



Asphalt Drivers Training Manual



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Asphalt Training Manual

Outline Sections

- A. Introduction**
- B. Attire Requirements**
- C. PPE and Items Supplied by Venezia**
- D. Training**
- E. Pre Trip Inspection - Tractor**
- F. Pre trip Inspection - Trailer**
- G. Properties of Liquid Asphalt**
- H. Liquid Asphalt Trailer Specifications and Systems**
- I. Preparation for Loading**
- J. General Loading Procedures**
- K. Preparation for Unloading Liquid Asphalt**
- L. Unloading Liquid Asphalt**
- M. Empty Out Procedure**
- N. Parking or Dropping Trailer**
- O. Qualcomm Procedures**
- P. Dispatch**
- Q. Breakdown**

Section A - Introduction:

Welcome to the Venezia LPG Asphalt Division!

In the interest of your safety, efficiency, competitiveness and good housekeeping, these guidelines and instructions are intended to help you to be productive, efficient, and safe.

Take the time to read this manual. The goal is to give you an understanding of the equipment, product characteristics and hazards, as well as customer and dispatch expectations. This manual will go over instruction on how to safely load, transport, what to do at the customer prior to hooking up, and the transfer of High Temperature Asphalt.

Section B - Attire Requirements

Because we require you to maintain a professional appearance and for safety reasons; company policy states that shorts, sleeveless shirts, sneakers, crocks, or sandals are prohibited from being worn while on duty. Drivers must pay detailed attention to safety as well as project a professional appearance.

Section C – PPE & Items Required & supplied to you by Venezia

Training Manual: This manual contains information and instruction on what to do in most ordinary situations. It also contains charts, contact information and procedure. Please go over the information in this booklet before training begins so that you have an idea of what the job is like on day one, before you get into the training truck. Also, it will educate you and help to stimulate conversation with your trainer. He will show you common practices as well as safety procedure. **This manual must remain with you during training and in your truck at all times for use as a reference after Training. Additionally, steps outlined in this manual are company procedure and must be followed!**



Items that are relevant to safety will be highlighted and contained in a Yellow Text Box.

Pay special attention to highlighted information!

Required PPE:



Shippers have no tolerance for people who refuse to wear required PPE. Typically, you will be banned for life after the first warning.

PPE: Personal Protective Equipment PPE that is required is for your safety. Venezia company policy is that the following **PPE must be worn when transferring product at all times. No Exceptions!**

Hard Hat – Intended to protect you from minor scalp/head injury. Hard Hats are required anytime you are out of the truck at loading facilities or at the customer unloading.

Face Shield – Intended to protect your face from serious burns, (attached to the hard hat by a face shield frame). This must be in the down position at all times at the loading facility while on the loading rack, and when attaching product hose at customer as well as opening valves, or, anytime you are standing within 15 feet of the trailer connection while unloading.

Long Sleeve Shirt and Pants No skin should be exposed while transferring product. (Not supplied by Venezia)

Steel Toe Leather Boots As per all customers and shippers' requirements. (Not supplied by Venezia)

Rubber High Temperature Splash Apron Intended to protect your body from coming into contact with hot product. May be required to be worn while the loading rack, and when attaching product hose at customer as well as opening valves, or any time you are standing within 15 feet of the trailer connection while unloading.

High Temperature Gauntlet Style Gloves Intended to protect your hands, wrists and forearms from burns caused by coming in contact with hot product or accessories.

NOMEX Coverall's – Nomex (FR - flame resistant treatment clothing) is required (in addition to all other PPE) at most loading facilities. It must be the outer most garment except for a splash apron. Typically NOMEX IS NOT required for unloading.

Our asphalt training program will consist of at least 3 full days, assuming at least 2 loads are done each day. More training time is desired, but at least 6 loads will be done under a trainer's supervision.

A Sleeping Trainee will not be tolerated! Conversation in the truck will pertain to safety and procedure. The first 2 training days will consist of conversation while driving in the truck regarding;

- **Product** - the temperature of asphalt, why it needs to be kept hot, what happens when it cools, how temperature changes the properties (weight vs. volume), etc ...
- **Shippers** - PPE requirements, loading procedures, flow meter vs. scale in scale out ...
- **Water** - What happens when Hot Liquid Asphalt mixes with water? And why it is important to protect the inside of the trailer from water infiltration.
- **Black Top Plants** - how their plants work, how they use the product we bring, PPE requirements ...
- **Customer Expectation** – Work demand will dictate Hot Product requirements and scheduling. Some of the busier plants will receive 24 HRS.
- **Pumps** - how they work, dos and don'ts ...
- **Venting the Trailer** - the trailer is vented by the manufacturer. Why do we have to vent while unloading?
- **Customer Tank** - How to check customer tank levels and how to tell if load will fit. What to do if the load does not fit.
- **The Bleeder Valve** - what it is used for, how it works, what will happen if the bleeder valve is left open?
- **Parking** - How to park at the end of the day to avoid a heel forming in the back of the trailer over the internal valve

Section D continued: Venezia Asphalt Training Program

- **Finalizing Unload** - How to make sure the trailer is empty when unloading is complete; close internal, open bleeder, run fuel oil through the hose and pump, close dome lid.
- **Qualcomm** – How to read all of the information on the Qualcomm Load Assignment
- **Qualcomm entries** - when to make them and what information to put in them.
- **Transporting The Load** - If the trainee has no liquid driving experience; the trainee must drive his first load while in the training truck. Items such as Hazmat requirements, Product Surge and Side to Side movement (product) will be discussed

- **Product Surge** – our Liquid Asphalt Trailers have one baffle. This baffle will not stop surge, only slow it. Care must be taken while driving to manage product surge. A substantial **following distance** is required to give the driver time to manage surge! **Anytime speed or direction is changed too fast; a violent surge will occur. This can have catastrophic results!**

- **House Keeping** – Steps need to be taken to prevent Liquid Asphalt from contacting the trailer. Your trainer will give you tips, and information will be later given in the training manual on how to prevent permanent stains on our equipment.
- **The final training day** should be a follow along day where the trainee shadows the trainer with his own equipment. This will give the trainee a chance to familiarize himself with his truck and trailer (i.e. loading and unloading) under the trainer's supervision. If the trainer feels that more time is necessary, additional time will be given for training (within reason).

