

Tank Mounted on Truck Option

1. Type: Intermediate bulk container (IBC) fabricated in accordance with DOT Performance Oriented Packaging standard UN 31A. The following companies have fabricated IBCs in the size range appropriate for drip torch fuel transportation: Transfer Flow, Inc. (800-442-0056) http://www.transferflow.com/html/refueling_tanks.html and Custom Metal Craft <http://www.custom-metalcraft.com/>, (417 862-0707). Other companies may also be able to fabricate IBCs in the size range recommended for drip torch fuel transportation.
2. Size: 20 to 118 gallons. 119-gallon and larger tanks are not recommended to eliminate need for placarding and Commercial Drivers Licenses (CDL). Tanks larger than 118-gallons may be transported only with the approval of the State FMO (BLM)/Forest FMO (FS) and compliance with DOT and CDL regulations.
3. Location: Forward of rear axle unless existing permanently mounted equipment (e.g., water tank, tool box) prevents this installation. In those cases, the tank will be mounted as far forward as possible and must still be within the zone of rollover protection provided by the truck cab. If the existing equipment prevents the tank from being located within the rollover protection zone, the tank cannot be transported in that truck unless the equipment is relocated or removed and the tank is fully located within the rollover protection zone. This is zone defined by running a cord from the top of the truck cab to the top of the truck's side walls at the rear of the bed. Any portion of a tank that extends above this cord is not within the rollover protection zone.
4. Securing: Transfer Flow, Inc. tank's are to be secured in accordance with the following interim guidance. MTDC is conducting a structural analysis of tank mounting. Final guidance should be issued by the end of calendar year 2003. This final guidance may require tanks mounted using the interim guidance to be remounted. Interim guidance is as follows:
 - a. Bolts and Nuts: Grade 8, bolts, nuts and lock washers. Use three bolt sets on each mounting plate (six total).
 - b. Bolt Diameter: Equal to the diameter of the bolt holes on the mounting plate that is welded to the tank by its manufacturer.
 - c. Spacers Pads: Minimum size 3 x 3 inches, 10 gage thickness. [Note: Transfer Flow typically supplies a set of three 3 x 3 inch spacer pads for the underside of the bed and a set of 1.5 x 2.5 inch shims that are used for the top of the bed. You must replace the 1.5 x 2.5 shims that would be used on top of the truck bed with an additional set of the 3 x 3 spacer pads. A second additional set may also be necessary to mount the tank flush with the corrugations in the truck bed.] The spacer pads are designed to conform to the corrugations in the pickup bed and allow the loading caused by the weight of the tank and its contents to be distributed over a large area. Distributing the load prevents cracking of the bed. A spacer pad shall be placed under each tank-mounting bracket. Another spacer pad shall be placed at the same location on the underside of the bed

effectively “sandwiching” the bed between spacer pads. Use one pad with each mounting bolt.

- d. Tank Flush with Truck Bed: A sufficient number of spacer pads are to be used to make the tank’s mounting plate flush with the corrugations in the truck bed. This will prevent compression/distortion of the corrugations in the truck bed and reduce/eliminate cracking by uniformly distributing stress. When more than one spacer pad must be used to make a mounting plate and the tank itself flush with the top of the adjacent corrugations in the truck bed, the spacer pads are to be welded together prior to bolting the tank in place.

Note: Most IBC manufacturers, including Custom Metal Craft, do not have mounting plates on their tanks to facilitate their mounting to a truck bed because they are not typically used in that manner. MTDC is developing guidance for the welding of mounting plates onto an IBC and how to properly secure it to a truck bed. This guidance will be issued to the field as soon as it is available.

