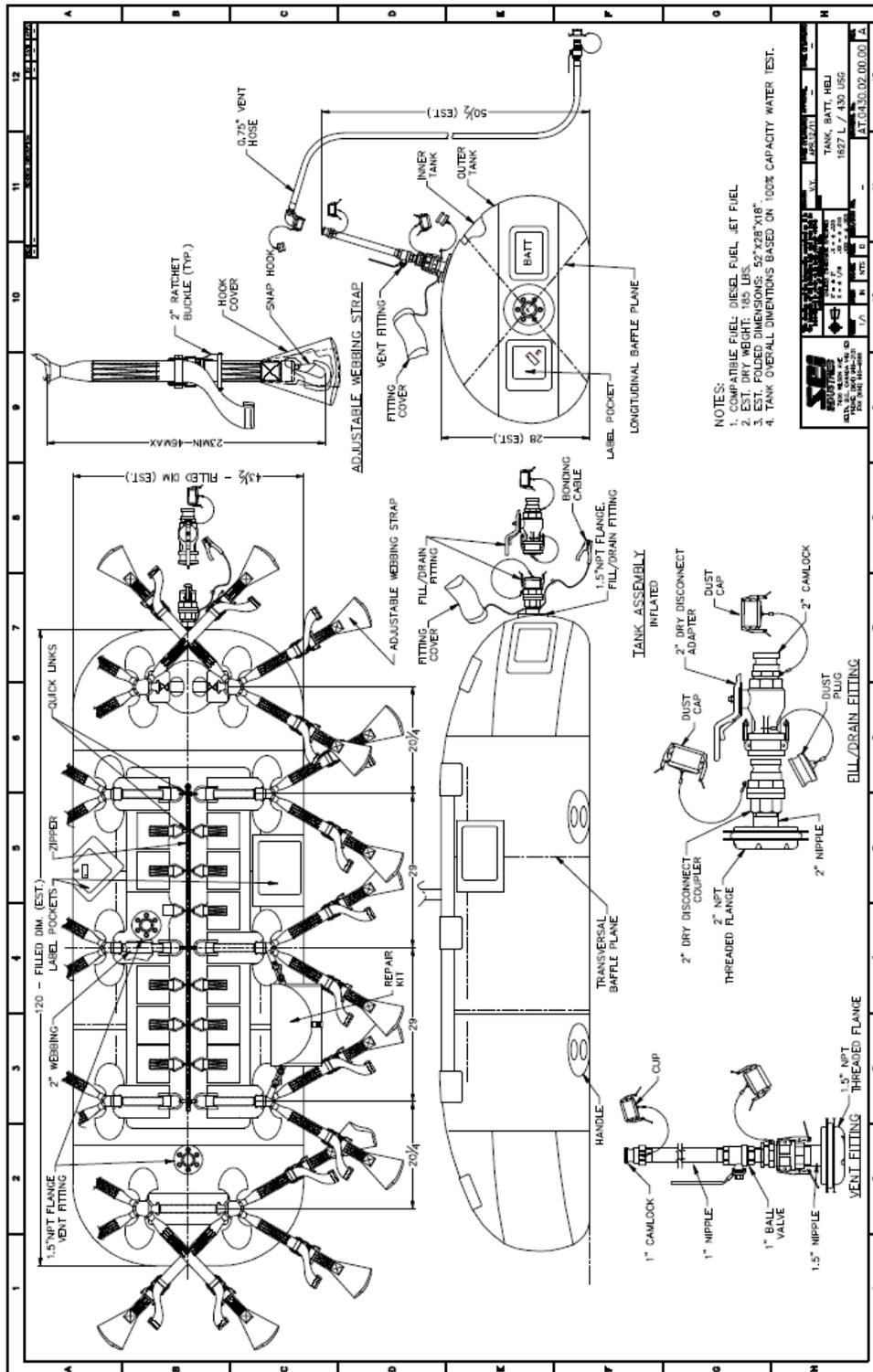
BATT Model 100 Drawing



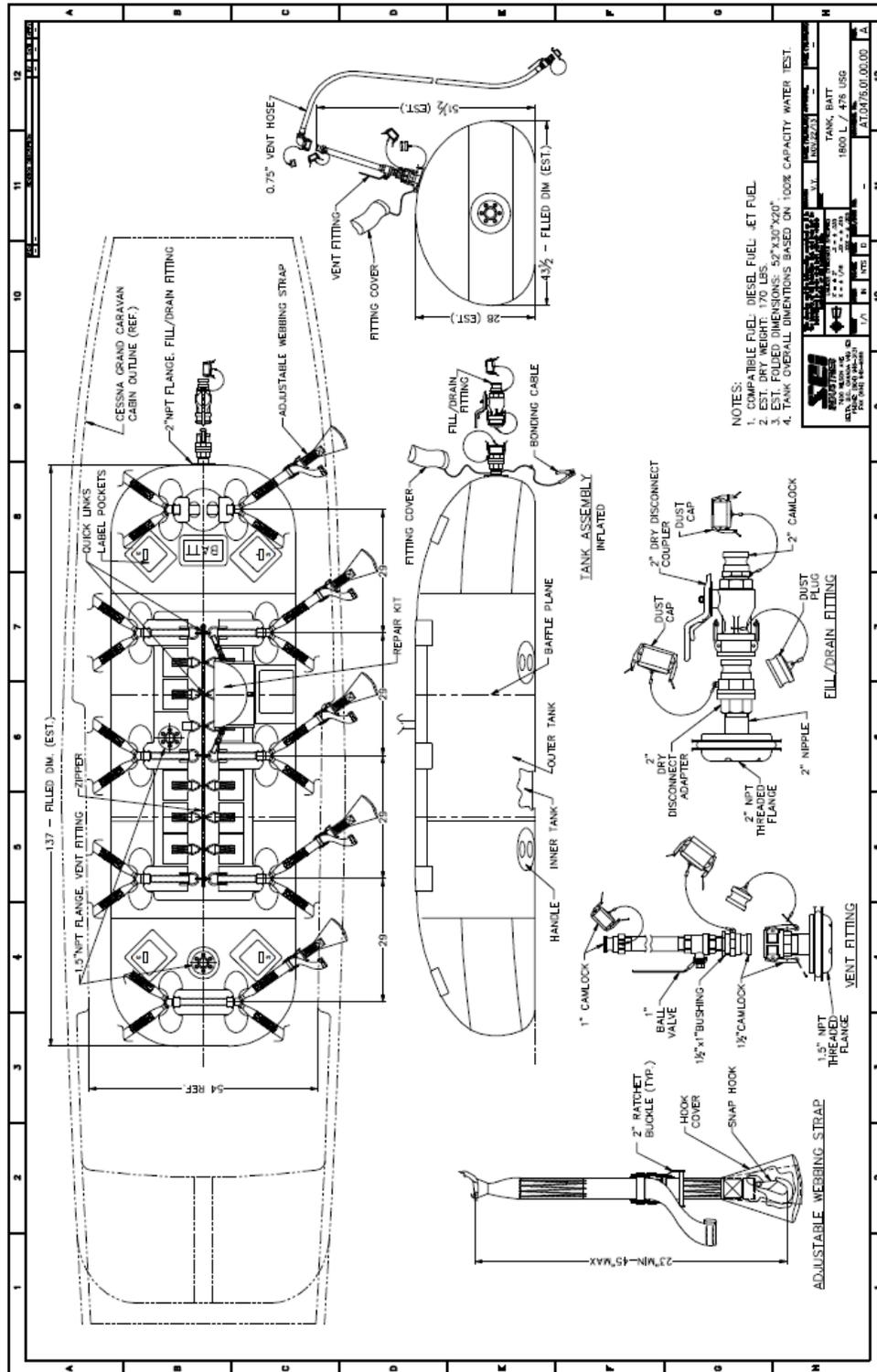
BATT Model 210 Drawing



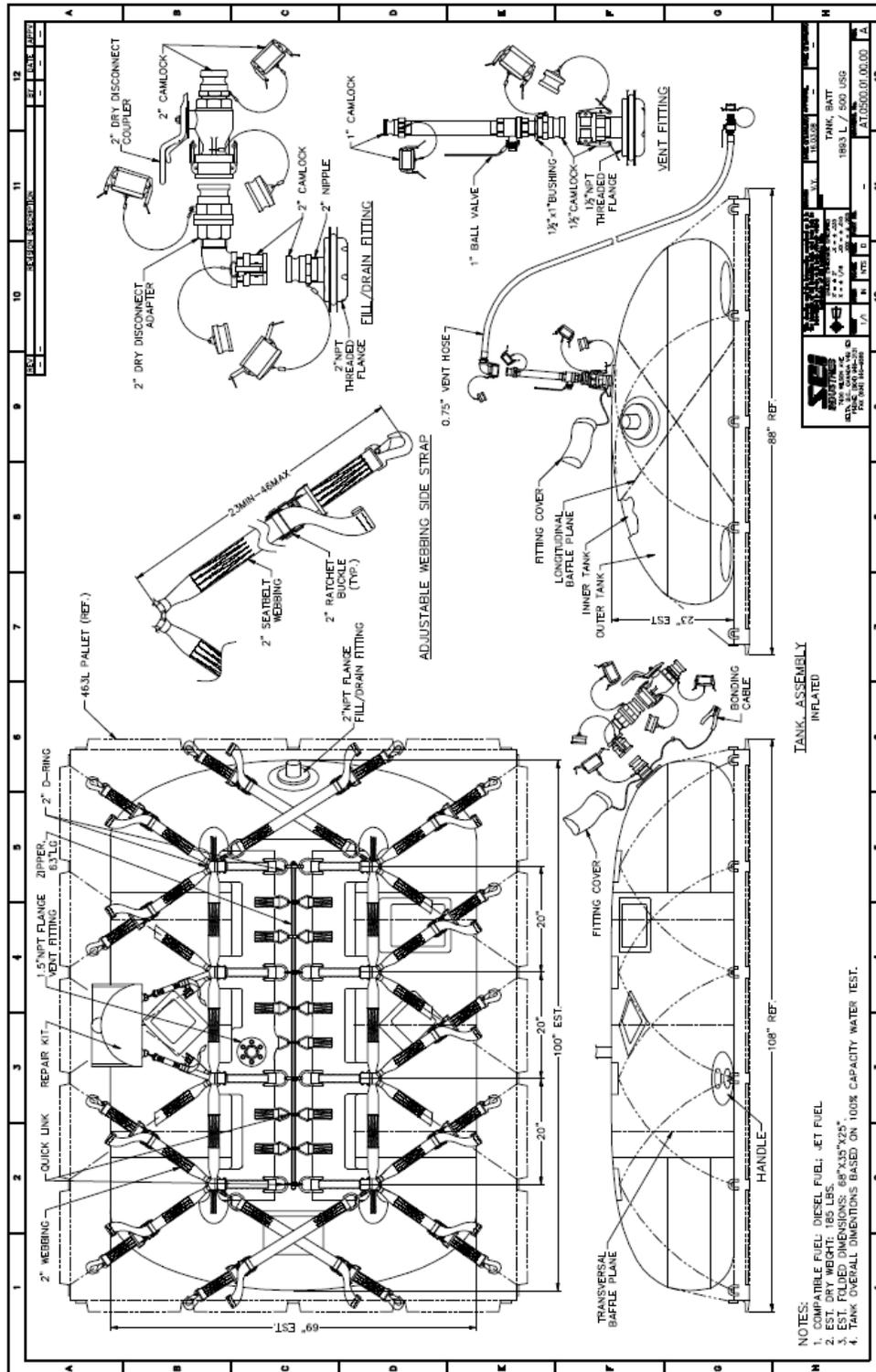
BATT Model 430H Drawing



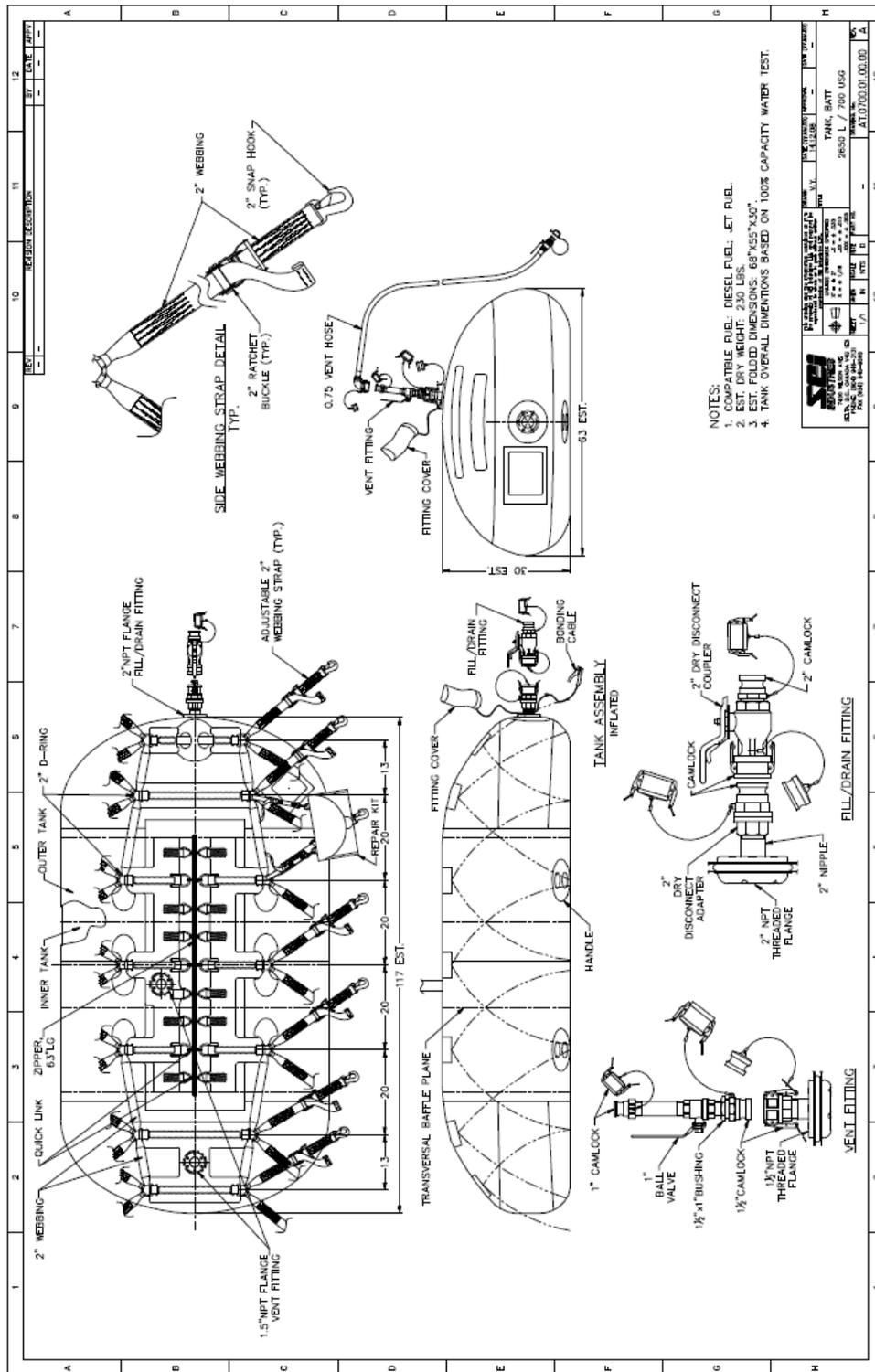
BATT Model 476 Drawing



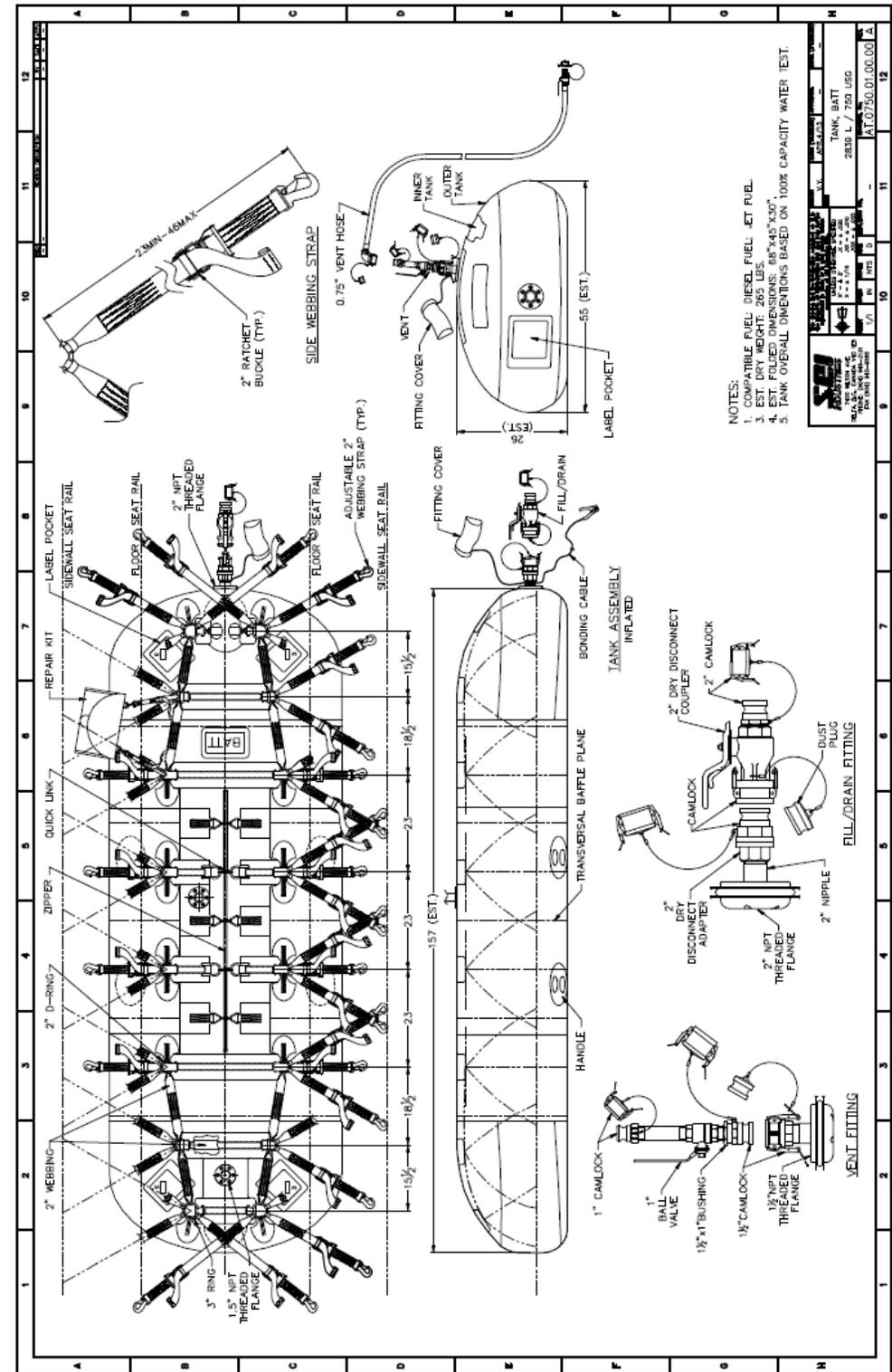
BATT Model 500 Drawing



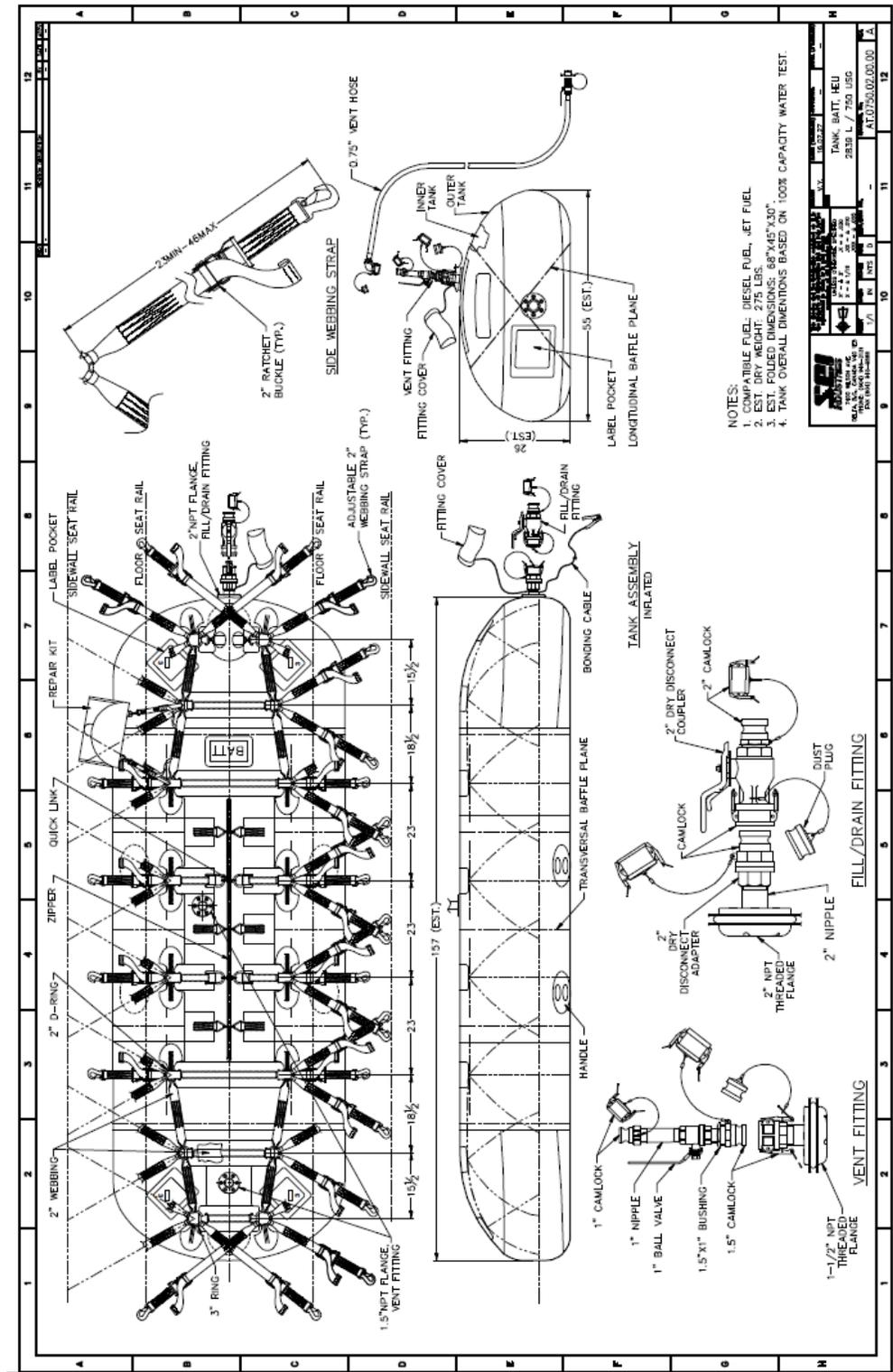
BATT Model 700 Drawing



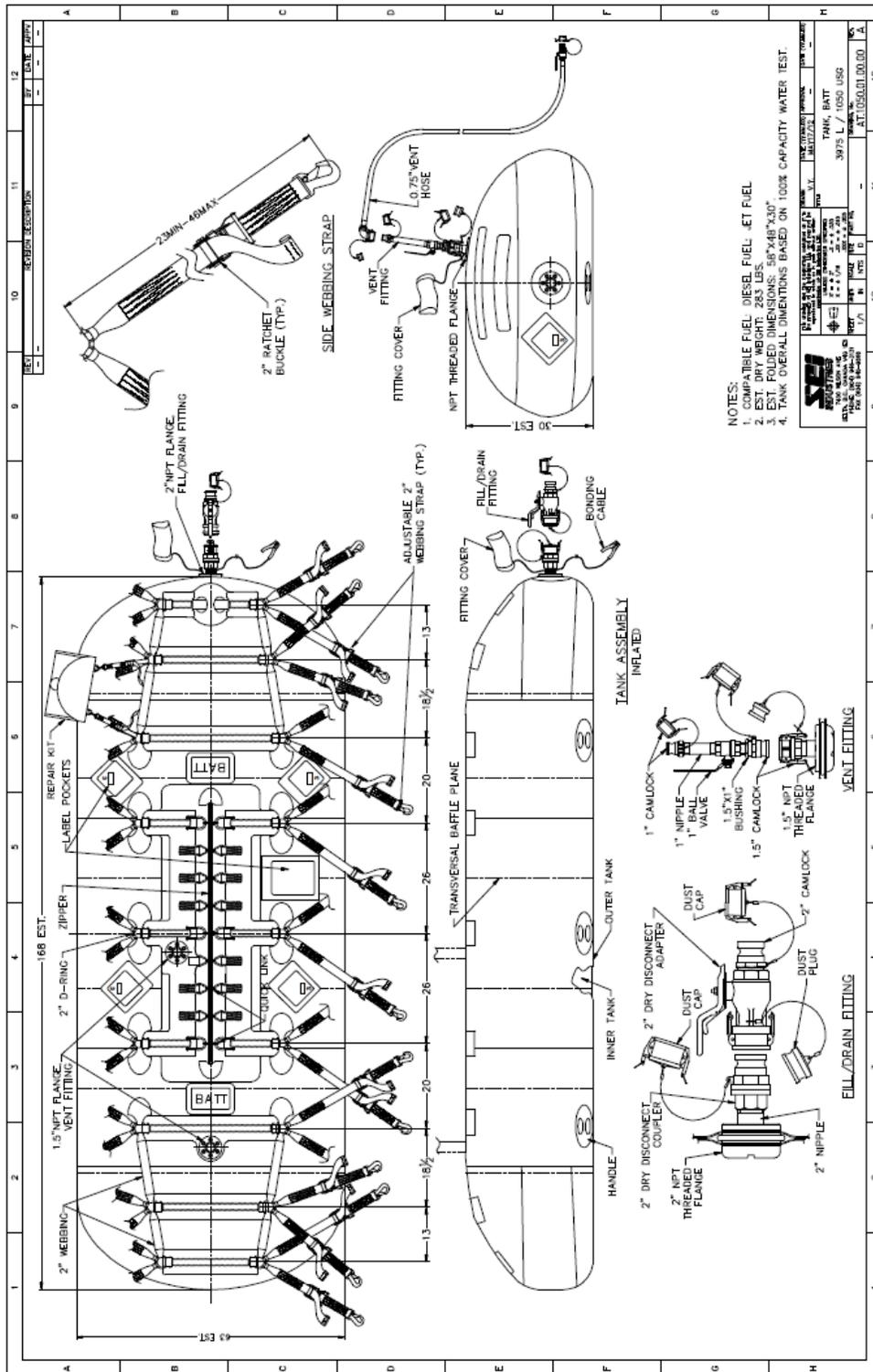
BATT Model 750 Drawing



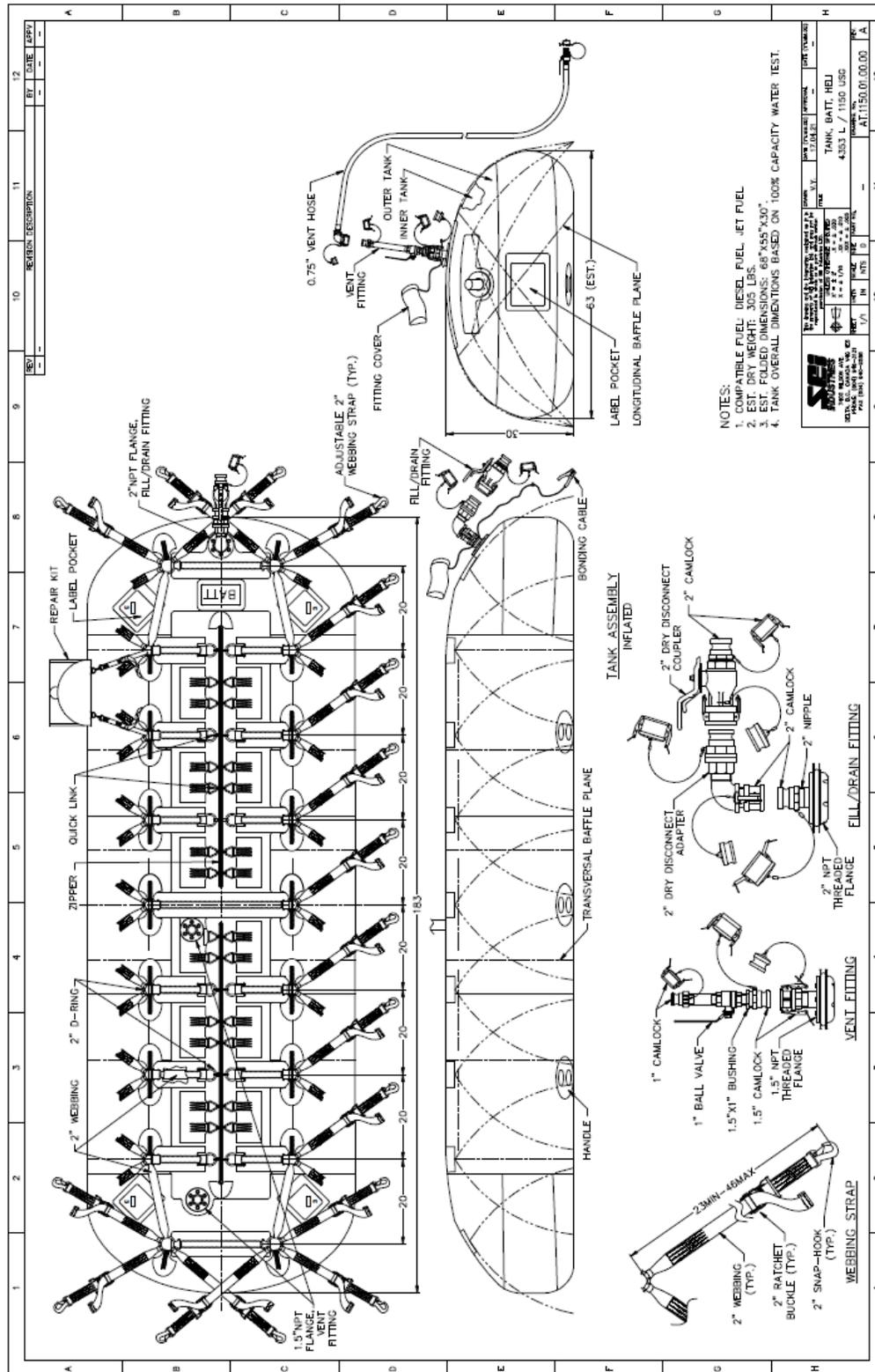