Section E - Pre Trip Inspection -Tractor

A thorough Daily Pre Trip Inspection is your responsibility as mandated by company policy as well as Federal Law! By developing a sound and thorough routine, then incorporating this into your daily duties related to your job function is not only the law, but a few moments spent looking over the working conditions of your truck will go a long way in keeping you safe, help to expedite your day and keep you out of trouble with Law Enforcement as well as the Safety and Maintenance Departments.

On the following pages you will find company recommended procedure regarding Daily Vehicle inspection:

- Approach the truck looking for abnormalities such as leaning or large, unusual puddles of fluid on the ground
- Raise the hood and inspect the engine and ground for leaks
- Check passenger side steer axle suspension; springs “U” bolts, front and rear spring hangers.
- Check Tie Rod ends and that nuts are secured and cotter pins are in place
- Check Right Side Steer axle brakes shoes, drums, air lines, brake chamber, slack adjuster, and grease line.
- Check right Side Steer tire for tread depth and side wall damage –both inside and outer sidewalls.
- Look for proper inflation
- Make sure Valve Stem has a cap.
- Check tractor frame rail for cracks
- Check for signs of exhaust leaks
- Check for signs of loose bolts
- Walk to the driver side and check hood spot’s on the way
- Check all fluid levels (i.e.: oil, anti freeze, washer fluid and power steering fluid)
- Check all serpentine and A/C belts for cracks or glaze
- Check driver side suspension as was done on the passenger side.
- Check steering shaft for play.

Section E Tractor Pre Trip Inspection cont;

- Check for loose u-joint connections (steering)

- Check drag link - that nuts and cotter pins are secured
- Check pitman arm - nuts and cotter pins are secured
- Check tie rod ends - nuts and cotter pins are secured
- Start Motor
- Check for oil pressure gauge – pressure should immediately rise
- Check to see if air pressure is building
- Check city horn
- Make sure defroster works
- Check wiper's, washer, and wiper blades
- Check fuel gauge for accuracy
- Check both side view and both spot mirrors for cracks and aim
- After air pressure builds apply breaks fully and check for air loss
- Check Air Horn
- Check Permit book for expired paper
- Check Company Name and DOT numbers match registration
- Check fire extinguisher for charge and secure mount
- Check for triangles and spill kit
- Emergency Response Guide, Hazardous Materials and DOT Rules and Regulation booklets must be in the driver side door pouch.
- Turn on Lights and flashers, exit cab
- Check door; latch, glass, lock and hinge
- Check compartment door
- Check battery box lid
- Check air lines for cracks and glad hand rubbers
- Check fifth wheel, jaw, perches, mounts and bolts
- Check forward drive axle: air bags, spring, perch and hanger
- Check forward drive axle brake chambers, shoes, drums and slack adjusters
- Check drive shaft for u-joint/carrier bearing wear
- Check the same points on the rear drive axle on both sides of the tractor
- Check torque arm; bushings and mount
-

Section E Tractor Pre Trip Inspection cont.:

- Check all driver side tire; tread, sidewalls, inflation and spacing

- Check lug nuts for rust streaks
- Check for valve stem caps
- Check wheels for cracks or illegal welds
- Check the tail lamps and flashers are working
- Check that the mud flaps are secure
- Check for conspicuity tape
- Check tires on passenger side in the same manner that was done on Driver side
- Check exhaust system for leaks
- Check fuel tank straps
- Fuel tank cap and gasket
- Check compartment door
- Check passenger side door; glass, hinge and latch
- Close and latch hood
- Check windshield for chips or cracks
- Make sure that spot and side mirrors are adjusted properly, and that they are tight and won't move at highway speeds

Section F - Hook to and Pre Trip Inspection – Trailer

- Align truck and trailer and place fifth wheel at the front of trailer frame.
- **Get Out And Look!** Make sure that trailer height will match the fifth wheel and that nothing is obstructing the fifth wheel jaws
- Double check Trailer number to assure the correct trailer
- Hook truck to trailer.
- Tug gently to assure unit will not come apart. *NOTE – a gentle tug is all that is required. Do not tug so hard that you end up dragging landing gear. This will bend the legs or break landing gear bracing.*
- Check trailer glad hand grommets
- Hook up air lines
- Check to be sure that fifth wheel handle has gone all of the way in to its locked position
- Wind up Landing Gear.

Section F – Pre Trip Inspection Trailer cont.

- Check Placards – The right ones are showing, check for the correct color and shape.

