

MAINTENANCE INSTRUCTIONS

- In order for the trailer to operate long-lasting and safe, it is mandatory and essential to carry out all maintenance operations at regular intervals. The operating and service instructions of the tow truck specified by the tow truck manufacturers should also be taken into consideration.
- If the vehicle owner does not have an expert mechanic (certified) in his own repair shop, the necessary equipment, and an official certificate of construction, he must have the trailer maintenance and repairs done at the authorized service of ŞAHİN TANKER, BPW, SERTEL or PIRLANTA (for axles and suspensions).
- The warranty will be void if other parts are used instead of original spare parts.

a) Jacking points;

All jacking operations must be done on smooth, hard ground, with parking brakes applied and other wheels safely chocked. It is important that the shape of the jack head is suitable for the axle cross-section so that the axle does not slip off the jack.

Note:

Do not lift under cast parts, springs, airbags, suspension arms, etc.

b) Tire changing and tire maintenance;

Tire changing for wheels with disc rims;

- After loosening the wheel nuts with the wheel wrench, lift them with a jack as explained in the previous article.
- Remove the wheel by removing the wheel nuts.
- To replace the wheel, lightly lubricate the nut threads and check whether the ring rotates easily.
- Position the wheel as close to the hub as possible. Place a steel bar right under the tire and adjust it using a lever and pass it through the rim holes to the lug wrench studs.
- Be careful not to damage the stud threads during this process.
- Install the wheel nuts and turn them as much as you can by hand. Only use nut tightening guns to take up the slack of the nuts after they have been installed by hand.
- Tighten the nuts with the wrench and in the order shown in the picture below. Lower the jack and finally tighten the nuts to the specified torque. Repeat this process after the first 80 km and every day for the first week.

Note;

Excessive tightening of the wheel nuts causes shape changes in the holes, while not tightening them as much as necessary causes deformations around the hole. It is

recommended to check all the wheel bolt holes on the wheels at regular intervals for ovalization, so that any problems that may arise can be detected early. The condition of tires and rims should be checked before hitting the road.

Maintenance of trailer tires;

Inappropriate tire pressures are one of the main reasons for tire failures. That's why regular checks are necessary. It should be noted that the recommended tire inflation pressures on the tire sidewalls are given for cold tires. Pressure increases due to the heating of the tires during travel. This will cause incorrect values to be taken. Tire pressures should not be reduced when the tires are hot.

Necessary checks for tire life;

- Are the tire pressures correct?
- Are there any cuts/cracks on the teeth and cheeks?
- Is there any wear on the back and shoulders?
- Are there stones or foreign objects stuck between the tire treads?
- Is there a foreign object stuck between the tires of vehicles with double row tires?
- Are there any leaks in the valves?
- Are the valve covers in place?
- Are the thread holes and wear conditions at the appropriate level?
- Are the valves within reach?

Selection and matching of new tires for replacement;

- When choosing trailer tires, the choice of tires with minimum rolling resistance (such as longitudinal tread pattern) is essential, so the selection variety is limited.
- The tire must have the capacity to safely bear the loads on the axle under normal operating conditions.
- For vehicles with double-row wheels, tires should be matched appropriately according to their diameter. If the tread depths differ by more than 5 mm, this indicates that they are mismatched.
- Care should be taken when using newly retreaded tires side by side.

Spare tire carrier;

- It does not require special care. Connections should be checked before setting off.

- It can be used in some types of crane type spare tire carriers. In this type of carrier, it is necessary to keep the unit clean, lubricate the gear parts every year and lightly grease the rope regularly.

Inflation pressures of some tires used;

Tire size: Tire brand Pressure(PSI) (385x65 R22.5 Bridgestone 120)(385x65 R22.5 Michelin XTE2 130) (385x65 R22.5 Continental 120)(385x55 R22.5 Good Year 120)(385x65 R22.5 Lassa 120)(385x65 R22.5 Pirelli 120)

Note: The values above are stated on the tire sidewalls. If a different value is read, the after-sales unit should be consulted. If a tire other than the specified tires is used, the tire manufacturer's recommendation should be followed.

c)Parking legs;

Mechanical legs consist of two telescopic grounding legs that can be raised and lowered in the vertical direction by being driven by a conical gear mechanism. The drive shaft is controlled by a manually turned lever over a two-speed gearbox to raise and lower the feet. In vehicles with air suspension, mechanical foot shoes are manufactured to allow slight movements along the length of the vehicle.

