



STANDARD OPERATING GUIDELINE

GASOLINE TANK TRUCK EMERGENCIES - 2007

1. **PURPOSE:** To establish policy and guidelines to respond to gasoline tank truck emergencies.
2. **OBJECTIVE:** To insure XXFD Fire Officers and Firefighters: understand unique features of MC-306 and MC 406 tank trucks, are familiar with emergency shut off procedures and to provide policy and guidelines for responding to leaks, fires and other emergencies involving gasoline tank trucks.
3. **SCOPE:** This Gasoline Tank Truck Emergencies applies to all fire officers and members of the XXFD and will be used and modified as appropriate during response operations based on conditions during the response.
4. **FACTS:**
 - a. MC-306 and 406 type trucks carry gasoline and other fuels (diesel, home heating oil, jet fuel) in quantities up to 14,000 gallons.
 - b. Aluminum (0.151 or 0.187" thickness) is the most common tank material, although older models maybe stainless steel or steel (MC-305 prior to 1967).
 - c. Tank shell will likely be single wall, uninsulated.
 - d. Tank shell and compartments will be likely be damaged by rollover, striking signs, utility poles, guide rails, etc.
 - e. Tank shell will melt at 1200F - BLEVE is not common due to low operating pressure of 3 psi.
 - f. Tanks maybe divided into several smaller compartments, each with a different product in it. Capacities maybe marked on the overturn rail on top of the tank or on the safety lever near the piping. Compartment bulkheads will likely be damaged during rollover.
 - g. The bill of lading is on the driver's side door.
 - h. All bottom discharges (4-6" dia.) have shear cuts that will break off if stress due to an accident. Piping may contain 20-40 gallons of product.

- i. Many trucks have GPS and computerized delivery and data logging. Reach back to the terminal dispatcher may reveal how much product is in the tank.
- j. Gasoline:
 - Flammable limits: 1.4-7.6% in air
 - Vapor pressure: 38-300mmHg
 - Flash point: -44F
 - Incompatibilities and re-activities: Strong oxidizers such as peroxides, nitric acid percholates.
 - Gasoline in the north east will be blended with MTBE

5. POLICY:

Training: This SOG is part of the BCFCFA Website

- All XX FD apparatus will respond in this priority:
- Request a Hazmat unit immediately upon determining a gasoline truck is involved
- A unified command will be established with PD and EMS if required.
- Water will be used to protect exposures and make rescues.
- Foam will be the principle fire suppression agent for gasoline/gasohol fuels but can be supported by dry chemical extinguishers.
- Water will not be used directly on the fire or spilled gasoline.
- Dry chemical extinguishers may provide valuable quick knockdown but
- Limited long term holding potential of suppressed fire.
- The IC will deploy the CGIs as soon as practical.
- Tow operators will not right the vehicle until the product has been removed.
- Standard foam concentrate for XX FD is National Universal Gold
- XXFD members will not conduct any operations beyond rescue until the damaged unit is grounded with at least one ground system.
- Protection of exposures and life safety of firefighters and civilians has priority over extinguishment of the tank truck fire.

6. COMMAND AND CONTROL RESPONSE GUIDELINES

- a. Establish command post in a safe location
 - Up hill, up wind
 - Unified command with PD, EMS
 - Request RC Hazmat as soon as appropriate
- b. Take life saving actions and protect exposures as required
- c. Identify the product and amount in the tank truck as soon as possible
- d. Conduct damage assessment of tank
 - Compartments compromised?
 - Tank stable?
 - Will tank shift as product burns off or spills?
 - If tanker rolled over, consider compartments compromised and product in entire tank.
 - Compromised compartments may leak product out drain holes between compartments
- a. Evaluate the hazards
 - Type of tank truck
 - Nature of emergency..rollover,leak, fire, etc
 - Quantity of product involved
 - Tank damage, impact with object, breached compartments.
 - Life safety and property endangered
 - Environmental protection
- b. Develop Incident Action Plan (IAP)
 - Defensive—protect exposures
 - Offensive—aggressive rescue and fire control
 - Let burn/protect exposures
 - Allow to leak, contain spill via containment pit construction
- c. Expand ICS as required to support IAP
 - Evacuation sector
 - Liaison officer—to advise incoming personnel
 - Plans cell to develop plan, track and display situation so additional resources can be deployed efficiently
 - Operations to direct tactics at scene
- d. Evaluate progress and modify strategy as required