- Inspect Landing Gear and Landing Gear Bracing.
- Check for trailer registration paperwork
- Inspect Fifth wheel to assure that the jaws closed around trailer pin.
- Making certain that Tractor Protection Valve is applied, release trailer brakes by pushing in Trailer Protection (red) Valve.
- Turn on all lights and flashers.
- Walk down driver side of trailer checking:
 - Glad Hand Connection for air leaks
 - Left Front side marker lamp
 - Check driver side pin plate attaching bolts and nuts for secure mount
 - Fender is securely attached
 - Center Side Marker/Turn signal
 - Trailer skin and body – no damage
 - Check rear driver side fender and mounting hardware
 - Get down and look at trailer suspension
 - Check: front axle springs or Air Bags
 - Spring “U” bolts
 - Spring Hangers
 - Torque Arms
 - Torque Arm Bushings
 - Front Axle brake shoes
 - Front axle brake drums
 - Air Lines for chaffing, rubbing or leaks
 - Look for structural cracks on frame
 - Kick Tires (they should be hard and not bounce when hit)
 - Check Driver Side Front Axle tire tread and side walls
 - Check wheel lug nuts for rust streaks
 - Check wheels for cracks and valve stem cap
 - Check Driver side rear axle tire tread and side walls
 - Driver Side Hub Oil Level!!!
 - Check Driver side trailer spring equalizer
 - Get down and check rear axle suspension
 - Check: Springs or Air Bag
 - “U” bolts

Section F – Pre Trip Inspection Trailer cont.

- Spring Hangers
- Torque arms

- Torque Arm Bushings
- Rear Axle break shoes
- Rear Axle Break Drums for cracks
- Note position of slack adjusters (breaks should be released)
- Check rear frame for cracks
- Check clearance, flasher, tail and license plate lamps
- Go back to tractor and fully apply trolley brake
- Take notice of any air escaping through Glad Hand Connections
- Walk to back of trailer and listen for air leaks
- Check to see if Brake Lights are functioning
- Get down and look at slack adjuster travel (it should be no more than 2 inches)
- Check that all valves are closed (internal, gate and bleeder)
- Product Line is capped, cam locks are tight
- Continue along passenger side of trailer
- Kick and check tires, hub oil level lug nuts tread depth, side walls, and valve stem caps
- Make sure rear fender and mounting hardware is secure
- Check Hose Tray for secure mount
- Check Hoses – appropriate rating for pressure and temp.
- Check all side marker lamps and signals
- Look for possible structural cracks on tank.
- Check Ladder for secure mount
- Climb Ladder and check that dome lid is latched
- Check Threads on Dome Lid Bolt – must not be worn if so replace
- Check that drain holes in crash box are open
- Check Right Front fender and mounting hardware for secure mount
- Check Curb side pin plate mounting hardware – all fasteners must be tight.
- Re enter cab, release parking brake start out in 3rd gear until clutch is fully released
- Fully depress clutch pedal and pull trolley brake fully down.
- That is the proper way to perform a tug test.

Section G – Properties of Liquid Asphalt:

First, it's not "tar." Asphalt is a natural substance that has some unique physical properties.

- It's sticky (adhesive) and its elastic, able to stretch, bend and flex without breaking (cohesive). This material does an excellent job of waterproofing.
- At air temperatures, asphalt cement is a very, very thick liquid (highly viscous). When heated, it becomes thinner and easier to use.
- Almost all the asphalt used today for paving comes from petroleum crude oil. Liquid asphalt is the heaviest part of the crude—what is left after all the volatile, light fractions are distilled off for products such as gasoline.
- In Europe and Canada, it is commonly called bitumen.
- Asphalt is supplied in several different grades. Generally softer asphalts are used in colder temperatures and harder asphalts in hotter climates.
- The US government sponsored a multi-million-dollar research project (Strategic Highway Research Program, SHRP) in the 1990's which developed new standards for asphalt binders called performance grade (PG) binders. For example, a PG 64-22 is meant for use where average surface (high) pavement temperatures in the sun reach 64°C (147°F) and lows reach -22°C (-8°F).
- Premium grades usually have polymers or other modifiers for use in heavy duty applications such as intersections on city streets or airports or in extreme climates.
- At normal temperatures, asphalt is too stiff to mix with the aggregates. There are three ways to thin it enough to make it mixable—heat it, dilute it with a solvent (cutback) or emulsify it in water.
- Asphalt that you load at the shipper, transport in your trailer and unload at the customer (batch plant) will be heated to between 270 and 320 degrees Fahrenheit.

Section H - Liquid Asphalt Trailers: Specifics and Systems

- **General Trailer Design** The trailer that you will be using is specially designed to keep hot product at its optimum elevated temperature for as long as possible.
 - The trailers have insulation between the barrel and the outer skin.
 - The structural barrel, whether it is made from aluminum or steel, will be blanketed by heavy insulation.
 - The insulation is protected by a thin gauge aluminum outer skin.
 - **This skin can be damaged easily.**
 - Let nothing come in contact with the skin.
 - Do not walk on the skin on top of the trailer when you are up on top during the loading process.

- **51XX Series Asphalt Trailers** are steel barrels and can take product temperatures up to 500 degrees or higher.

- **75XXX Series Asphalt Trailers** are aluminum barrel trailers. They are much lighter than the steel trailers but have a limited maximum product temperature. Each aluminum trailer has a Max Temperature decal on the back of the trailer.

- **Venting Systems** All asphalt trailers are manufactured with a venting system which is necessary to haul hot product.
 - Typically the venting system is manufactured with a 3” diameter pipe vent.
 - Over time, because of general use and product surge, residual goo will build up in the venting system which will choke down the vent pipe diameter significantly which will restrict air flow.

