

CHAPTER 5
CARGO TANK INSPECTION
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CHAPTER 5

CARGO TANK INSPECTION

1. GENERAL.

a. Inspection Program. Statute requires the Department place a high priority on the random on-highway and off-highway inspection of cargo tanks transporting hazardous materials and hazardous waste. It is the intent of the Legislature and the Department, through the random inspection of tank vehicles, to provide additional protection to the public, the environment, and property to reduce the risk of possible hazards in the highway transportation of hazardous materials and hazardous waste. Random cargo tank inspections will be the responsibility of personnel assigned to the Commercial Enforcement Program.

2. DEFINITIONS.

a. The following definitions shall be used for the purposes of the Department's Cargo Tank Inspection Program:

(1) Cargo Tank. A bulk packaging which:

(a) Is a tank intended primarily for the carriage of liquids or gases and includes appurtenances, reinforcements, fittings, and closures;

(b) Is permanently attached to or forms a part of a motor vehicle, or is not permanently attached to a motor vehicle but which, by reason of its size, construction, or attachment to a motor vehicle is loaded or unloaded without being removed from the motor vehicle; and

(c) Is not fabricated under a specification for cylinders, intermediate bulk containers, multiunit tank car tank, portable tank, or tank cars.

(2) Cargo Tank Motor Vehicle. A motor vehicle with one or more cargo tanks permanently attached to or forming an integral part of a motor vehicle.

3. POLICY.

a. Cargo Tank Inspections. The inspection of cargo tanks may only be conducted in conjunction with a North American Standard (NAS) Level 1 or

Level 5 inspection and shall include a Basic Hazardous Materials Inspection.
Vehicles displaying

current Commercial Vehicle Safety Alliance (CVSA) decals shall not be selected for inspection, absent observed violations.

- b. To ensure the safety of the public, the environment, property, and to prevent on-highway incidents involving cargo tanks, personnel certified to conduct cargo tank inspections should conduct as many cargo tank inspections as practical each year.
- c. The inspection of cargo tanks shall be conducted to determine whether or not a cargo tank is designed, constructed, maintained, and used in compliance with the regulations.
- d. A cargo tank placed out-of-service (OOS) shall not be allowed to proceed until those inspection items which placed the cargo tank OOS are corrected.
- e. While conducting cargo tank inspections, personnel assigned to the Motor Carrier Safety Unit (MCSU) shall direct their efforts toward obtaining compliance with the requirements of Title 13, California Code of Regulations, Sections 1160-1168. Emphasis shall be placed on requiring correction of hazardous materials and motor carrier violations which can only be detected on the premises of a carrier or shipper. This includes selection and use of containers, filling and assembly of shipments, container retesting, classification and commodity identification, and preparation of shipping papers. Inspections of shippers, motor carriers, hazardous waste transporters, and cargo tanks shall be performed in accordance with the priorities contained in Highway Patrol Manual (HPM) 84.1, Motor Carrier Safety Operations.
- f. Terminal inspection activities shall include:
 - (1) Inspection of cargo tanks and containers.
 - (2) Appraisal of regulation compliance practices at hazardous materials shipper and carrier terminals.
 - (3) Investigation and preparation of evidence for necessary criminal and/or administrative action(s).
 - (4) Investigation of accidents involving hazardous materials.
 - (5) Appraisal of overall motor carrier safety compliance.

4. OCCUPATIONAL SAFETY.

a. Personal Protective Equipment. Personnel conducting cargo tank inspections shall be issued the following personal protective equipment (PPE), which is available through the Department's Supply Services Catalog:

- (1) Tyvek™ coveralls.
- (2) Eye protection.
- (3) Air purifying respirators (APR).
- (4) Neoprene, nitril, and disposable gloves.

b. Precautions. Safe working conditions and procedures are imperative when inspecting cargo tank vehicles.