I. At low speed; The lever is fully pressed in. This position is used to lift the semi-trailer slightly as soon as the soles of the feet touch the ground, to remove the load on the tractor suspension in order to separate the vehicle from the tractor.

II. At high speed; The arm is completely pulled out. This position is used to quickly lower the legs until the shoes touch the ground during the process of separating the trailer from the tractor, or to raise it rapidly after the trailer is connected to the tractor.

Service operations;

1. Grease the worm screw and nut after the first 2 years. Then repeat this process every year.
2. At the end of the first 2 years, check the worm screw and nut for wear.
3. Visually check the mechanical legs for deformation or cracks during each use.

Note:

- 1. Since mechanical legs do not function as a jack, they should not be used to raise the loaded or detached trailer.**
- 2. After each operation, push the mechanical foot lever into low speed position.**
- 3. Trailer center of gravity should not be exceeded. Otherwise, there is a risk of the trailer tipping over.**

4. Do not apply high pressure directly to the shaft channels and gearbox during cleaning.

d)King pin;

The 2" standard hitch pin is a part of the trailer that locks onto the 5th wheel upper plate of the tractor and enables rotation. It is mounted to the pin connection plate using special bolts. Since this pin fulfills a vital function, it is produced within the framework of standards with the most sensitive quality control processes, with its material and heat treatment. The working diameter of the 2" king pin is 50.8 mm;

Service operations;

1. Before connecting the tractor, the king pin must be free of dust and dirt.
2. A generous amount of durable grease should be applied to the connection plate and the pin area.
3. Check that the king pin connection bolts are tightened and that the king pin plate is free of wear, cracking and deformation.
4. No repair work can be done on the king pin and it must be replaced with a new one when the maximum wear size drops to 49 mm.
5. If the king pin is removed or replaced, the bolts must be renewed.

Note: King pin and 5th wheel must work without knocking. It should be checked for knocking, and if there is a 5th wheel gap, the gap should be eliminated as specified in the tractor instructions.

e)Electrical system;

Unless there is a different demand, the trailer's electrical system operates with 24 volts as standard. All electrical materials in your trailer comply with the directives on this subject. Electrical sockets consist of 7-pin and 15-pin connections.

Service operations;

- Check the condition of the socket connection pins between the tractor and the trailer every 6 months or 60000 km (whichever comes first), replace the socket if there is corrosion.
- Check the condition of the lamps and connections. Before setting off, check that the signals are working correctly and completely. And clean the lamps.
- Check that the rubber gaskets on the back of the electrical sockets are installed to ensure tightness.

Note:

- 1. Never use alternating current (AC) to control an electrical circuit.**
- 2. Never apply 24 volt alternating current to the electrical circuit.**
- 3. Any welding process is prohibited in vehicles where the negative (-) pole, whose electrical circuit is grounded to the chassis, is connected to the chassis.**

f) Brake and Air Suspension Circuit System

Brake system; A 2-line (supply-red and control-yellow) brake system is used in the trailer. It is also equipped with a load balancing emergency emergency valve, EBS (electronic braking system) and ABS (anti-lock braking system) valves. For this reason, it has been designed in accordance with the European Community brake directives. For these reasons;

- It is a double line system.
- When the feed line coupling is removed or broken, the automatic brake system operates and locks the trailer brakes.
- Brake effect time is within accepted limits.
- It is equipped with a load balancing automatic brake valve, EBS or ABS valves that ensure that the brake forces are distributed simultaneously and equally to the axles.
- The desired volumes of air tubes are provided.
- The service brake must be via the yellow coupling.

In order for the brake system to work properly and to get the maximum efficiency from your vehicle, the tractor and trailer settings must be compatible with each other. When braking on the road with your trailer attached to your tractor, the tractor and trailer must brake at the same time. This situation is the most suitable for your safety.