Section H - Liquid Asphalt Trailers: Venting System cont.

- The venting system cannot be relied on to vent during the unload process.

- The product comes off too fast for the restricted vent system to keep up.
- The space the product occupied in the barrel needs to be replaced by outside air.
- Otherwise, a vacuum will form on the inside of the trailer which will cause the barrel to collapse – Sucked In
- Common practice is to lay the wing nut and bolt on top of the dome rim, then lower the dome lid so it rests on the bolt/wing nut used to latch down the lid.
 - This will provide enough space for an ample amount of air to pass to replace the space that the product filled in the barrel
 - And keep rainwater and other debris out of the trailer
 - Prevent rapid heat loss.

For the reasons listed above, to protect the integrity of the barrel; **THE DOME LID MUST BE OPENED DURING THE UNLOAD PROCESS**

It is a Federal Motor Carrier Rule (law) that dome lids must be closed and secured while the unit is on public roads regardless whether the trailer is empty or loaded!

Section H - Liquid Asphalt Trailers cont.

Product Line Flush Systems

- ☞ Before using any product to flush at the end of the unload process – check with the plant operator, or the “Ground Guy” to make sure that flushing the line at their plant is acceptable. Some plants do not permit the use of diesel fuel to flush the

lines.

All asphalt trailers have some kind of flush system. We have 2 types on our trailers. They are described here.

Simple Draw Method:

- The simplest method is a bleeder valve (on the product line between the gate and internal valve) attached to a 3 ft 3/4" diameter hose.
- At the end of the process when the trailer is empty; the loose end of the bleeder hose is placed in a bucket with 1 to 2 gallons of diesel fuel (customer supplied).
- The trailer internal valve is closed
- The bleeder valve is opened
- The suction from the running customer pump will draw all the diesel fuel out of the bucket
- The fuel passes through the trailer product line, gate valve, pump hose and pump to clean out any remaining asphalt.
- The purpose of this is so that no residual product will be left in these components that will harden and slug the line.
- This flush must take place at the end of every unload process (where permissible).

On Board Closed Pressure Flush System



System must be depressurized when not in use!

- This system consists of a tank in which diesel fuel is stored under pressure.
- Care must be taken when adding fuel to this tank;
 - Make sure valve that supplies air to the tank is closed

Pressure must be drained from tank before unscrewing fuel cap

- Fill the tank with diesel fuel when you fuel the tractor

Section H - Liquid Asphalt Trailers cont.

- A copper line is attached to the tank and run to the back of the trailer.
- An injector valve is in on the product line near the gate valve.
- This is used to flush the product line, gate valve, product

- hose and customer pump at completion of delivery.
- Close internal valve – open injection line for 3 seconds then close.
 - Reopen valve for another 3 second burst and close.
 - Injected fuel will clean out product line and pump

Heating Slugged Product Lines

- At times the trailer product line may need to be heated to liquefy a slug that formed since the last unload.
 - A propane torch is usually available at the customers unload station for heating slugged lines.
 - Keep in mind that you are to heat the product line and customer hose only!
 - Be aware of the damage that carelessly misdirected flame/heat can have on trailer components such as trailer skin, insulation, electrical wiring, plastic parts and air lines.

💣 Special care must be taken so that flame from the torch does not come in contact with anything other than the product line. Heat applied to the “diesel injection line” will cause the line to fail. Diesel fuel under pressure will then be sprayed from the burnt line. This will ignite the fuel and cause a fire.

💣 Extreme care must also be taken to keep flame and excessive heat from air lines, electrical lines and trailer skin. Misdirected flame will melt these items which will result in equipment damage, delay time for the customer and disciplinary action for you.

Crash Box

- The dome lid is protected by a crash box which serves dual purpose
 - It is designed to protect the dome lid in the event of a bridge hit or a roll over.
 - It also serves as a spill containment area for every day loading of the trailer.

- The “Crash/Spill Box” has two drain hose’s that are designed to drain water away from the dome lid.
- The crash box must be kept clean of hardened product that can accumulate inside of the box.
- If the hoses become plugged; water cannot drain from inside of the crash/spill box and will end up infiltrating the barrel.

Section I - Preparation for loading

Under normal operational circumstances you generally will be hooked to the same trailer every day. However, situations could occur that will require you to drop your trailer and hook to a different one. Events such as a specific product that a customer orders may require a different type of trailer be used for that delivery. Doing a thorough D.O.T. Pre Trip Inspection is required every time you hook to a different trailer! But this is not enough. Since personal injury and property damage are always possible while handling hot product, special attention must also be given to inside the barrel as well.

For example; suppose a driver unloaded then dropped his trailer, he neglected to close his dome lid. You find this out when you hook to the trailer during your pre trip! A proper inspection includes checking that the lid is secure. You climb the ladder, notice that the crash box is full of hardened residual product, enough so that the drain holes are completely plugged, and you find the propped open dome lid. So you look inside and see no evidence of water, because the trailer was pitched forward, so you close and latch the lid and never give it another thought.

Section I - Preparation for loading cont.

While at the loading rack you notice a rumble coming from inside of the trailer, if you’re observant. Or it’s highly likely you don’t notice because of all of the noise being made by the running pump at the rack!

Situations have occurred where a driver had no idea his trailer had a substantial amount of rain water that was reacting with hot product that he loaded on top of until he tried to close the dome lid.

That's when the boiling water forced out hot product from the trailer through the dome lid like a volcano erupting! This caused very serious 3rd degree burns to the driver, permanently stained the trailer and made one hell of a mess at the rack.

