

**extra SPECIFICATION SHEET FOR TRAILER****Customer:** TECNOIMPORT**Estimate Ref. No.:** 213-**Address:****Contact:** Baisel Rodriguez**Phone:** (905) 568-1817**Description:** Single Axle Refueler Trailer**Usable Capacity:** 36,000 Litre, Single Compartment**Line Drawing:****Area of Operation:** CUBA**Product:** Commercial Jet A-1**Density:** 6.8 lb./gal. ( 0.81 Kg/Litre )**Tank Code:** TC406**Working Pressure:** 3.3 psi MAWP**Test Pressure:** 5 psi**Max. Temperature:** 40° C**Chassis:** MACK**Material General:** All fuel-wetted surfaces will be compatible with jet fuel. Preference will be given to aluminum and stainless steel. Copper and copper bearing metals will not be used in contact with fuel. Uncoated steel will not be used downstream of filters.**Tank Volume:** The cargo tank will have a nominal, usable capacity of 36,000 litres, representing approximately 94% of total volume. Additional capacity of 5% will be provided as tank top expansion volume and 1% as unusable, bottom retain.

**Tank Structure:** Tank will be based on a 120" wide by 65" tall, dished head, full oval profile, with a transition reduced to 55" tall section above the front axle and turntable. The bottom, internal surface of the tank will be smooth and free of pockets, to promote easy migration of water and particulate to the low point sumps. Circumferential welds will be W3 finish within 20" each side of the tank centerline. Integral, external trough, with a minimum slope of 1:60 to a sump at mid tank, will be provided along the tank bottom. Drain holes will be provided through the tank shell to the trough, for positive collection of particulate and water.

**Tank Material:** Shell top and sides will be 0.188" aluminum 5454-H32, bottom will be 0.250" aluminum 5454-H32. Heads will be 0.250" aluminum 5454-0 temper, 120"x65" wide oval profile.

**Tank Baffles:** As required, spacing not to exceed 60".

**Tank Ladder:** Tank top access ladder will be provided at the rear of the vehicle.

#### **Overturn**

**Protection:** The tank top will be fitted with full length, TC qualified tunnel structure, complete with expanded metal, non-slip walkway.

**Note:** Walkway surface must not be painted.

**Manways:** Two 20" manways, Model PPVL820BXV, complete with 8" emergency venting, will be located within the tank top tunnel, above the low point sump and pump supply outlet. One additional 20" manway, complete with blank cover, will be located within the tank top tunnel, in the same section as the bottom loading emergency valve.

**Venting:** Two outward opening, mechanical push-vents (Betts PV46063ALTS) will be located in the tank top, one above the bottom loading valve, and one above the pump supply valve. The vents will attach to a 3" TTMA mounting flange. Each vent will be fitted with a vapor recovery hood (Betts VR45784BU), connected through the tunnel rail, to an external vent nipple located at the front, driverside. The vent nipple will be fitted with a 10 mesh, removable screen.

**Vapor Recovery:** Vapor recovery will be roughed-in through the venting system described above. Where necessary a complete system can be added.

**Emergency Valves:** Tank internal, emergency valves will be provided for the low point drain, bottom load entry and pump supply outlet.

The **tank low point** will be fitted with a 3" sump and cable operated valve (Betts EV46532ALB) on tank centerline, discharging to curbside. The mechanical operator handle will not lock over center, but will spring return to the closed position when released.

The **bottom load entry** will be fitted with a 4" long stud sump and flow control emergency valve (Carter 64055A) offset to curbside. A spray deflector will be provided around the valve to direct incoming flow along the tank bottom.

The **pump supply outlet** will be fitted with a 6" sump and air operated valve (Emco) offset to the driverside. A 2" high dam will be provided around the sump,

positioned such that the dam does not protrude beyond the tank centerline. A vortex breaker will be fitted within the dam to provide smooth flow entry into the tank outlet.

### **Emergency**

#### **Shut-Down:**

Emergency shut-down switches will be provided at the front curbside and rear driverside of the unit, to interrupt air signal to the pump supply valve.

#### **Low Point Drain:**

3" piping will run from the 3" tank sump and emergency valve, to the curbside sampling point. The line will terminate with a 3" butterfly valve and dust cap assembly. A 1" sampling line will exit the bottom of the 3" piping immediately upstream of the butterfly valve. The line will terminate with a 1" stainless steel ball valve and aluminum dust cap assembly. Ground clearance to the end of the 1" line shall be a minimum of 16".

#### **Bottom Load:**

One 4", long-stud sump will be provided at mid-tank, off-set to the curbside, for the mounting of a Carter 64055A bottom loading, emergency valve. The valve will be fitted with a single pilot, operating in response to a pressure signal from the bottom loading control system. The control system will be a Scully Intellicheck, modified to provide a warning light at 90% and audible alarm as well as system shut down at 95% of tank volume. The pressure signal to the emergency valve pilot will be provided by a 3-way solenoid, activated by the Scully Intellicheck.