BATT Model 750H Drawing



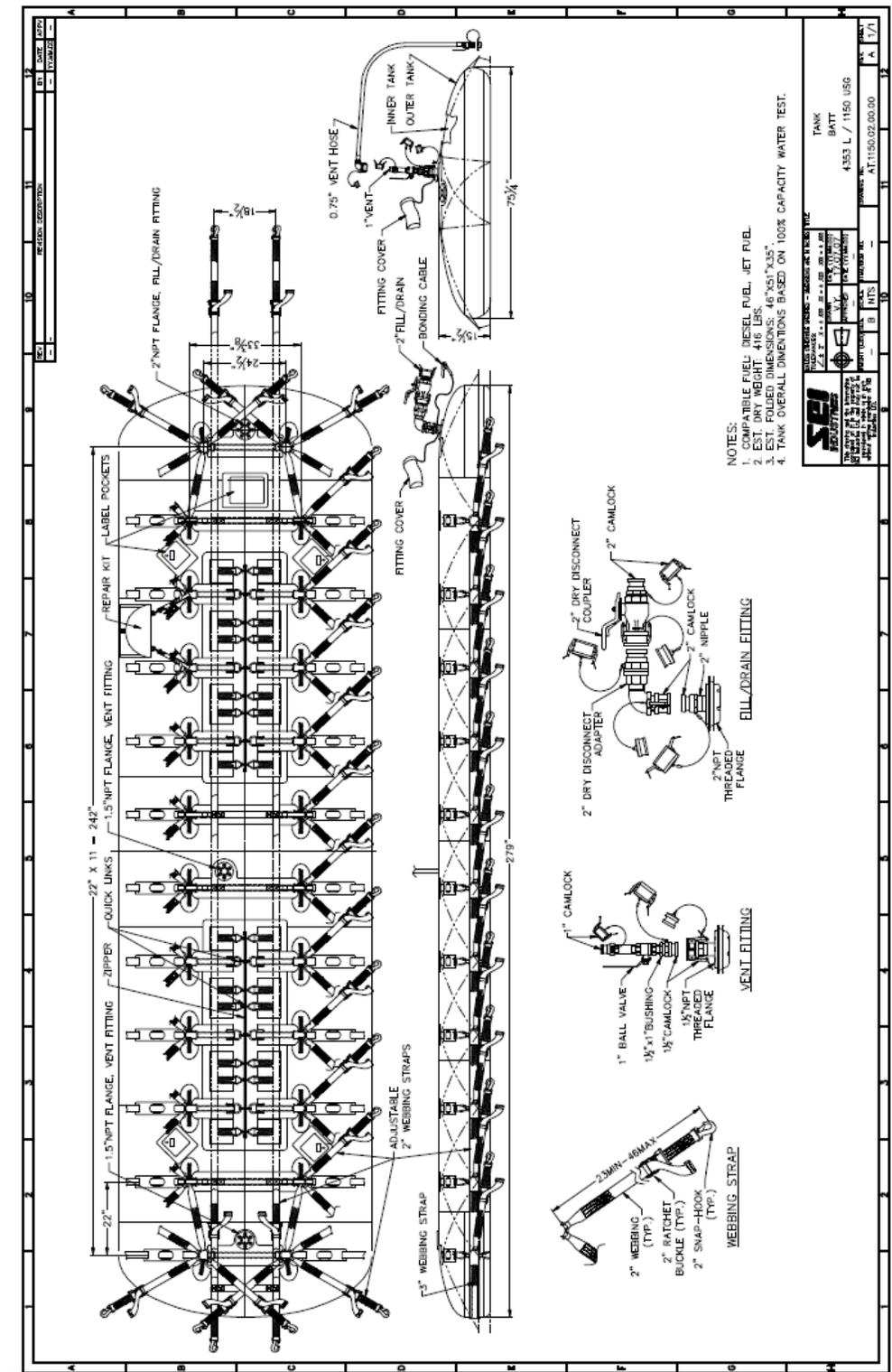
BATT Model 1050 Drawing



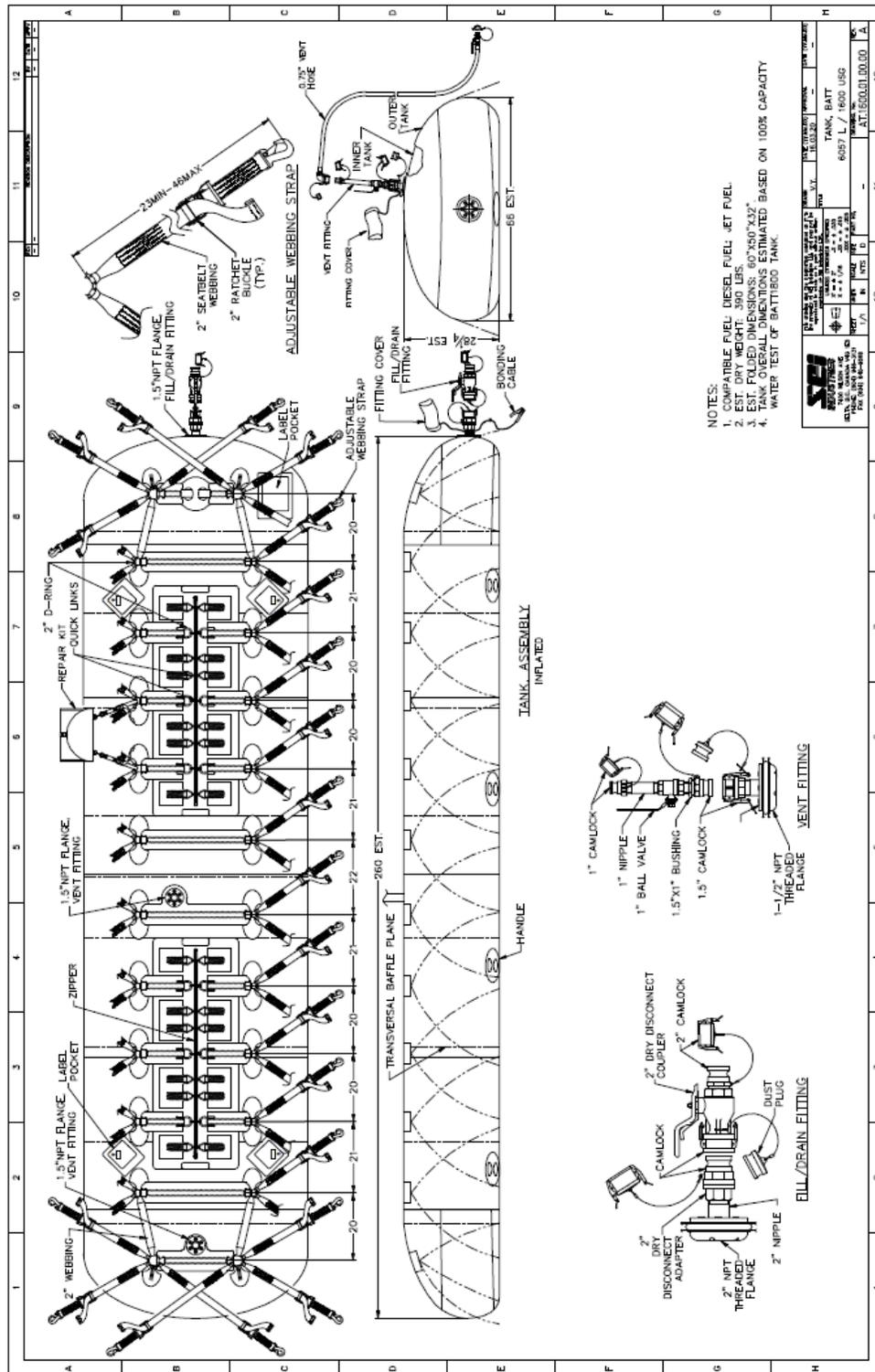
BATT Model 1150-H Drawing



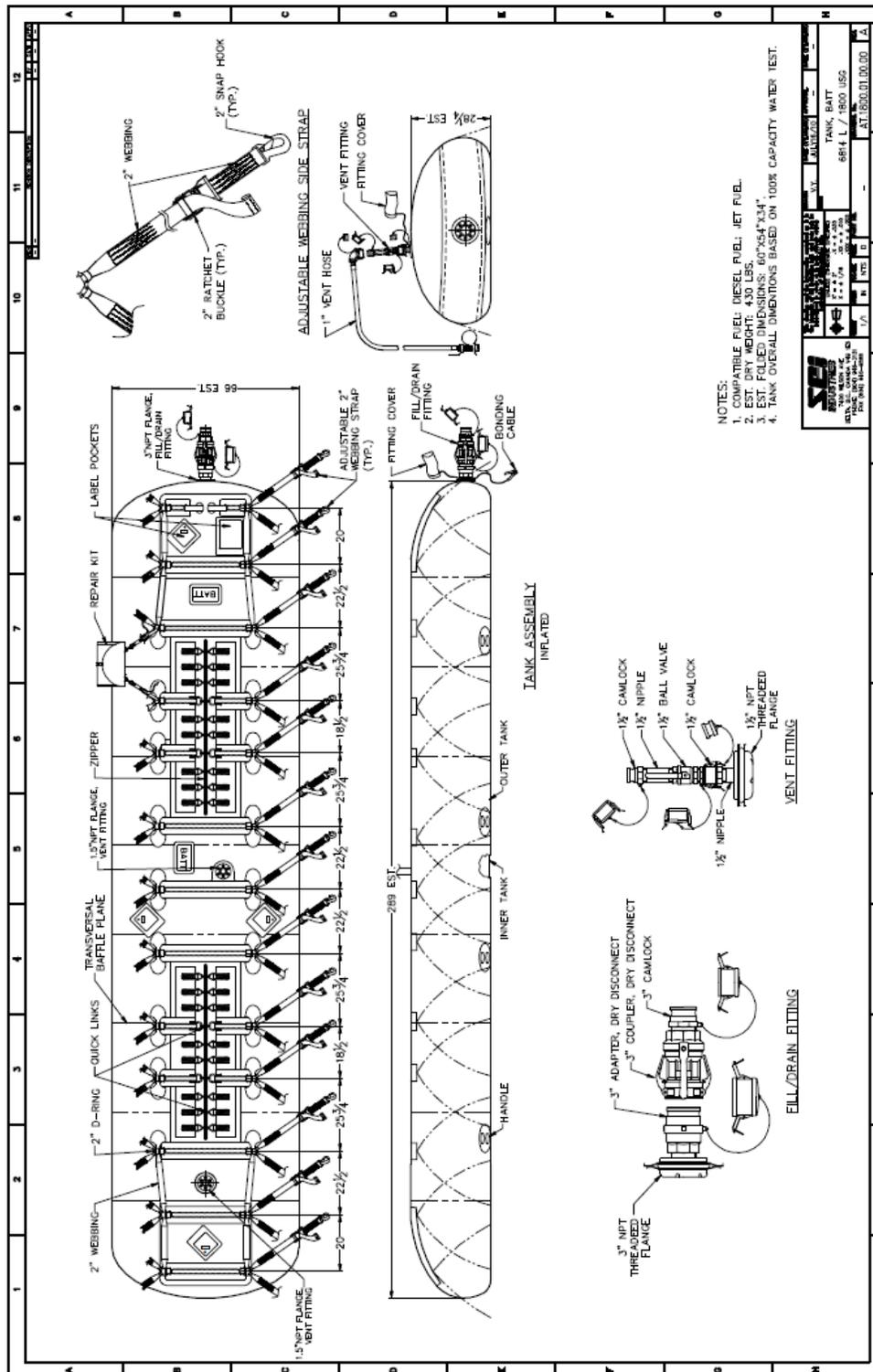
BATT Model 1150-2 Drawing



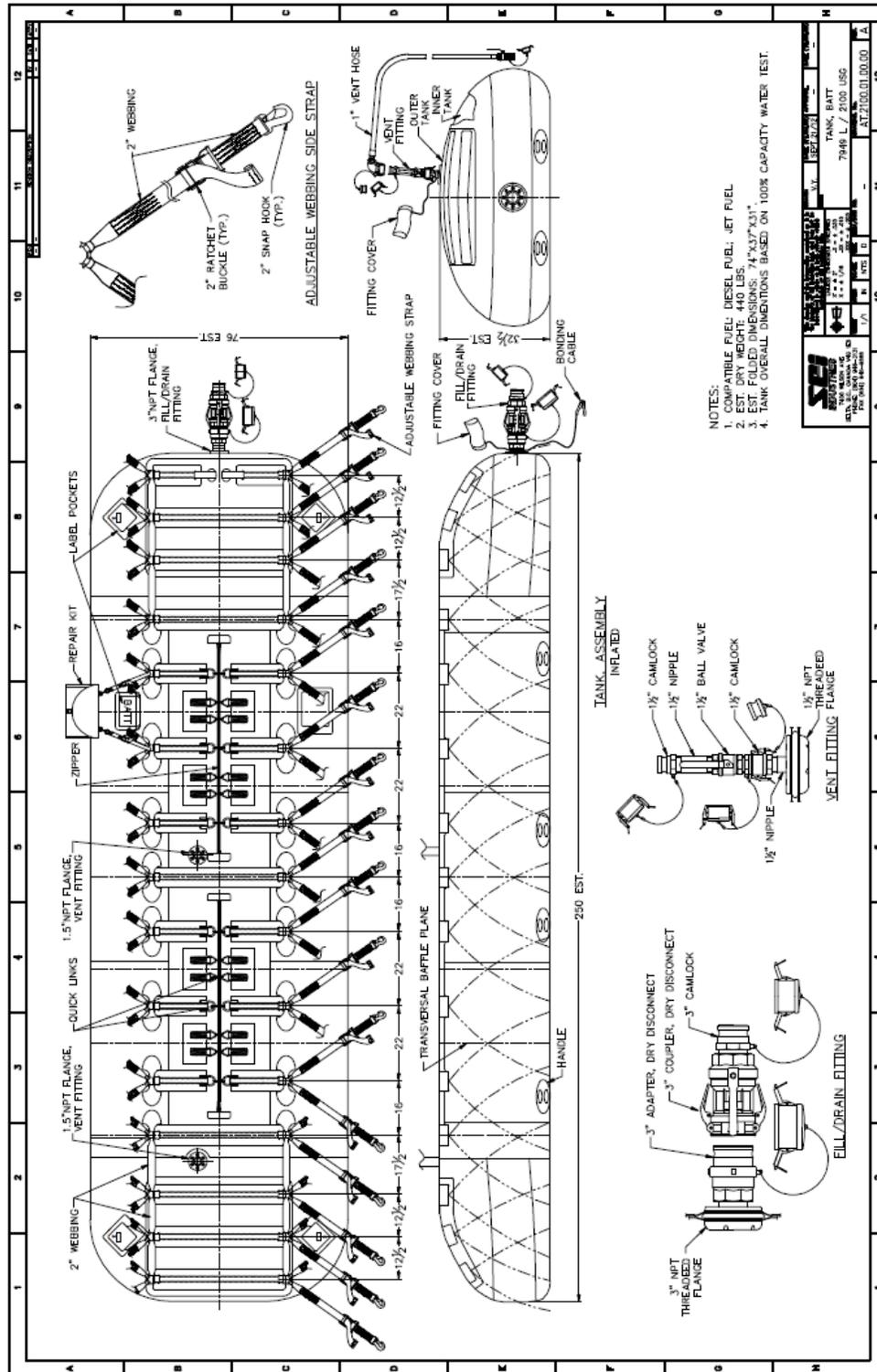
BATT Model 1600 Drawing



BATT Model 1800 Drawing



BATT Model 2100 Drawing



Section 9: Warranty

- a) Warranty is limited to repairing or replacing, at the company's sole discretion, any product approved to be defective.