- (1) Personnel shall follow the same safety precautions provided for in the Basic Hazardous Materials Inspection.
- (2) Personnel shall wear eye protection, an APR, and appropriate gloves when inspecting dome covers and vents on top of tanks. The appropriate PPE to safely conduct inspections shall be worn at all other times.
- (3) The departmental inspection ladder shall be used when inspecting dome covers, vents, and the tops of tanks. On-highway personnel shall not utilize transport vehicle ladders or other vehicle parts for the purpose of conducting a topside inspection of a cargo tank.
- (4) Personnel shall not open any dome cover, valve, or activate any controls during an on-highway inspection. **Under no circumstances shall personnel enter cargo tanks, portable tanks, or waste containers.**
- (5) In the event a leaking tank is detected, the inspection shall be discontinued and the appropriate hazardous materials incident response measures shall be taken.
- (6) When it is determined to be safe to do so, personnel assigned to the MCSU may request the tank owner, or their representative, to open covers for inspection, and operate other controls as necessary.
 - (a) After a tank has been opened, a few minutes must be allowed for accumulated vapors to dissipate. During this period, the lower portions of the tank and the chassis may be inspected.

(b) Care must be taken to determine if any accumulated tank vapors or gases would be exhausted which are heavier than air or would otherwise be physically retained in the inspection location. If so, the tank shall not be opened.

(c) A tank dome cover may only be opened by the tank operator on request. This should only be done when conducting inspections at shipper/carrier facilities and only when the tank is cleaned and purged of all hazardous materials, or in those instances where the material in the tank is known to be nonhazardous.

(7) When inspecting tanks and containers, inspection personnel must always be alert to secondary hazards. Particular care must be exercised with pesticides and fumigants, which many times have multiple hazards.

(8) If the product contained in the tank cannot be identified, those portions of the inspection which could lead to exposure shall be omitted. The remainder of the inspection shall be conducted, and the omitted items shall be indicated on the inspection document, together with the reason for the partial inspection.

5. ON-HIGHWAY INSPECTION PROCEDURES.

a. Inspections. When performing cargo tank inspections, certified personnel shall use the following inspection guidelines in conjunction with the appropriate NAS Inspection and the Basic Hazardous Materials Inspection.

(1) The NAS Cargo Tank Inspection for low pressure cargo tanks (i.e., a specification MC 306, MC 307, MC 312, DOT 406, DOT 407, or DOT 412) shall be limited to the following inspection items, unless it becomes apparent a more comprehensive inspection is warranted:

(a) Shipping Papers, Placards, and Markings.

1 Check shipping papers to determine product identification.

2 Check for proper placarding.

3 Check markings to assure the proper identification numbers are being used.

(b) Metal Specification Plate. On tanks built prior to July 1, 1985, the plate will be located on the right side near the front of the tank. On tanks built after July 1, 1985, the plate will be located on the left side at or near the front of the tank.

- 1 Check for specifications and required information.
- 2 Check for legible entries.
- 3 Look for obvious differences between specification plate information and tank configuration (e.g., number of compartments or modification of shell).

(c) Test Dates. Test dates/markings should be near the specification plate or anywhere on the front head.

1 Dates/markings indicate when the cargo tank last successfully completed the test and inspection requirements and the type of test.

a V for external visual test.

b I for internal visual test.

c P for pressure test.

d L for lining test.

e K for leakage test.

f T for thickness test.

2 The original test date on the specification plate fulfills the test date requirement for new tanks not yet due for retest.

(d) Supports and Anchoring.

1 Inspect the cargo tank for proper securement.

(e) Ring Stiffeners/Circumferential Reinforcement.

1 Check for secure attachment to the tank walls.

a Check for evidence of corrosion at the attachment points.

2 Check the tank to assure a drainage hole has been provided and is not obstructed.

(f) Piping Protection.

1 Check for shear sections or suitable guards.

2 Check piping for minimum road clearance.

(g) Double Bulkhead Drains.

1 Check to assure the drain between the double bulkheads is not plugged.

(h) Internal Valves.

1 Ensure valves are closed and not leaking.

(i) Fusible Elements.

1 Check to make sure the fusible element, if required, is present and properly located.

(j) Remote Control Shutoff.

1 Check to make sure the remote shutoff, if required, is present and properly located.

(k) Rear End Protection.

1 Check to make sure the rear end protection meets the requirements.

(l) Optional Items.