Ensuring that your trailer brakes normally but the trailer brakes start braking earlier than the tractor, due to an adjustment in your tractor's braking system and/or equipment or a change in the tractor settings, lack of maintenance, malfunction, use of wrong parts, etc. Improper situations will cause your trailer's wheels, brake elements and tires to overheat, wear will increase very quickly and malfunction will result in damage.

Otherwise, it will cause the trailer to push the tractor during braking.

For these reasons, it is necessary to make tractor-trailer compatibility settings to distribute the braking process to all axles in the tractor and semi-trailer. Since tractor-trailer compatibility adjustment cannot be made using standard methods in vehicles equipped with EBS (Electronic Brake System), tractor values should be examined if there is excessive wear on the

tractor or trailer pads. Attractive EBS parameters should be examined to ensure compliance. If the tractor values are appropriate, it should be checked at the brake test station to see if the trailer braking rates are between the lower and upper rates.

If your tractor has train straightening brake equipment, it must be removed. The presence of this equipment causes excessive wear on trailer brakes, excessive heat, and even brake failure and damage. Having this equipment on your tractor is contrary and unnecessary according to the 71/320/EEC Brake Directives.

The following precautions must be taken against premature wear of brake pads;

- Performing the prescribed periodic maintenance on time and regularly;
- Using Rotordar and engine brakes in practice brakes,
- Driving considering the conditions and condition of the road,
- Downshifting in time.

Note:

It is forbidden to use or keep equipment that only provides braking of the trailer in the tractor.

With ABS System (anti-blocking system); When the trailer is braking, the tires prevent the wheels from locking if it is on a slippery surface, increasing the stability of the train (tractor + trailer) on the road and minimizing the possibility of shear. Vehicles with ABS system have a special electrical connection for the ABS socket, known as ISO 7638, listed below. This ABS socket provides continuous energy to the ABS Electronic Unit and sends signals from the corresponding socket on the tractor. In some types of ABS electronic units, the trailer ABS system can be operated with the energy taken from the brake pin of the normal electrical socket via a cable connection.

7			
6			
5	Yellow/Blue	ALARM	1.5mm ²
4	Coffee	(-)SOLENOID	6mm ²
3	Brown/Blue	(-)ELECTRONIC	1.5mm ²
2	White/Red	(+)ELECTRONICS	1.5mm ²
1	Red	(+)SOLENOID	6mm ²
CONNECTOR	COLORS	FUNCTION	CABLE

EBS (electronic braking system); It was developed to provide shorter braking thanks to the braking speed improved with electronic brake. Brake settings are made to the EBS control unit, brake, lifting axle and anti-roll system parameters are made by expert units within Şahin Tanker or by wabco-haldex and knor brand brake services. Şahin Tanker Ltd. Ltd. Interventions made without permission may cause the EBS system to not work harmoniously with the vehicle. The EBS system provides shorter braking distance, brake compatibility and force distribution of all axles with each other, and optimal tractor-trailer harmony. Regular wear is observed on the pads. 7-pin ISO 7638 EBS socket is used.

NOTE:

In case of a malfunction in the EBS System, ŞAHİN TANKER LTD. It is necessary to apply to ŞTİ.

7	Red	+24 volt valves
6	Black	+24 volt ECU
5	Brown	Mass valve
4	Yellow	Mass ECU
3	White	Warning lamp
2	White/Green	“HIGH” life line (standard 24v TCE 5V)
1	White/Brown	“LOW” life line (standard 24v TCE 5V)
	COLORS	FUNCTION

Parking Brake; There are emergency brake chambers in the trailer. The emergency section of these brake chambers is independent from the service section. As long as there is compressed air in the system (minimum 5.2 bar), the pusher coil spring in this section is pressed due to the force applied by a diaphragm together with the air pressure. In this way, the brake chamber shaft cannot be pushed forward by the spring. To activate the parking brake, it is necessary to

pull the parking valve button (red color) outward, and to disengage it, push the button forward.