- b) The company's products are not guaranteed for any specific length of time or measure of service, but are warranted only to be free from defects in workmanship and material for a period of one year to the original purchaser.
- c) To the extent allowable under applicable law, the company's liability for consequential, incidental and environmental damages is expressly disclaimed. **The company's liability in all events is limited to, and shall not exceed, the purchase price paid.**
- d) This warranty is granted to the original purchaser and does not extend to a subsequent purchaser or assignee.
- e) The company must receive notification in writing of any claims of warranty from the original purchaser which must give details of the claimed defect in the product.
- f) Where the original purchaser is claiming under warranty, the product must be returned to the company for inspection with all transportation and duty charges prepaid.
- g) The warranty does not extend to any product that has been accidentally damaged, abraded, altered, punctured, abused, misused or used for a purpose which has not been approved by the company.
- h) This warranty does not apply to any accessories used with the product such as pumps, filters, hoses, etc., that are not supplied by the company, and any warranty on such accessories must be requested from the manufacturer or dealer of the accessories.
- i) In the event the original purchaser does not give notice of a warranty claim within one year of the original purchase of the product, it is understood that the purchaser has waived the claim for warranty and the purchaser and/or any subsequent purchaser must accept the condition of the product as it may be, without warranty.
- j) Any technical information supplied by the company regarding the product is not a condition of warranty but rather is information provided by the company to the best of its knowledge.
- k) There are no implied warranties nor is there any warranty that can be assumed from any representation of any person, except the company itself.

Exclusions

This warranty is void if the product is not assembled, used and/or maintained in accordance with the operator's manual supplied by SEI. Not intended for use with fuels having aromatic content greater than 40%.

Semi-Annual Inspection Log

To be performed every six months (\pm two weeks) from tank's wet date. Inspect the following:

- Zipper (for serviceability, tightness, cracks and other evidence of failure)
- Space between the inner and outer tanks (within reasonable reach, for signs of fuel leakage, fabric deterioration, distortion, discoloration, hardening, wearing, cuts, scratches, cracks and other evidence of failure).

Tank manufacturing date: _____ Tank wet date: _____

N°	Date	Performed by (name/signature)	Notes (brief assessment of BATT condition)
1			
2			
3			
4			
5			
6			
7			
8			
9			
SEI BATT Inspection after 5 years operation Completed (date): _____ (Filled by SEI)			
10			
11			
12			
SEI BATT Inspection after 7 years operation Completed (date): _____ (Filled by SEI)			
13			
14			
15			
BATT end of service life			