Hopefully you can understand how easily water can infiltrate our trailers because of carelessness. It is highly important that you take the time to make sure that the trailer has no water in it.

- To make absolutely certain the trailer has no water in it do the following:
 - Pull onto the rack, position the unit for loading
 - Access the top of the trailer using the rack fall protection cage
 - Open the trailer Dome Lid
 - Look inside the trailer, inspect for water droplets
 - Insert the spiller pipe
 - Secure the spiller pipe to the dome lid
 - Open the Spiller Pipe Valve
 - Start the rack pump
 - Allow product to load into the trailer for 2 full minutes
 - Stop the pump
 - Walk back on top of the trailer and listen for noises coming from inside the trailer
 - Look for steam coming out of trailer
 - If snapping, crackling and popping noises are heard water is in the trailer and needs to cook off.
 - Close the Dome Lid, move the truck from the rack to an out of the way location
 - Climb back on top of the trailer and reopen lid
 - Listen for popping noises to cease.
 - It is now safe to load the trailer.

Section J - General Loading Procedures

As always, safety is the primary objective. Without exception you are required to wear appropriate PPE at all shippers. You will be banned from most loading facilities for life if you are observed without the full benefit of personal protection.

This includes but is not limited to;

- Safety glasses
- Steel toe shoes

- Long pants
- Long sleeve shirt
- High temperature gloves
- Hard hat with face shield,
- Splash Apron
- Some shipper require the use of Nomex

In addition and as stated before; it is mandatory that you protect company equipment from damage and stains from asphalt.

- It is very important that you load as much product as you legally can in order for us to be competitive as well as cost effective for our customers. With this in mind, here is the challenge;

Depending on where you are dispatched to load, different shippers have varying requirements and loading procedures. There are 3 basic methods for loading.

First Method - scale in, load and then scale out.

This method is seldom used as most shippers have installed “Flow Meters” which eliminates the need for a scale. It is the most challenging method as it has a lot of potential for error. It takes practice in getting to know your trailer and how much you can put on without over loading. No shipper will allow you to leave their property if your gross is over 80,000 pounds. If you do accidentally over load, this means that you will have to wait for a truck with a pump to show up so that you can off load enough to scale out. In the past drivers have waited up to 12 hours or more until someone with the right equipment to come off of their brake and was able to rescue them. The most effective way to load accurately is as follows;

It is recommended that the first time that you load your trailer to figure your *inches to load*, you do so with your fuel tanks full of fuel so that your truck and trailer are as heavy (empty) as it will ever be.

Section J - General Loading Procedure cont.

Also; allow enough time for multiple trips back and forth between the loading rack and scale.

You need to know the weight of the product per gallon and the temperature of the product. Then time the flow. Using a stop watch, or a watch with a second hand, time the flow until the trailer is $\frac{3}{4}$ full. Stop and go scale the truck. Divide the weight per gallon into the net weight. The answer is the amount of gallons that you have loaded. Next you divide the time it took to load into the total gallons. The answer will give you gallons per minute. Here is an example -

Suppose you time the flow for 22 minutes. When you scale the truck you find that you have loaded 42,000 pounds of product. Follow the examples below to find rate of flow or flow per minute;

Example: $42,000 \text{ (pounds net)} / 8.75 \text{ (pounds per gallon)} = 4800$ gallons loaded.

Next: $4800 \text{ (gallons loaded)} / 22 \text{ (minutes)} = 218$ gallons per minute flow.

The optimum load is at least 50,000 pounds.

$50,000 \text{ (lbs desired)} - 42,000 \text{ (lbs loaded)} = 8,000 \text{ (lbs needed)} / 8.75 \text{ (pounds per gallon)} = 914.2$ additional gallons needed to make a grand total of 5714 gallons.

$914.2 \text{ (gallons needed)} / 221 \text{ (gal. per. min.)} = 4$ minutes 13 seconds.

Or, if you can't find an accurate weight per gallon you can leave that out of the equation and just calculate pounds per minute rate of flow.

Example: $42,000 \text{ (pounds net)} / 22 \text{ (minutes time loaded)} = 1909.1$ (pounds per minute flow)

Next $50,000 \text{ (pounds desired)} - 42,000 = 8,000$ (pounds yet to load)

Next: $8,000 \text{ (additional gallons)} / 1909.1 \text{ (pounds per minute flow)} = 4 \text{ min. } 13 \text{ seconds}$ of additional flow time.

Section J- Procedure for Loading Venezia Asphalt Trailers cont.

Once you have loaded your trailer and are certain that your weight is right,

- Hang a bungee cord on the rim of the dome hatch allowing the end to drop into the asphalt.
- Remove it and cut it right where the cord is dry and where the asphalt stops.
- This will be your tool to determine when to stop loading when you are loading at a shipper where you have to scale in and out.
- The next time, simply hang the bungee cord from the dome hatch rim. When product reaches the bottom of the bungee, it's time to shut off the product flow.

- You can leave the bungee cord in the spill box for use the next time that you load.

☞ Please note this is only accurate when product is loaded at the same shipper with the product at (or close to) the same temperature when you originally measured the bungee cord. Remember that the volume or size of the gallon varies with temperature, and will have a significant influence on inches loaded. Be aware that higher temps will take up more room in the trailer. Cooler temps will take up less room.

☞ Also; be careful that nothing falls into your trailer other than product. If you accidentally drop your bungee cord into the trailer, it will end up getting caught in the customer's strainer and drastically slowing down the unload process. This will require the strainer to be taken apart so that the foreign object can be removed.

