CHAPTER

16

Tank Trailer Service and Inspection

Instructor Name: (Your Name)

Objectives

Upon completion and review of this chapter, the student should be able to:

- List the general safety precautions that must be adhered to when working on a tank trailer.
- Explain the procedures that are performed during a 60-day PMI.
- List the various maintenance inspections and how often they must be performed on a tank trailer.
- List the items that must be inspected during an external visual inspection.
- List the items that must be inspected during an internal visual inspection.

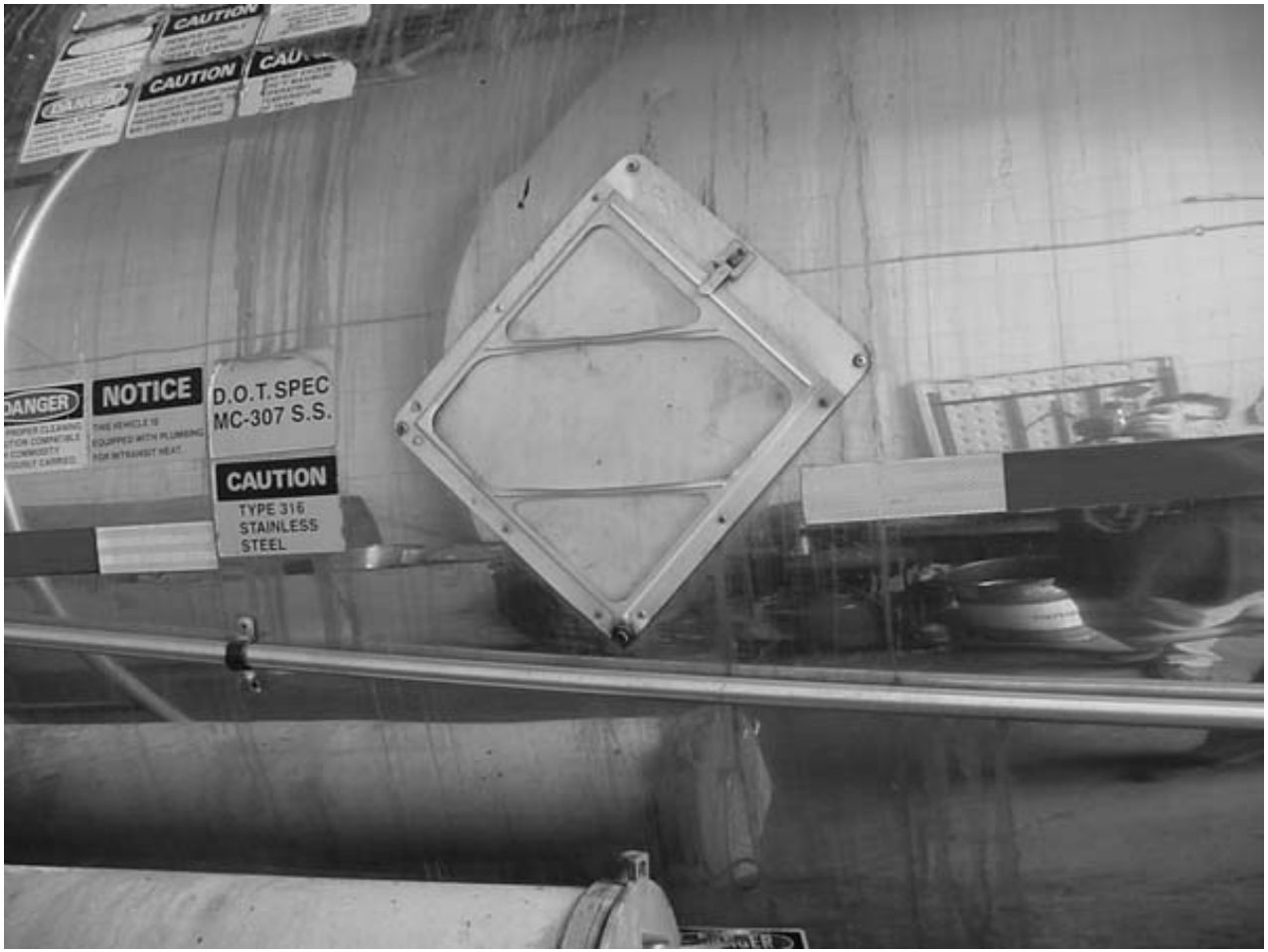
Objectives Continued

- List the items that must be inspected during a pneumatic pressure test.
- Explain what items must be inspected when performing a thickness test.
- List the items that must be inspected during an upper coupler inspection.
- Explain what must be done during a hydrostatic pressure test.
- Describe the function of dry bulk tank trailers.
- List the items that are inspected during an external visual inspection.
- Describe the inspection procedure performed during an internal visual inspection and leakage test.