The bottom load station will be on the curbside of the vehicle, ahead of the rear axles complete with pressure gauge. One standard 2<sup>1</sup>/<sub>2</sub>" jet adapter will be mounted to a 4" TTMA flange. A second 4" flange with blank cover, will be provided adjacent to the jet adapter. A 4" butterfly valve with multi-position handle will be provided for the purpose of flow testing.

**High Level Probes:** Two Scully optic probes will be mounted in the tank top manway, to provide signals at the 90% and 95% levels. Scully Intellicheck overfill monitor.

#### **Pre-Check:**

The bottom of high level probes will sit in a pre-check can for the purpose of testing the loading system function. Supply to flood the pre-check will be provided from the loading adapter, through a stainless steel ball valve.

#### **Piping:**

All pressure piping will be seamless schedule 40 aluminum. All pressure piping will be restricted to flanged and threaded connections. Threaded connections will be restricted to fittings smaller than 3". Groove type couplings will not be permitted. All piping and fittings will be butt welded. Socket joints and fittings will not be permitted anywhere in the delivery system.

The **pump suction** will be 6" nominal diameter from the tank

. The transfer to chassis equipment will be 5Th wheel

e.

#### **Truck Connection:**

Drawbar is to connect to pintle hitch below the rear bumper of the lead unit. Service and emergency air as well as electrical connections will be provided. Additionally, signal air connection for the trailer tank emergency valve and emergency shut-down, and electrical source to power the trailer bottom loading, will be provided. Piping connection will be as detailed above.

**Hoses:**

**Extinguishers:** Two 20 lb. (Ansul K20) dry chemical extinguishers will be provided, complete with vehicle mounting brackets and accessories.

**Interlocks:** An interlock system will be provided to activate the vehicle's parking brakes to prevent accidental drive-away. Interlock activation will be with micro-switch or proximity switch.

The interlock system will activate the vehicle's parking brakes when:

- a) the pump supply emergency valve is open; or
- b) a coupler is attached to the bottom load connection.

**Painting:** Running gear, upper fifth and landing gear painted with Endura EX-2C grey paint. No clear coat. Aluminum tank and stainless steel fenders not painted.

**Decals:** Not supplied.

**Placards:** Four dangerous goods placards will be installed for PIN 1863.

**Product ID:** Jet A-1 identification labels will be installed on front, back, and both sides of the vehicle.

**Electrical:** All lights and wiring behind the cab will be vapor-proof. Wiring will be complete with vapor-proof junction boxes. All circuits behind the cab will be double pole.

**Lighting:** All clearance, marker, identification, stop, tail and directional lights and reflectors will comply with CMVSS108 requirements. Tank side marker lights will be combination signal lights.

**Beacon:** A rotating, amber beacon will be mounted above the tank, outside of the tunnel, on driverside. Electrical signal will be provided from the chassis beacon circuit.

**Work Lights:** Lighting will be provided at all working areas of the vehicle. A locally switched lamp will be provided above the tank drain and bottom load working areas.

**Calibration:** This tank will not be calibrated to a specific capacity marking, top marker is included. The unit will be water tested for leaks during the final stages of production, and fully tested with clean test fuel prior to release. Water test is to be metered in and measurements taken at the following settings:

Top:	36,000 L	100%
2 <sup>nd</sup> :	34,200 L	95%
3 <sup>rd</sup> :	32,400 L	90%

**Note: Brass top marker cannot be used. These measurements will be used to determine sensor depths.**

Running Gear Specifications

**Bumper:** This unit will be equipped with a bumper designed to meet the requirements of the TC406 code.

**Tire Carrier:** Not required.

**Upper Fifth Plate:** 3/8" steel, heavy duty bolt-on adjustable positioned at a height 49" above ground level

**Landing Gear:** Holland 2 speed equipped with sand pads. Handle to be curbside.

**Suspension:** Make - Ridewell  
Model – RAR240  
Single Axle

**Air Control:** Ridewell 120-0022 or equivalent

**Axles:** Make – Hayes Dana or equivalent Model – D22  
Capacity - 25,000 pounds Axle Track – 89"

**Note: These axles will be equipped with weld-on spider and Abex 931-162 asbestos free brake linings.**

**Air Brakes:** The air brake system will be a Sealco 121 system. It will be equipped with Anchorlok "Gold Seal" spring brakes. These spring brakes will be mounted underneath the axle with the push rods pointing to the rear (i.e. camshaft mounted behind the axle with the slack adjusters pointing downwards). All air tanks will be equipped with remotely activated drain cocks. Slack adjusters will be 5½" Eaton Haldex automatic.

**Antilock Brakes:** Meritor WABCO 2S/1M ABS system. ABS power will be supplied on a separate ISO3731 male plug.

**Wheels:** Make - Accuride  
Size - 8.25 x 22.5 - 10 stud steel disc wheels Model 28408E.

**Wheel Seals:** Make – CR ScotSeal plus.

Wheel End  
**Lubricant:** 75W90 synthetic gear oil.

**Hubdrometer:** Not included.

**Hub and Drum Assemblies:** Make – Walther EMC DuraLite/Hayes Lemers  
Model – 10-00011-102/89996B  
Model - 10 stud hubs complete with centrifuse drums.

**Tires:** Size - 11R22.5 x 14 Ply tubeless type radials