To deactivate the parking brake function in the brake chambers and drive the vehicle;

1. Remove the thick threaded stud on the emergency brake chamber by unscrewing it from its nut.
2. Remove the plastic plug behind the brake chamber.
3. Push the pronged side of the stud into the hole behind the brake chamber and lock it by turning it ¼ turn clockwise.
4. Tighten the stud by inserting the nut until the spring inside the bellows is fully stretched.
5. After completing this process, carefully take the vehicle to the nearest service center for repair.

Note:

Since the springs are pressed with a force of more than 1000 kg, for safety reasons you must consult the nearest service to perform any work on the brake chambers (which may require disassembly).

Air suspension circuit; It is completely independent of the brake circuit. After the brake circuit provides the necessary air pressure for its system (approximately 5.5–6 bar), it provides air passage to the air suspension circuit. For this purpose, a pressure protection valve is used in the transition from the air circuit to the air suspension circuit. For this reason, the braking system is secured even in the event of an air leak in the air suspension circuit or airbags. You can take your car to the nearest service center with the suspension disabled at a maximum speed of 20 km/h.

Note:

Never tamper with or change valve settings.

The air suspension circuit system is found in the air suspension trailer. It is not used in trailers with mechanical suspension. The air suspension circuit system ensures that the trailer rides at a certain level through a level valve. It sends air pressure to the airbags according to the load placed on the trailer within the axle capacities and ensures that the vehicle does not collapse. At the same time, a second function of the level valve is height limitation.

Lift/Lower Valve

Some model trailers have a lift/lower valve. The function of this valve is to ensure that the trailer is brought to the same level as the ramps where it approaches for loading and unloading.

It has 5 locations.

1. Riding position (arm in the middle)
2. Lifting position,
3. Lifting stop position,
4. Download location,
5. Download stop location,

Note;

- 1. During vehicle movement, the position of the lift/lower valve must be in the driving position and the trailer system pressure must have reached 6.3 Bar.**
- 2. After the vehicle stops, do not move the vehicle until the airbags are inflated and the trailer is in the driving position.**
- 3. Lifting or lowering should only be done when the trailer is attached to the tractor, the brakes are released and the mechanical legs are lifted off the ground.**
- 4. Trying to change the manufacturer's settings of the lift/lower valve or forcing the button is strictly prohibited and will cause damage to the valve.**

There is a front axle lifting function in the EBS System air suspension system. The front axle lifts automatically and tire life is extended as the tires' contact with the ground and the road is interrupted.

It can be controlled from the tractor cabin with the help of a system consisting of a spring switch and cable, called the traction assistance system, which can be installed in the tractor cabin by the tractor manufacturers.

Service operations;

The valves in the brake and air suspension circuit do not require any maintenance. If it shows a malfunction in its functions, contact Şahin Tanker Ltd.Şti. Drain any water that may have accumulated in the air tubes using the water discharge valve every 2-3 weeks.

Every 6 months or 60000 km;

- Visually check the condition of air connections and hoses every year and check for leaks.
- Check the connections of the level valve rods.

Load Scale:

There are 3 scales on the load scale where you can track the load per axle. Since 500–380 spring lengths are used in our vehicles, you need to follow the blue scale located in the innermost part. The value you read from the scale shows the load on the axle if the load on the trailer is distributed in a seated manner.

The load scale and the load scale valve are visible in the figure. To read the load on an axle, open the valve and follow the blue scale on the load scale to read the load on an axle. The load scale has a tolerance of 0.2 tons. After completing the use of the load scale, do not forget to close the valve.

Drawbar;

Mount the drawbar to the mounting bolt using 8 M16x50 bolts according to the instructions below.

- Lightly lubricate the bolts.
- Tighten the bolts with a torque of 110Nm using a torque wrench.
- Tighten the bolts with a torque of 200–220 Nm as shown in the figure.
- Do not paint the bolts after assembly.
- Check the torque of the bolts after the first 5000 km. Re-tighten the bolts if necessary.
- The drawbar should be kept clean and have durable grease.

Mouth(Wolf Mouth);

Assembly;

- Use M20x8.8 quality bolts and lock nuts in the dovetail connection, tighten with 350 Nm torque.
- Check the connecting shaft main nut with a torque of 500–611 after the first 5000 km,

Every 15000 km;

- Check the connecting shaft butt nut with a torque of 500–611 Nm.
- Shake the clutch coupling left and right, up and down, there should be no gap.
- Grease the grease fittings and lift the lever mechanism to ensure easy operation. Lubricate all moving parts.
- Have the wear checked by the authorized service at every six-month maintenance.