7. FOAM OPERATIONS, SELECTION AND APPLICATION RATE

- a. Regular AFFF does not perform well on gasoline with MTBE additive, use AR-AFFF or universal foam.
- b. Alcohol resistant AR-AFFF is the best choice for fire suppression
- c. Aspiration of the foam is recommended due to the high vapor pressure of the blended gasoline
- d. Gentle foam application is recommended and will prevent foam from mixing with blended fuel and reducing foam effectiveness.
- e. Use limited application rate (handlines 95 gpm) to cut and maintain rescue paths and efforts if required, if exposures are protected or a non issue, consider letting the fire burn in the tank
- f. Foam must be applied for at least 15 minutes to maintain the integrity of the foam blanket.
- g. Extinguishment attempts on the tank itself will not be initiated until at least 100 gallons of foam concentrate has arrived on scene.
- h. Establish a logistics sector or foam supply officer.
- i. Protection of exposures and life safety of firefighters and civilians has priority over extinguishment of the tank truck fire.
- j. Foam will not be sprayed on firefighters for "protection."

8. LEAK/SPILL CONTROL

- a. Product delivery can be shut off by the following:
 - lowering the safety bar
 - cutting pneumatic lines to valves
 - cutting cables to bottom valves
 - closing valves on discharge manifold
 - front driver side of trailer may have a manual emergency switch to shut off all valves from all compartments in tank
- b. Dome covers
 - Will likely leak if tank is overturned
 - Have primary and secondary latches
 - Can be secured with dome cover clamps by RC Hazmat
 - Never open a dome cover, compartment behind it maybe full

9. SAFETY

- a. Combustible gas indicators (CGI) will be used to determine hot zones.
- b. CGI's will be used anytime our members are near the spill or tank truck or danger area.
- c. Upon alarm at 10% LEL, members will retreat to safer areas.
- d. A switch near the driver door will shut off all electric service to both the tractor and trailer
- e. Be sure not only to cut battery cables but to tape ends to prevent arcing
- f. Bottom loaded tankers will have up to 40 gals in piping

NOTE: Annex A contains photos and descriptions of critical tanker assemblies

ANNEX A

DEAD MAN SWITCH



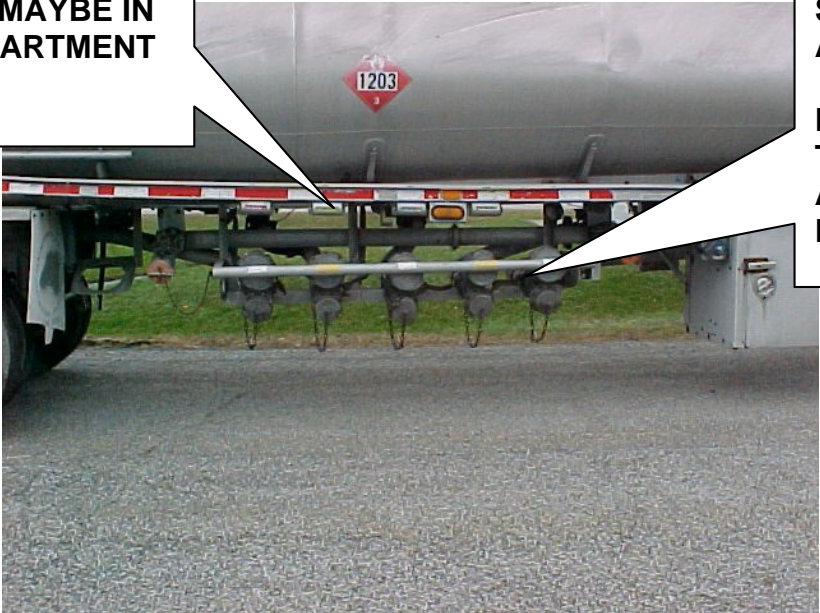
1



2

- THIS IS A DEAD MAN SWITCH NEAR THE BATTERY COMPARTMENT ON THE DRIVER SIDE (RED ARROW). IT SHUTS DOWN ALL ELECTRICAL TO THE TRACTOR AND TRAILER. (Pictures 1 & 2)