Second Method is load through a flow meter where no scale is used. Gallons are set by you and the pump will shut off automatically.

Third Method is load while on a scale.

NEVER MOVE TRUCK AND TRAILER (LOADED OR EMPTY) WITH AN OPEN DOME LID!

Section J - Procedure for Loading Venezia Asphalt Trailers cont.

When approaching the rack

- Carefully align then drive your truck through the loading rack.
- Make certain of clearances on the sides as well as over head.
- Use extreme caution on your approach especially the first time at a shipper or at an unfamiliar rack so that you don't come in contact with the platform or any other fixed object.
- Be especially careful that your exhaust stack and the ladder on the trailer are clear and will not strike objects.
- Enlist the help of another driver if possible.
- You may find it necessary to get out of the truck, climb the steps up to the platform and check trailer placement side to

side and front to back so that the spiller pipe will fall into the dome opening.

Once trailer is properly positioned and while in the driver seat, find a mark on the pavement or other reference point that lines up with the steer axle or some other point on the tractor. This will help you know when to stop the next time that you load at the same rack.

Loading the Trailer

- Once on top of the platform carefully lower the gang way so that it rests on the spill box.



DO NOT LET THE GANG WAY COME IN CONTACT WITH THE OUTER SKIN OF THE TRAILER!

- Open Dome lid and inspect the barrel for water. Insert spiller into trailer. Make sure that the spiller pipe is chained down or secured by some other method so that it does not come out of the trailer when the pump is turned on.
- Open any valves that are necessary on the loading arm.
- Start the pump
- Allow the trailer to fill to 1/3 full then stop the pump – listen for snapping, cracking or popping. This is a tell tale sign that water is in the barrel. If so; the water must be allowed to boil off.
- Fill trailer to correct weight.
- Stop the Pump
- Close Spiller Valve

Section J - Procedure for Loading Venezia Asphalt Trailers cont.

- Remove chain from Spiller.
- Raise spiller only enough to allow remaining product to drain into trailer. Be careful not to raise it too far so that the wind catches product and blows it onto the trailer skin.
- Once Spiller stops draining; replace slop bucket and secure to spiller pipe.
- Stowe and secure Spiller.
- Close and securely latch dome lid
- Make sure rim tab is not under dome lid.
- Wipe/clean any spilled product.
- Raise and secure Gang Way.

- Remove truck from rack and get shipping papers.

Section K - Preparing to Unload Liquid Asphalt

It is imperative that procedure is followed to avoid problems and injury to you and others while loading, unloading and transporting hot asphalt.

Before any work is preformed it is mandatory that all PPE (Personal Protection equipment) is worn. This includes; steel toe safety shoes, long sleeve shirts, long pants, safety glasses, hard hat with face shield, high temperature asphalt gloves.

- Upon arrival check in with plant operator. Ask which tank(s) are to be filled, get paperwork signed - Authorization to Unload
- Place truck so that the customer's product hose will easily reach product line fitting on trailer.

The product hose **must rest on the ground** during transfer as to not stress the fittings

- The trailer must be positioned so that the rear of the trailer is lower than the front of the trailer. The truck and trailer should be facing up hill so that product runs back to the valve.

**NEVER MOVE TRUCK AND TRAILER
(LOADED OR EMPTY) WITH AN OPEN DOME
LID!**

Section K - Preparing to Unloading Asphalt Products cont.

All deliveries must be made with a wheel chalk placed between either trailer or tractor axles. BOTH TRACTOR AND TRAILER PARKING BRAKES MUST BE SET!

Make certain that load will fit in customer's storage tank. This means that you will need to physically climb the ladder to the top of the customer's tank, open the lid and measure to see current storage tank volume. DO NOT ASSUME THAT YOUR LOAD WILL FIT!!!! If you are uncertain, ask the Ground Guy how many inches down the level must be for your load to fit.

You will be responsible for cleaning up any product spilled because of overfilling the customer's tank.

- Make sure that the correct valves are opened on the customer's tank and that product is going to go into the tank that you intend it to.
- If multiple tanks are available; know how to switch from one tank to the next. Always ask first to make sure you are allowed to do so. In most cases this can be done without stopping the pump. If you don't know how to switch tanks; ask the Ground Guy. Also make sure that both tanks are used for the same product.
- Ask how the valves should be left when you are done

Section L - Unloading Liquid Asphalt

- Place spill bucket under truck discharge valve and carefully remove product line cap by opening one cam lock at a time. Always assume that there is pressure or product behind a line cap or plug when you are removing it.
- Protect the trailer's bumper from asphalt stains.
- Hook customer asphalt hose to product discharge line on the trailer and secure with orange Velcro safety strap.
- Open ball valve on bleeder hose.

Section L - Unloading Liquid Asphalt cont.

- Turn customer pump on and listen for suction at the end of the bleeder hose.
- If suction is strong the customer's line is clear.
- If suction is weak or if there is no suction coming through the line, the customer's product line is slugged.
- It will then be necessary to heat the steel braided line and possibly the valve on the pump to loosen the slug.
- Once a strong suction sound is heard through the bleeder hose continue to the next step ...

- Open trailer dome lid and prop open on latch to prevent rain or debris from entering trailer and to prevent too much heat from escaping from trailer.



Before you open the internal valve on the trailer, make sure bleeder valve is closed!! Failure to do so will result in a spill and loss of product.