TANKER

Tanker semi trailer

Number of compartments: 1-8

Tanker capacity: 16000 lt-50000 lt

Weight: 5000-10000 kg (depending on the number of compartments and accessories)

Tanker on truck;

Tanker capacity: 4000-30000 lt

Important:

Since tanker operations require expertise, they must be carried out by competent people.

In case of any incompatibility (deformation, cracking, etc.) or any operation that requires welding or repair during the checks made on the body or chassis of the tanker trailer, the after-sales unit should be contacted and the appropriate service should be taken for guidance.

Tanker welding and repair is a special process and should not be done by unauthorized persons.

Bottom Filling with API Adapter without Vapor Recovery:

Filling via API valve only. It can be carried out at filling stations with optical overflow prevention systems.

Bottom filling process;

—Before all operations, the filling station's grounding pin **MUST** be connected to the tanker's grounding pin.(1)

—Make the connection between the plug of the filling station and the thermistor socket on the tanker (2). If the optical sensor test performed by the filling station is positive, filling can be performed. If the test is negative, the tanker cannot be filled and one or more of the tanker's faulty optical sensors will need to be serviced.

—To gain access to the work area, open the valve cabinet(3).

- Remove the protective cover (camlock) on the valves to be used for the filling process.
- Connect the filling arm of the pump station to the relevant API valve (4).
- Compartment markings are shown on the side of each API valve (5). These markings indicate the compartment number and its capacity in liters.

Oils to be used in air conditioners;

- Festo spezialöl
- Aral Vitam GF 32
- Esso Nuto H 32
- Mobile DTE 24
- BP Energol HLP 32

Antifreeze should be used instead of oil only if there is a danger of freezing.

Check the pressure gauge on the air conditioner before filling or discharging. The pressure value must be minimum 5.5 bar.

—Open the API valves in the relevant compartments by moving the handle; Move the lever fully forward (6).

Note: This lever has 3 settings (Closed: all the way back; Low flow: in the middle; Open: all the way forward).

Press the black start/stop button on the pneumatic control panel. The light indicator (7) above the start/stop button turns red, indicating that there is air in the system. At the same time, the brake system is locked, automatically preventing unwanted movement of the vehicle at the time of filling.

To open the bottom valve of the compartment to be filled, press the black button associated with that compartment on the pneumatic control panel. The light indicator under the black button turns red, indicating that the bottom valve is open. (8). The physical status of each valve can be read with the pneumatic light indicator mounted on the signboard of each compartment. If the light indicator is red, the foot valve is fully open. Conversely, if the light indicator is black, it means that the foot valve is closed.

—If the physical status light indicator of the bottom valve does not turn red (bottom valve is open), maintenance is required and the filling process **MUST** be interrupted.

—Fill in the compartment(s)

-Take care to ensure that the initially determined filling quantity does not exceed the relevant compartment capacity. Movements of the small green ball at the bottom left of the API valve indicate that liquid is flowing through the valves. You can also see the product color at the same time.

—After the filling process is completed, adjust the product indicators that indicate the transported product (9).

—Close API valves.

—To close the bottom valves, pull back the black button belonging to the relevant compartments on the pneumatic control panel. (Check that the relevant light indicator turns white, that is, the bottom valves are closed.)

-Cut off the air coming into the system by pulling back the start/stop button on the pneumatic control panel. (Check that the light indicator turns white, that is, the system is completely closed). At the same time, the brake system is opened and the vehicle becomes ready for movement.

—Remove the filler levers.

—Reinstall the protective caps on each API valve.

—If necessary, drain the fuel accumulated in the valve cabinet into a fuel bucket by opening the discharge valve under the valve cabinet. (3)

—Remove the grounding clamp.

Note: In case of any danger during filling, press the red emergency stop button on the pneumatic control panel (6). In this case, the filling process is automatically interrupted and any danger is prevented.