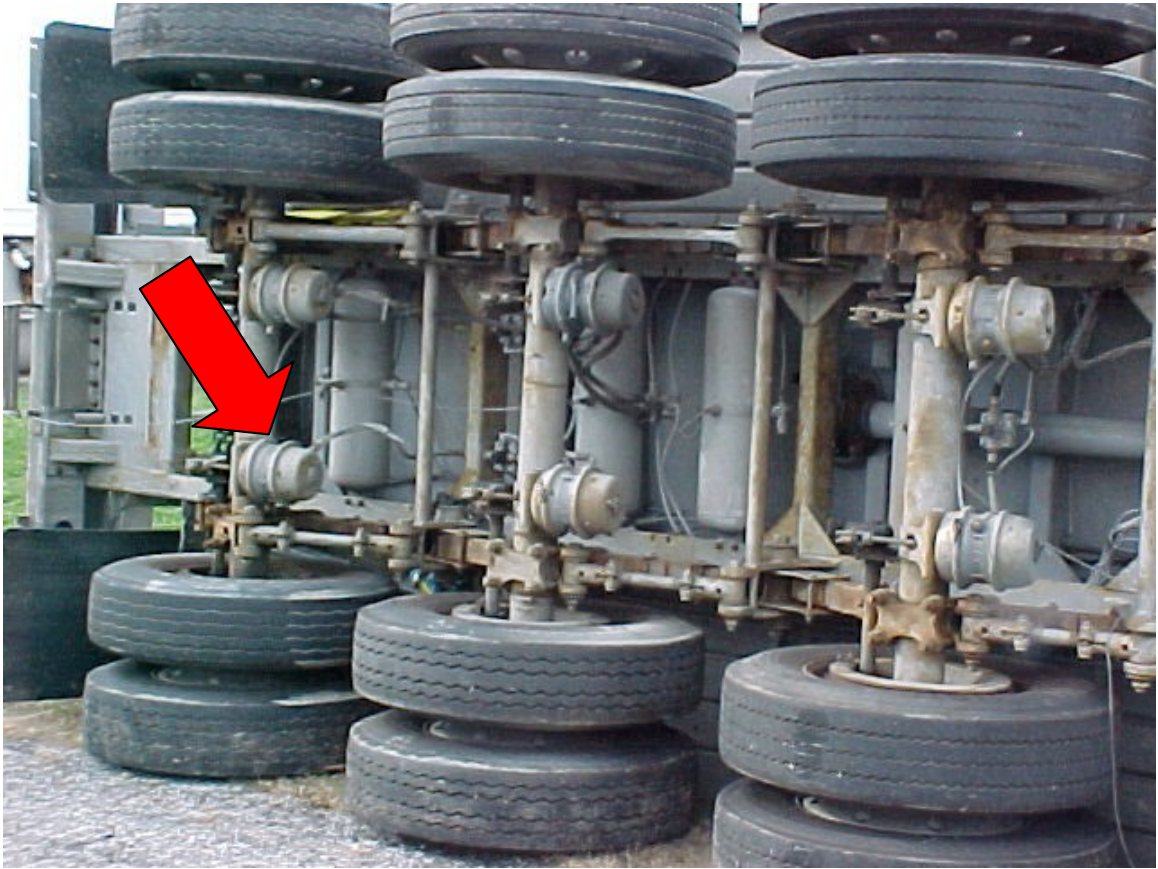
**THESE SIGNS
INDICATE WHAT
PRODUCT MAYBE IN
THE COMPARTMENT**



**THIS BAR WHEN
PULLED DOWN
STOPS FLOW FROM
ALL VALVES.

PUSHED UP LOCKS
THE BRAKES AND
ALLOWS FUEL TO
FLOW**

Picture 3



4

- THE **RED ARROW** ABOVE INDICATES BRAKE CYLINDERS THAT CONTAIN A COMPRESSED COIL SPRING.
- DURING A FIRE, THESE MAY RELEASE AT DANGEROUS SPEED AND DISTANCES. (Picture 4)



5

- DUE TO THE WEAK STRUCTURE OF THE ALUMINUM TANK, CRIBBING MUST BE DONE CAREFULLY SO AS NOT TO PUNCTURE THE TANK OR CAUSE ANY ADDITIONAL STRESSES, ESPECIALLY IF TANKER IS LEAKING AND STRESS LOADS ON THE TANK ARE DYNAMIC.
- ALL PRODUCT MUST BE REMOVED BEFORE RIGHTING THE TANKER. (Picture 5)

**FOR FURTHER AVAILABILITY OF AR-AFFF:
CONTACT THE BERGEN COUNTY FIRE COORDINATOR 201-646-2700**

UASI (Fire Academy)

TANKER AR-AFFF 4000 gal.
TOTES AR-AFFF 4000 gal.

Hasbrouck Heights FD
1500 gallon water tank with

CRASH TRUCK
AR-AFFF 180 gal.
450 lbs. Dry Chemical and
Purple 'K' Extinguishment

201-288-1000