Avoid using dirty asphalt gloves while climbing the ladder on the side of the trailer as well as opening the internal valve. This will cause anything that comes in contact with asphalt covered gloves to become stained and is unacceptable.

- Open the internal valve. *** See yellow text box above
- Watch for hose to fill with product. You will notice it settle as the weight of the product fills the hose. You will also notice a strain in the sound of the pump. At this point the hose will gradually become very hot.
- To ensure that product is flowing, climb ladder on the trailer and look to see if the load is moving toward the back of the trailer. Also, you can place your gloved hand on the product hose; you should feel a slight rumble as product is being pulled through the hose by the pump.

Section L - Unloading Liquid Asphalt cont.

Drivers must stay within 25 feet of discharge valve and be attentive at all times during the unloading process.

- When hose starts to jump, air is now mixing with product. The trailer is almost empty.
- Note time, and allow trailer to drain for an additional 3 to 5 minutes.
- Climb trailer ladder and look to see if trailer is completely empty of product. You should clearly be able to see the bottom

of the barrel and hear the pump running from inside the trailer.

Section M - Empty out Procedure

- Close internal trailer valve.
- Place bleeder hose in bucket filled with one gallon of diesel fuel available at unloading stations.
- Open bleeder valve and run diesel fuel through bleeder hose on trailer. If the customer allows diesel flush.
- The pump will draw fuel oil through the bleeder line, gate valve, trailer fitting and product hose cleaning all of residual product. One gallon should be sufficient.
- With bleeder hose valve open and spill bucket in place under product discharge line; carefully remove product hose from truck fitting.
- Clean inside of hose fitting thoroughly with diesel fuel and wipe out fitting with a rag.
- Plug and hang customer's product hose.
- Turn off customer's pump.
- Close customers line valve
- Stow bucket.
- Close trailer bleeder valve and stow bleeder hose for transport.
- Spray trailer dome lid gasket with diesel fuel, then close and latch securely.

Section N – Parking & Dropping Trailer



When you park your unit at the end of the day, be mindful that any residual product will settle at the lowest point then harden as it cools. If you park with the rear of the trailer lower than the front; Product will drain to and harden over the internal valve. This will make it impossible to unload the next day. The trailer will have to be taken to a shop and the slug over the valve will have to be blown out of the way. For this reason you must park or drop the trailer facing **DOWN HILL.**

Section O – Qualcomm Procedure

- Arrived at Shipper
 - Messages -> Compose Tab
 - Select Macro 4 “Arrived at Shipper”
 - Type in Venezia order number
 - Press “Send”

- Loaded Call
 - Messages -> Compose Tab
 - Select Macro 5 “Loaded Call”
 - Type in Venezia Order number
 - Type in Net Weight of load
 - Type in BOL number
 - Type in Trailer number
 - Press “Send”

Section O: Qualcomm instructions cont.

- Arrive at Consignee
 - Messages -> Compose Tab
 - Select Macro 6 “Arrive at Consignee”
 - Type in Venezia Order number
 - Press “Send”

- Empty Call
 - Messages -> Compose Tab
 - Select Macro 7 “Empty Call”
 - Type in Venezia Order number
 - Type in Y or N for Unload
 - Type in Drop trailer (only if dropping trailer)

- Type in Pick trailer or Current
- Press “Send”

- Directions/ customer info
 - Messages -> Compose Tab
 - Select Macro 14 “Customer Info Request”
 - Type in company ID (First 3 letters of company name and first 3 letters of city name).
 - Press “Send”

- Breakdown/Trouble message
 - Messages -> Compose Tab
 - Select Macro 18 “Breakdown/Trouble”
 - Type in Tractor/Trailer
 - Need help: Y or N
 - Type in Location with Directions
 - If delivering-will be late Y or N
 - Press “Send”
 -

- Emergency Message
 - Messages -> Compose Tab
 - Select Macro 23 “Emergency Message”
 - Type in message
 - Press “Send”

Section O: Qualcomm instructions cont.

- Tractor and trailer defects
 - Messages -> Compose Tab
 - Select Macro 35 “VCR/Defect Macro
 - Follow steps in Qualcomm

Section P - Dispatch

- By phone
 - From Sunday at 5:00PM to Friday at 5:00 PM we have someone in the office 24 hrs/day answering the phones.
 - Saturday live phone coverage hours from 8:00AM to 11:00AM
 - Call 1-800-635-2083
 - LPG/Asphalt Ext. 243 Kim Schaeffer

- LPG/Asphalt Ext 242 Dan Schubert
- Call between 12 noon and 4:30 PM the day prior
- Make sure when you call you get:
 - Tractor you're using
 - Trailer you're using
 - Where trailer is located
 - Pickup time
 - Pickup location
 - Delivery time
 - Delivery location
 - Product you are delivering
 - Any special delivery instructions
- By Qualcomm
 - Corporate monitors Qualcomm messages from trucks at 5:00PM Sunday to 5:00PM Friday.
 - Saturday Qualcomm monitoring 8:00AM to 11:00 AM.
 - Load assignments and pre-plans generally get sent the day prior.
 - Load changes will occur via Qualcomm
 - Assignment includes all load information
 - Venezia pays per message and per character on Qualcomm so please abbreviate and avoid un-necessary messages.
 - Dispatch can see if a driver reads their dispatch
 - Driver is expected to call dispatch if any questions regarding assignment.
- If something goes wrong call dispatch immediately.
 - Allow dispatch to take responsibility for decisions made

Section Q - Breakdown

- Qualcomm a "Breakdown/Trouble message"(see section 22)
- Do not call terminal location mechanic directly
- Call Venezia 1-800-635-2083 and talk to road breakdown person
- Breakdown person will ask questions in an effort to diagnose the problem.
- Sometimes the driver will be asked to perform small tasks in an effort to get him/her back on the road sooner.
- Road service may be called out if unit cannot be moved safely.
- Breakdown may send driver to a terminal or an outside shop for repairs.
- When repairs complete driver is to request a control # from dispatcher for all time over an hour broken down.
- Place control # on Trip-Pak envelope.