After the filling process is completed, the brake system must be turned on in order for the vehicle to start moving. For this, the start/stop button on the pneumatic control panel should be retracted (light indicator = white) and the folding ladder behind the tanker should be lifted up and closed. (10). Thus, it is possible for the driver to leave the filling area safely in case of a serious situation.

Locations of emergency safety buttons; It is on the pneumatic control panel (red button, 7) in the valve cabinet, on the road side of the tanker and behind the tanker. (11)

Vapor Recovery and Bottom Filling with API Adapter

Filling with the API valve is only carried out at filling stations with optical overfill prevention systems.

Bottom filling process;

—Before all operations, the filling station's grounding pin **MUST** be connected to the tanker's grounding pin.(1)

—In order for the filling station to approve the filling, after the thermistor socket and vapor recycling connection are made, the system must be pressurized with the start/stop button and the bottom valve must be opened.

—Make the connection between the plug of the filling station and the thermistor socket on the tanker (2). If the optical sensor test performed by the filling station is positive, filling can be performed. If the test is negative, the tanker cannot be filled and one or more of the tanker's faulty optical sensors will need to be serviced.

—Connect the vapor recovery hartom and its connection in the filling station to the vapor recovery adapter on the tanker (12).

—To gain access to the work area, open the valve cabinet(3).

—Remove the protective cover (camlock) on the valves to be used for the filling process.

—Connect the pump station's filling arm to the appropriate API valve. (4). Compartment markings are shown on the side of each API valve. (5). These markings indicate the chamber number and its capacity in liters.

—Open the API valves in the relevant compartments by moving the handle; Move the lever fully forward (6).

Note: This lever has 3 settings (Closed: all the way back; Low flow: in the middle; Open: all the way forward).

Press the black start/stop button on the pneumatic control panel. The light indicator (7) above the start/stop button turns red, indicating that there is air in the system. At the same time, the brake system is locked, automatically preventing unwanted movement of the vehicle at the time of filling.

—To open the bottom valve of the compartment to be filled, press the black button associated with that compartment on the pneumatic control panel. The light indicator under the black button turns red, indicating that the bottom valve is open. (8). The physical status of each valve can be read with the pneumatic light indicator mounted on the signboard of each compartment. If the light indicator is red, the foot valve is fully open. Conversely, if the light indicator is white, it means that the foot valve is closed.

—If the physical status light indicator of the bottom valve does not turn red (bottom valve is open), maintenance is required and the filling process **MUST** be interrupted.

Fill in the compartment(s).

—Take care to ensure that the initially determined filling quantity does not exceed the relevant compartment capacity. Movements of the small green ball at the bottom left of the API valve indicate that liquid is flowing through the valves. You can also see the product color at the same time.

—After the filling process is completed, adjust the product indicators that indicate the transported product (9).

—Close API valves.

To close the bottom valves, pull back the black button belonging to the relevant compartments on the pneumatic control panel. (Check that the relevant light indicator turns white, meaning that the bottom valves are closed.)

-Cut off the air coming into the system by pulling back the start/stop button on the pneumatic control panel. (Check that the light indicator turns white, that is, the system is completely closed). At the same time, the brake system is opened and the vehicle becomes ready for movement.

—Remove the filler levers.

— Reinstall the protective caps on each API valve.

—Unscrew the steam discharge hose and lift the steam discharge connection cover. If necessary, drain the fuel accumulated in the valve cabinet into a fuel bucket by opening the discharge valve located in the valve cabinet entrance. (3).

—Remove the grounding clamp.

Note: In case of any danger during filling, press the red emergency stop button on the pneumatic control panel (6). In this case, the filling process is automatically interrupted and any danger is prevented.

—After the filling process is completed, the brake system must be opened in order for the vehicle to start moving. For this, the start/stop button on the pneumatic control panel should be retracted (light indicator = white) and the folding ladder behind the tanker should be lifted up and closed. (10). Thus, it is possible for the driver to leave the filling area safely in case of a serious situation.

Locations of emergency safety buttons; It is on the pneumatic control panel (red button, 7) in the valve cabinet, on the road side of the tanker and behind the tanker. (11)

Steam Recovery

Vapor recovery process is carried out as follows;

When the bottom valve is open (8), the steam valve in the manhole on the tank opens and transmits the fuel vapor formed during filling in the tank to the collector on the tank (13).

