TB 750-1047

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D E P A R T M E N T O F T H E A I R F O R C E T E C H N I C A L O R D E R

ELIMINATION OF COMBUSTIBLES FROM INTERIORS OF METAL OR PLASTIC GASOLINE AND DIESEL FUEL TANKS

Departments of the Army and the Air Force, Washington, D.C.
26 April 1972

1. Purpose and Scope. *a.* This bulletin outlines an alternate procedure for the elimination of combustible vapors and liquids using a chemical gas tank purger, preparatory to repair, cleaning and painting, storage, or change in materials of fuel tanks. This procedure saves time, labor and materials as compared to other methods such as steam cleaning as outlined in TB ORD 1031.

b. This procedure is applicable to all types of fuel tanks. Fuel tanks on tracked vehicles and those not readily accessible must be removed from the vehicle prior to purging.

c. This process is to be undertaken by field and depot maintenance units. Supporting agencies will furnish additional skills and equipment when required.

2. Essentials. *a.* Efficient purging of fuel tanks, pipe lines, pump housings, hoses and distribution manifolds may be accomplished by strict adherence to procedures outlined herein.

b. Materials required.

(1) Adequate source of water with a large diameter hose long enough to reach the vehicle or fuel tank.

(2) Compressed air source and air hose of sufficient length to reach depth of fuel tank.

(3) Sufficient quantity of gas tank purger obtainable through local procurement. Only known source available to date: Product-Sol, Inc., 2010 Cole, Birmingham, MI 48008.

3. Safety precaution.

Warning: Prior to and during all operations outlined in this bulletin, coordinate with safety, medical, and fire departments to comply with safeguards contained herein and other applicable directives.

a. Discontinue all operations if an electrical storm is threatening or in progress.

b. The tank being purged will be statically grounded prior to and during all operations.

c. Conduct a combustible vapor test reading prior to purging the tank using an acceptable explosive meter, such as MSA explosive meter 6665-664-4650 or Davis Vapotester 6665-562-8103.

d. Only competent personnel thoroughly instructed in the proper handling and reading of the vapor indicating instruments (explosion meter) will perform vapor tests.

e. Conduct a combustible vapor test reading immediately after purging. Under no circumstances will repair or fuel tank begin until declared safe by safety personnel.

f. Eliminate all possible causes of explosion.

g. Personnel engaged In purging operations will:

(1) NOT wear wool, nylon, silk, rayon, or other clothing having a tendency to generate static electricity.

(2) Wear clean cotton clothing with no metal buttons or fittings. Remove all contents from pockets.

(3) Wear rubber boots.

(4) Use cotton waste for cleaning purposes. Other material may generate static electricity.

4. Preparation of equipment. *a.* Completely drain each fuel tank or fuel tank compartment, all piping, pumps, meters, filters, and segregators as applicable, and remove all accessory items such as gages and floats which might entrap fuel.

b. Close or seal all drains (it may be necessary to locally fabricate covers for some types of drains, but *do not* create a vacuum).

c. Fill fuel tank and overflow for five minutes with cold water. Drain fuel tank completely.

d. Close or seal drains.

Caution

Insufficient amount of chemical will result in an incomplete purging. Accurate computations of amount of chemical to be added must be made prior to the purging. Once purging has begun, do not stop until process is complete.

e. For each 100 gallon capacity, add 40 fluid ounces to the fuel tank. (This is equivalent to 8 fluid ounces of concentrate for a 20 gallon fuel tank.)

Caution

When an emergency exists, such as shortage of water, request for additional guidance should be directed to US Army Tank-Automotive Command Safety Officer, AMSTA-CZ, Warren, MI 48090.

f. Fill fuel tank to top with water-Do not overflow.

g. Insert air line into fuel tank filler neck opening and agitate solution with 3 to 5 psi of air for five minutes. Frequently move air hose around in tanks covering as much area as possible especially near the bottom and around baffles. Remove air line and drain solution from fuel tank.

h. Fill fuel tank and overflow for five minutes with cold water or until water is clear. Drain fuel tank completely.

i. Conduct a combustible vapor test reading to determine if fuel tank is safe to repair, clean or paint, store or change material. If combustible vapor test reading indicates tank is not safe, repeat procedures as cited in *h* above.

j. Fuel tanks installed on vehicles will be processed as cited above with the exception of disconnecting and plugging the fuel line at the fuel tank. If fuel tank repairs are to be made, work must be started immediately in order to retard the process of interior oxidation.

By Order of the Secretaries of the Army and the Air Force:

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To be distributed in accordance with DA Form 12-34, (qty rqr block No 71) Requirements for TB 750 Series: TACOM.

☆U.S. GOVERNMENT PRINTING OFFICE 1984 O-421-302 (3850)
909-814