1 The following inspection items are located on top of the cargo tank and normally are not inspected due to safety concerns.

a Overturn Protection. Check to make sure all manholes, pressure actuated vents, inspection openings, and all closures for filling are protected if the tank was to rollover.

NOTE: Rollover protection which forms a basin around the openings must be equipped with an unobstructed drain.

b Manhole Covers/Vents. Check to make sure there are no open or leaking manholes or vents.

(2) The NAS Cargo Tank Inspection for High Pressure Cargo Tanks (i.e., a specification MC 330 or MC 331 cargo tank) shall be limited to the following inspection items unless it becomes apparent a more comprehensive inspection is warranted:

(a) Shipping Papers, Placards, and Markings.

- 1 Check shipping papers to determine product identification.
- 2 Check for proper placarding.
- 3 Check markings to assure the proper identification numbers are being used.

(b) Specification Plate.

- 1 Check to make sure the plate information contains the required information and the information matches the tank.

(c) Quenched and Tempered/Not Quenched and Tempered Markings.

- 1 Each MC 330 and MC 331 cargo tank must be marked "QT" or "NQT" to indicate if quenched and tempered or not quenched and tempered steel was used to fabricate the tank.

(d) Test Dates. Test dates/markings should be near the specification plate or anywhere on the front head.

- 1 Dates/markings indicate when the cargo tank last successfully completed the test and inspection requirements and the type of test.

a V for external visual test.

b I for internal visual test.

c P for pressure test.

d L for lining test.

e K for leakage test.

f T for thickness test.

- 2 The original test date on the specification plate fulfills the test date requirement for new tanks not yet due for retest.

(e) Supports and Anchoring.

- 1 Inspect the cargo tank for proper securement.

(f) Protection of Fittings.

- 1 Check to make sure gauges are properly protected.
- 2 Check to make sure the rear end protection meets the requirements.
- 3 Overturn protection for safety devices.

(g) Marking of Inlets and Outlets.

- 1 All inlets and outlets, except safety relief valves, shall be marked to designate whether they communicate with vapor or liquid when the tank is filled to its maximum filling density.

(h) Liquid and Vapor Internal Shutoff Valve.

- 1 Check valving for specific requirements.
- 2 Check remote controlled internal shutoff valves, if required.
- 3 Check manual shutoff valves.

(i) Shutoff Valve Remote Control and Fusible Element.

- 1 Tanks with over 3,500 water gallon capacity, each internal shutoff valve must be provided with a remote means of automatic closure, both mechanical and thermal, installed on the ends of the tank, in at least two diagonally opposite locations.

- 2 Tanks with 3,500 water gallon capacity or less, each internal shutoff valve must be provided with at least one remote control.

a The MC 330 tanks used for other than flammable gases and anhydrous ammonia only require one remote.

(3) The inspection of nonspecification cargo tanks shall be limited to the following inspection items unless it becomes apparent a more comprehensive inspection is warranted:

(a) Shipping Papers, Placards, and Markings.

- 1 Check shipping papers to determine product identification.
- 2 Check for proper placarding.
- 3 Check markings to assure the proper identification numbers are being used.

(b) Container Integrity. Inspect for cracks, holes, or broken welds which allow material to leak from the container.

(c) Defects. Inspect for defects in gaskets, seals, or other devices which would allow material to leak.

(d) Load Securement. Inspect for proper securement to or within the transport vehicle.

(e) Other Defects. Inspect for corrosion, dents, or other conditions which may allow material to leak.

6. ENFORCEMENT.

a. General. When a violation is detected, personnel shall take the most appropriate enforcement action in accordance with HPM 100.68, Traffic Enforcement Policy Manual. Enforcement documents shall be prepared in accordance with HPM 100.9, Enforcement Documents Manual.

7. USE OF COMMERCIAL VEHICLE SAFETY ALLIANCE DECAL.

a. General. The CVSA Decal shall be issued in accordance with HPM 82.6, Commercial Enforcement Manual, Chapter 3, Inspection Policies.

8. EXPOSURE.

a. General. Obtain first aid and/or medical treatment as necessary if exposed or contaminated by any hazardous material or hazardous waste. Document all contamination and exposure incidents in accordance with provisions of this manual and HPM 10.6, Occupational Safety Manual.

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