- Note: Driver has to log breakdown time and 10 hour breaks are not paid.
- Note: Automatic 1 hour not given if a re-occurring problem

New Requirements deliveries to Tilcon Plants as of May 2021

Liquid Asphalt Transfer Safety and Procedures Guidelines

2021

The transfer of liquid asphalt between tanks carries with its inherent risks of injury associated with working around pressurized conveyance systems and with extremely hot materials. These risks can be mitigated and managed with proper procedures. The following requirements must be followed by Tilcon New York employees and outside contractors while line connecting, line breaking and transferring liquid asphalt from a delivering tanker to an asphalt tank at a plant.

The following steps shall be taken prior to the transfer of liquid asphalt between delivering tanker and asphalt tank.

- **Personal Protective Equipment (PPE) is required while transferring liquid asphalt or performing work on the liquid asphalt system including as a minimum:**



- Hard Hat with Face Shield (8" minimum shield length) with chin guard.

- Minimum ANSI Z87.1 approved safety glasses with side shields.

- Thermal Resistant Outerwear with long sleeves (flame-resistant jacket preferred, a long sleeve shirt is not adequate unless flame resistant), pants long enough to cover the ankles, high top leather steel/composite toed boots.

- Thermal Protective Gloves of enough length to ensure no exposed skin during routine tasks (outerwear sleeves must overlap and seal at the cuff).

- Hydrogen Sulfide [H₂S] Meter [when working near an open tank lid or taking tank level measurements].

**** While not required at this time consideration should be given to the use of a thermal resistant hood or balaclava in addition to hard hat, safety glasses and face shield.**

- A safety zone extending a minimum of 20' around the transport, flex hose, and off-load pumps will be established.
- The transport's parking brake must be set, and the wheels chocked.
- Do not stand on top of a tank or transport if guardrail is not present, or if you are not otherwise protected from a fall.
- Inspect all hose and couplings to ensure they are in safe working order prior to use. Hose should be free from visible damage and couplings should have restraining wire or cords in place.
- Make sure all hose gaskets are in place, hoses are properly attached, and restraining Velcro straps/wires/cords are used.
- Verify the transport and tank are properly vented (e.g., dome lid open, tank vents unobstructed, etc.) prior to the start of liquid transfer. Open the lid only after the hose has been connected.
- While transferring liquid asphalt monitor the process to ensure no liquid is leaking from the hose or connections. This must be monitored from outside the 20' safety zone.
- Ensure there is no blockage in the hose prior to connecting it to the tanker.

- In the event a hose becomes plugged with cold material during off-loading do not attempt to unhook the hose from the transport or the plant. Use appropriate methods to heat the line to remove the blockage for the type of line in use. When working on connected asphalt or hot oil lines be aware that heating lines may result in pressure build-up (stored energy) in the line. To prevent this, ensure valves are open on both sides of the plug prior to applying heat. When required follow company specific hot work protocols.

Note: Qualified asphalt personnel would assist in resolving a plugged described in above bullet.

Procedural Requirements

The following procedural steps shall be taken prior to the transfer of liquid asphalt between delivering tanker and asphalt tank:

- No outside contractor will transfer liquid asphalt without permission from plant personnel.
- Prior to any transfer of product, the contents of the transport and tank should be verified to ensure the proper material will be transferred. **Note: Verified by plant personnel.**
- Tanks intended to be filled must be checked to ensure enough capacity to hold the bulk load before transfer begins. **Note: Verified by plant personnel.**
- Check all valves to make sure they are in the proper position to ensure the materials will fill (or drain) the correct tank. **Note: Verified by plant personnel.**
- After transfer procedures are completed, take precautions to ensure liquid asphalt is not accidentally discharged while disconnecting hoses (tanker is empty, closing valves, and/or shutting off pumps).

Venezia Asphalt Training Evaluation

Trainer _____

Trainee _____

(print)

- ___ Wears proper clothing, all exposed skin is covered
- ___ Wears Protective Equipment
- ___ Understands the Nature and dangers of the product
- ___ Understands design of trailer
- ___ Opens dome lid and knows how to secure fill pipe
- ___ Knows capacity, product weight, and using flow meter at rack
- ___ Secures dome lid
- ___ Understands trailer venting system
- ___ Knows how to check customer tank level
- ___ Knows how to switch tanks

- ___ Knows how to hook customer product hose to unload pipe
- ___ Uses Velcro strap on dog ears to prevent hose from coming apart
- ___ Knows to open Dome Lid
- ___ Knows when trailer is empty
- ___ Allows enough time to let trailer drain
- ___ Flushes with diesel fuel
- ___ Cleans drips and stains off trailer
- ___ Keeps customers area clean
- ___ Closes Dome Lid
- ___ Keeps Spill Box and drain holes clean
- ___ Driver is ready to be released
- ___ Driver needs more training

Trainer Signature _____

Date _____

Trainee Signature _____

Trainer; please fill out evaluation at the end of training when you release your trainee. Send it to Safety in a Trip Pac envelope attn: Paul