The collector valve located in the collector is closed at this time to prevent the fuel vapor from spreading to the outside environment. (The collector valve is a valve that prevents the pressure or vacuum inside the tank during non-filling times.) The fuel vapor transmitted to the collector at the time of filling is sent to the filling station through the vapor recovery adapter. With this process, the fuel vapor formed in the tanker during filling is returned to the filling station through a collector and vapor recovery adapter on the tank, and at the same time, the brake system is locked to prevent unwanted movement of the vehicle. Thus, the fuel vapor is released to the outside environment and not only pollutes the environment but also prevents any sparks etc. This prevents fire or explosion from occurring.

Important; Care should be taken not to damage the parts on the manhole cover when opening and closing the air installation on the manhole cover.

Top Filling

Filling (from above) through the manholes on the top of the tanker can be done at all filling stations with flexible filling arms.

Top Filling Process:

—Before all operations, the filling station's grounding pin **MUST** be connected to the tanker's grounding pin.(1)

—Operators; must always use the walking panels at the filling station to get on top of the tanker. To fill the compartment, open the compartment top cover (14). Each compartment has a compartment volume plate indicating the compartment number and compartment capacity in liters.

—Lower the filling hose at the filling station as low as possible so that it does not hit the optical sensor and bottom valve (this prevents the fuel from spilling from above and creating turbulence during filling).

—Fill in the compartment.

—After the filling process is completed, pull the filling hose back from the compartment without hitting anything inside.

—Close the top cover.

—Repeat the above steps for other sections to be filled.

—Set product indicators that indicate products transported after completion of the filling process.

Note: Filling from the top should be carried out with the guardrails opened.

Self-Draining

It is the process of automatically transferring the liquid in the tanker to the station where it will be discharged due to gravity.

—Before all operations, the filling station's grounding pin **MUST** be connected to the tanker's grounding pin.(1)

Manhole covers must be open to prevent vacuum formation inside the tanker during unloading.

—Make the connection between the API valve and the discharge hose.

—Immerse the hose into the station tank to be discharged.

—Press the black start/stop button on the pneumatic control panel. The light indicator (7) above the start/stop button turns red, indicating that there is air in the system. At the same time, the brake system is locked, automatically preventing unwanted movement of the vehicle at the time of filling.

—To open the bottom valve of the compartment to be filled, press the black button associated with that compartment on the pneumatic control panel. The light indicator under the black button turns red, indicating that the bottom valve is open. (8). The physical status of each valve can be read with the pneumatic light indicator mounted on the signboard of each compartment. If the light indicator is red, the foot valve is fully open. Conversely, if the light indicator is white, it means that the foot valve is closed.

—Empty the compartment(s).

Movements of the small green ball on the far left side of the API valve indicate that liquid is flowing through the valves. You can also see the product color instantly.

—Fold back the rear steps, climb on top of the tanker and check whether the compartment is empty (10). When the steps are lowered, the locking mechanism is activated.

—Close API valves.

—To close the bottom valves, pull back the black button belonging to the relevant compartments on the pneumatic control panel.

Cut off the air coming into the system by pulling back the start/stop button on the pneumatic control panel. Check that the light indicator turns white, meaning that the system is completely turned off. At the same time, the brake system is opened and the vehicle becomes ready for movement.

—Remove the drain hose.

—Reinstall the protective caps on each API valve.

—Remove the grounding clamp.

Note: In case of any danger during discharge, press the red emergency stop button on the pneumatic control panel (6). In this case, the filling process is automatically interrupted and any danger is prevented.

—After the evacuation process is completed, the brake system must be opened in order for the vehicle to start moving. For this, the start/stop button on the pneumatic control panel should be retracted (light indicator = white) and the folding ladder behind the tanker should be lifted

up and closed. (10). Thus, it is possible for the driver to leave the filling area safely in case of a serious situation.

Locations of emergency safety buttons; It is on the pneumatic control panel (red button, 7) in the valve cabinet, on the road side of the tanker and behind the tanker. (11)

Get off the tanker ready for transfer.