5. Pump, Hose and Nozzle: Pump, hose, and nozzle to be UL listed for use with flammable liquids. Hose to be electrically conductive with internal bonding wire. Hose to have strain relief or swivel where it connects to the dispensing nozzle to preventing kinking and damage to internal bonding wire. These requirements apply to manual and electric pumps. Electric pump to be wired directly to vehicle power source with in line fuse located as close as possible to the battery. If pump is wired to allow removal of the tank, an explosion-proof connector is required. Power cord to have strain relief where it connects to pump. Integrity of pump’s power cord insulation must be maintained. Use of electrical tape is not acceptable for electrical insulating purposes. Power cord to be run in split loom from the power source until it passes through the truck bed and is within three feet of pump.
6. Hose Storage: Fuel dispensing hose may not be stored or transported on truck bed. Rack, reel, straps, or similar retaining device to keep the hose off the floor of truck bed where it may be damaged by other transported items (e.g., pulaski) is required.
7. Fuel Dispensing: Torch to be in direct contact with ground when being filled with fuel. Hose nozzle to be in contact with open torch before dispensing.
8. Fire Protection: 2A 10 B:C extinguisher to be located outside of truck bed and cab within reach of torch filling area before dispensing fuel.
9. Rollover Protection: Tank, pump (including handle on manual pump), piping (if any), and hose must be within perimeter of truck bed, below the height of its cab, and within rollover protection zone.
10. Manual Pump Removal: Pump must be removed prior to transportation if any part if of it, including its handle, extends outside the perimeter of the truck bed or above the height of the truck cab or is not in the rollover protection zone.
11. Markings for < 119-gallon tank: The tank must be marked with the proper shipping name and the DOT exemption number. The proper shipping name is: “FLAMMABLE LIQUID, n.o.s., (diesel and gasoline mixture), UN 1993.” The markings must be of a durable material with red lettering on a white background. The markings for the proper shipping name must have a width of at least 0.16-

- inch and a height of one-inch. The DOT exemption number is the number DOT will assign to the exemption allowing the fire program to permanently mount the IBC to the truck, dispense fuel while the tank is still on the vehicle, transport the tank with the dispensing pump and hose in place, and have IBCs built smaller than 119-gallons. MTDC will prepare the exemption request. DOT has indicated that they would grant an exemption. This number will be provided to the field after the exemption is approved. The tank must be plainly and durably marked "DOT-E" followed by the exemption number assigned by DOT.
12. Placarding for < 119-gallon Tank: Not required provided the total weight of all hazardous materials being transported (e.g., fusees, saw gas, individual drip torches, etc.) is less than 1,001 pounds. If the total weight of all hazardous materials exceeds 1,001 pounds, the appropriate placard for each hazard class being transported must be displayed. Placards must be secured to the vehicle in a holder specifically designed for placards. The placards appearance, construction, and placement must be in accordance with the requirements of 49 CFR 172.516 through 172.560.
 13. Labeling for < 119-gallon Tank: All tanks < 119-gallons must have the diamond shaped "FLAMMABLE LIQUID" label on them. The label has a red background with white text. The label design is shown in 49 CFR 172.419. Maintain or replace label as necessary. The tank cannot have any labels on it that may obscure or reduce the effectiveness of this required label.
 14. Markings for ≥ 119-gallon Tank: The tank must be marked with the DOT exemption number. The DOT exemption number is the number DOT will assign to the exemption allowing the fire program to permanently mount the IBC to the truck, dispense fuel while the tank is still on the vehicle, and transport the tank with the dispensing pump and hose in place. MTDC will prepare the exemption request. DOT has indicated that they would grant an exemption. This number will be provided to the field after the exemption is approved. The tank must be plainly and durably marked "DOT-E" followed by the exemption number assigned by DOT. The proper shipping name and hazardous material identification number is not required on the tank because the vehicle will be placarded on four sides.
 15. Placarding for ≥ 119-gallon Tank: The flammable placard with hazardous material identification number "1993" in its center must be securely attached to the front, back, and sides of all vehicles transporting a tank ≥ 119-gallons. In addition, if the total weight of all hazardous materials being transported (except the drip torch fuel in the tank) exceeds 1,001 pounds, the appropriate placard for each hazard class must be displayed. Placards must be secured to the vehicle in a holder specifically designed for placards. The placards appearance, construction, and placement must be in accordance with the requirements of 49 CFR 172.516 through 172.560.
 16. Labeling for ≥ 119-gallon Tank: None required because the vehicle is placarded.
 17. Shipping Papers: Must be carried on the vehicle readily accessible to the driver or in a pouch on the driver's side door regardless of the size of the tank being transported. The following information is required on shipping papers ⁽¹⁾:

- a. Proper shipping name, hazard classification, packing group, and identification number for each hazardous material being transported. For drip torch fuel this information is, “flammable liquid, n.o.s., (diesel and gasoline mixture), 3, PG II, UN 1993.”
 - b. Total quantity of each hazardous material being transported in each type of packaging (e.g., drum, jerrican-style safety can).
 - c. Separate entry must be prepared for each packaging type (e.g., tank, drum, case of fusees)
 - d. Total quantity of each hazardous material being shipped in each packaging type must appear before the proper shipping name or after the identification number.
 - e. Emergency Response Information: The information to be provided includes a telephone number that is staffed by a person knowledgeable of the hazardous materials being shipped and guidance that describes the hazards and response actions that should be taken in the event of a release. The telephone number must be staffed at all times the hazardous material is in transportation. The hazards and response action guidance is to be provided by attaching to the shipping papers a copy of the Material Safety Data Sheet (MSDS) for each hazardous material (e.g., diesel and gasoline) being transported. The guidance can also be fulfilled by providing a copy of the DOT Emergency Response Guidebook with the shipping papers and referring to the appropriate response guides on the shipping papers. [Note: The Chemtrec “1 800” number cannot be used unless the local office responsible for the shipment has a contract with Chemtrec. See page 60 of the *Hazard Assessment and Proposed Resolution for Combination Gelled-Fuel Batch Mixer/Terratorch and Drip Torch Fuel Transportation* report, dated March 6, 2002 for additional details on Emergency Response Information.]
18. DOT Training: BLM employees with job responsibilities related to the packaging and/or transportation of hazardous materials must receive training related to those responsibilities as required by 49 CFR 172, Subpart H, Training. This training would include but not be limited to the preparation of shipping papers. The regulations require individuals to be tested and certified as competent in the DOT regulations and procedures applicable to their job requirements. This training is available from private companies throughout the U.S and from the U.S. DOT Training Center in Oklahoma City. Contact your state/field office HAZMAT Coordinator for a training source near you. Refresher training is required every three years.
19. Tank Inspection and Testing: Tank to be inspected and tested in accordance with the following schedule. An IBC cannot be filled until all inspections or tests have been successfully completed. [49 CFR 173.35(a)]
- a. Visual Inspection – before being filled [49 CFR 173.35(b)]
 - b. Leakproofness Testing – every 2.5 years [49 CFR 173.352(b)(1)]
 - c. External Visual Inspection – every 2.5 years [49 CFR 173.352(b)(2)]
 - d. Internal Inspection – every 5 years [49 CFR 173.352(b)(3)]

20. Tank Inspector Qualifications: IBC inspectors must have the knowledge and ability to perform the required inspections and tests. These inspections and tests may be contracted out or performed in-house by a qualified individual who is trained on how to performed the inspections/tests and the associated record keeping.
21. Record keeping: A permanent log recording the following information must be maintained:
 - a. Tank serial number
 - b. Type of inspection/test
 - c. Inspection/test results
 - d. Location where inspection/test was conducted
 - e. Inspector's name
 - f. Date of inspection/test

Footnote:

(1) A laminated preprinted shipping paper along with laminated copies of MSDSs for diesel and gasoline should be carried in each vehicle. This laminated form should identify each hazardous material that is typically transported by its proper shipping name, hazard class, packing group, and identification number. Blank columns in which the quantity of each hazardous material (e.g., drip torch fuel, fusees) and packaging type (e.g., tank, drum, container) will be noted should follow that information. If other hazardous materials are being transported, copies of their MSDSs must also be attached to the shipping papers. An emergency response information telephone number and a reference to the attached MSDSs must be noted on the laminated form.