Entering Tank Trailer

Tank Trailer

Placard Holder

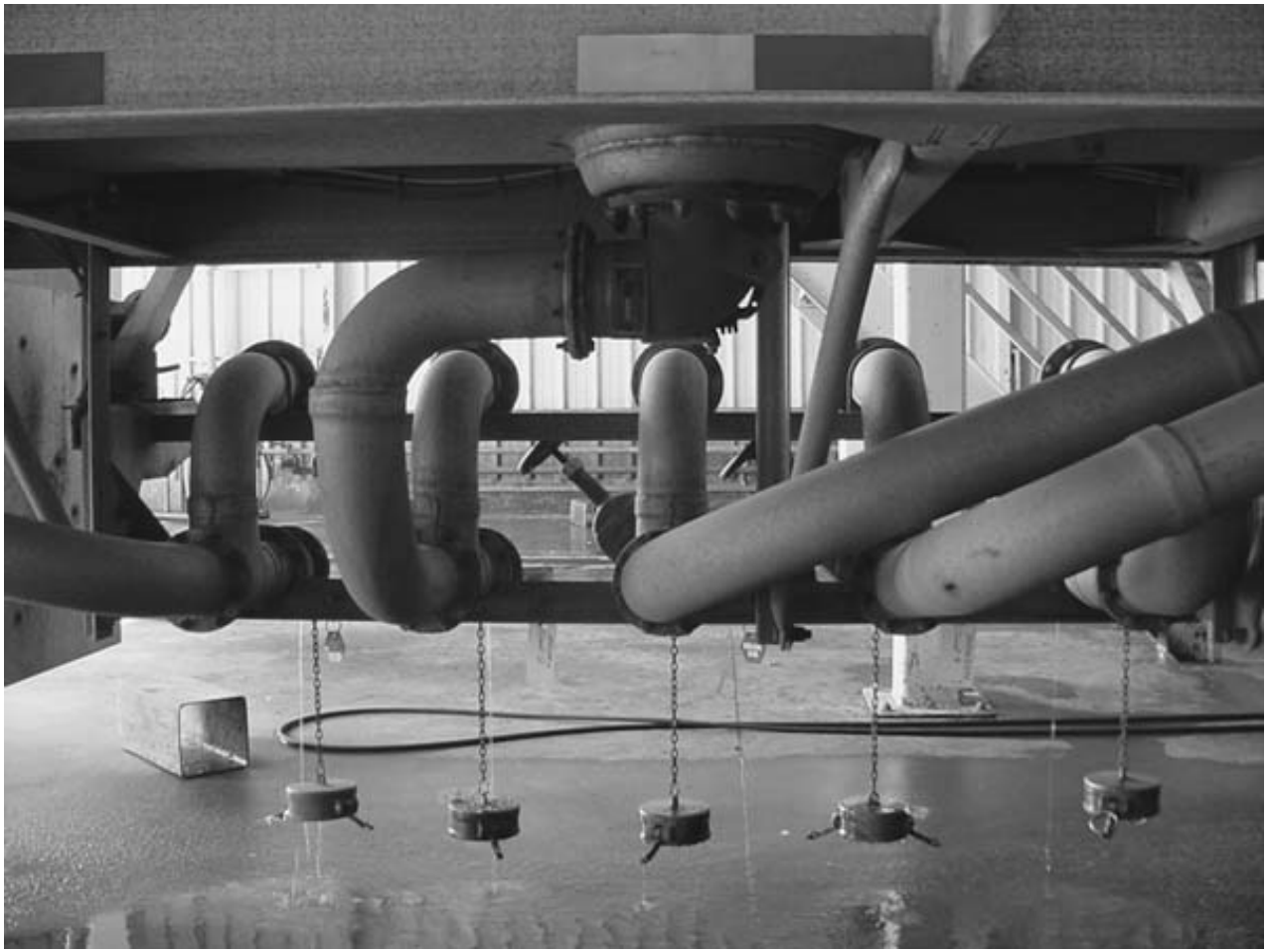


Trailer Brakes

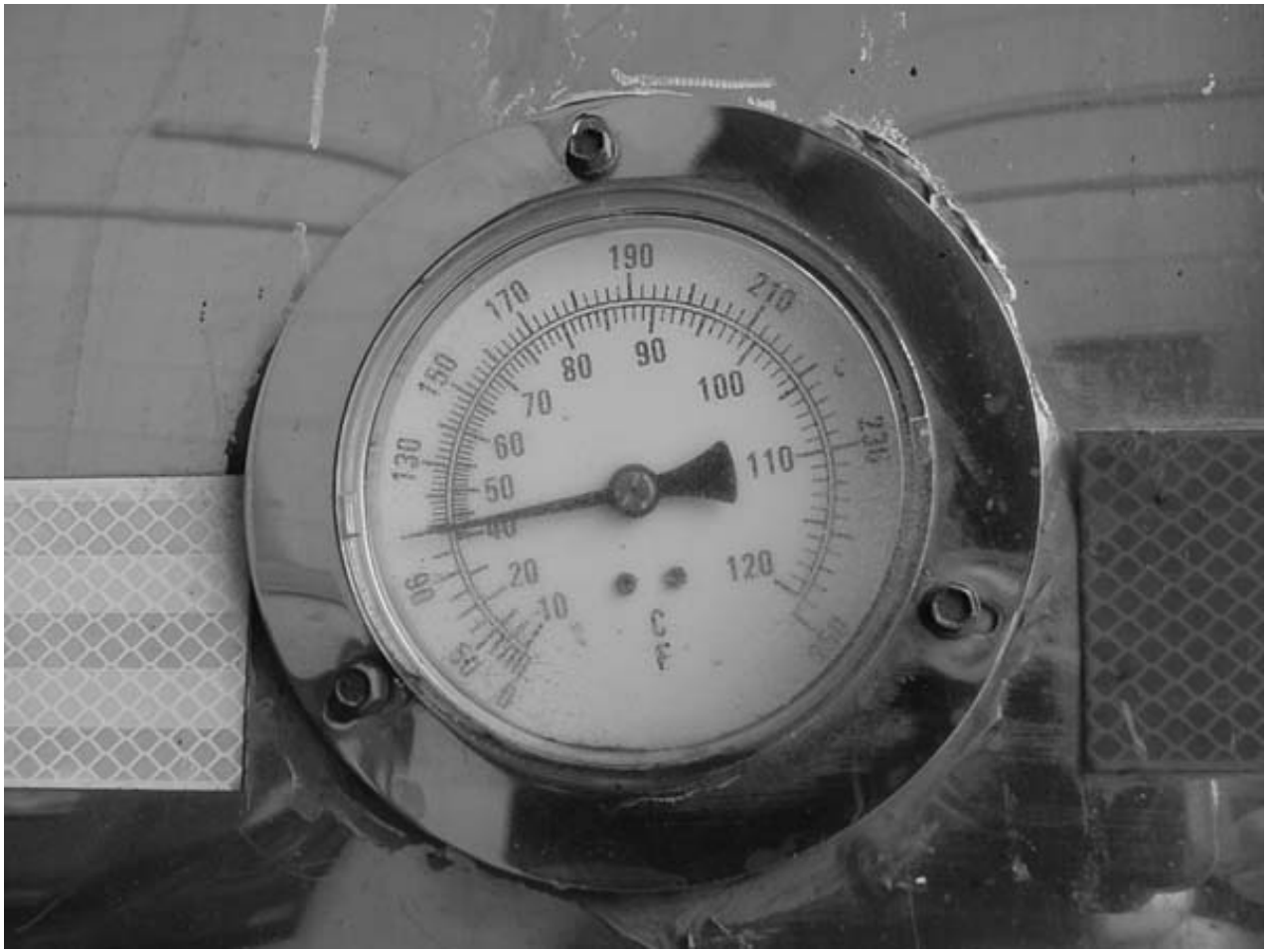
Tank Barrel

Pressure Relief and Vacuum Valves

Product Line



Temperature Gauge



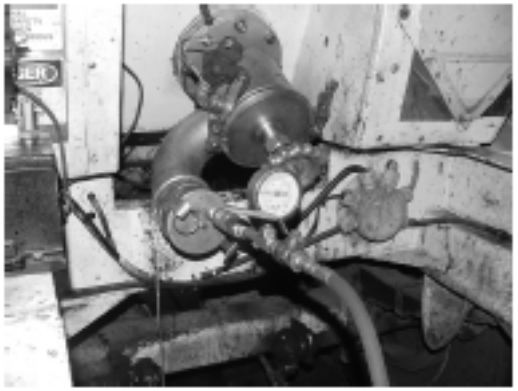
Vacuum Test External and Internal Valves

P12-1 Start by inspecting the condition of the external seal.

P12-2 Pump the manual hydraulic hand pump to open the internal valve.

P12-3 Close the external valve by turning the hand valve.

Vacuum Test External and Internal Valves



P12-4 Apply test fitting to the outlet pipe.

P12-5 Turn vacuum pump on. Shut off when 20 inches is reached. Turn off the vacuum pump and watch the gauge. If vacuum holds, the external valve is good.

P12-6 Turn the valve on the manual hand pump to allow the hydraulic pressure to bleed of allowing the internal valve to close.

Vacuum Test External and Internal Valves

P12-7 Open the external valve.

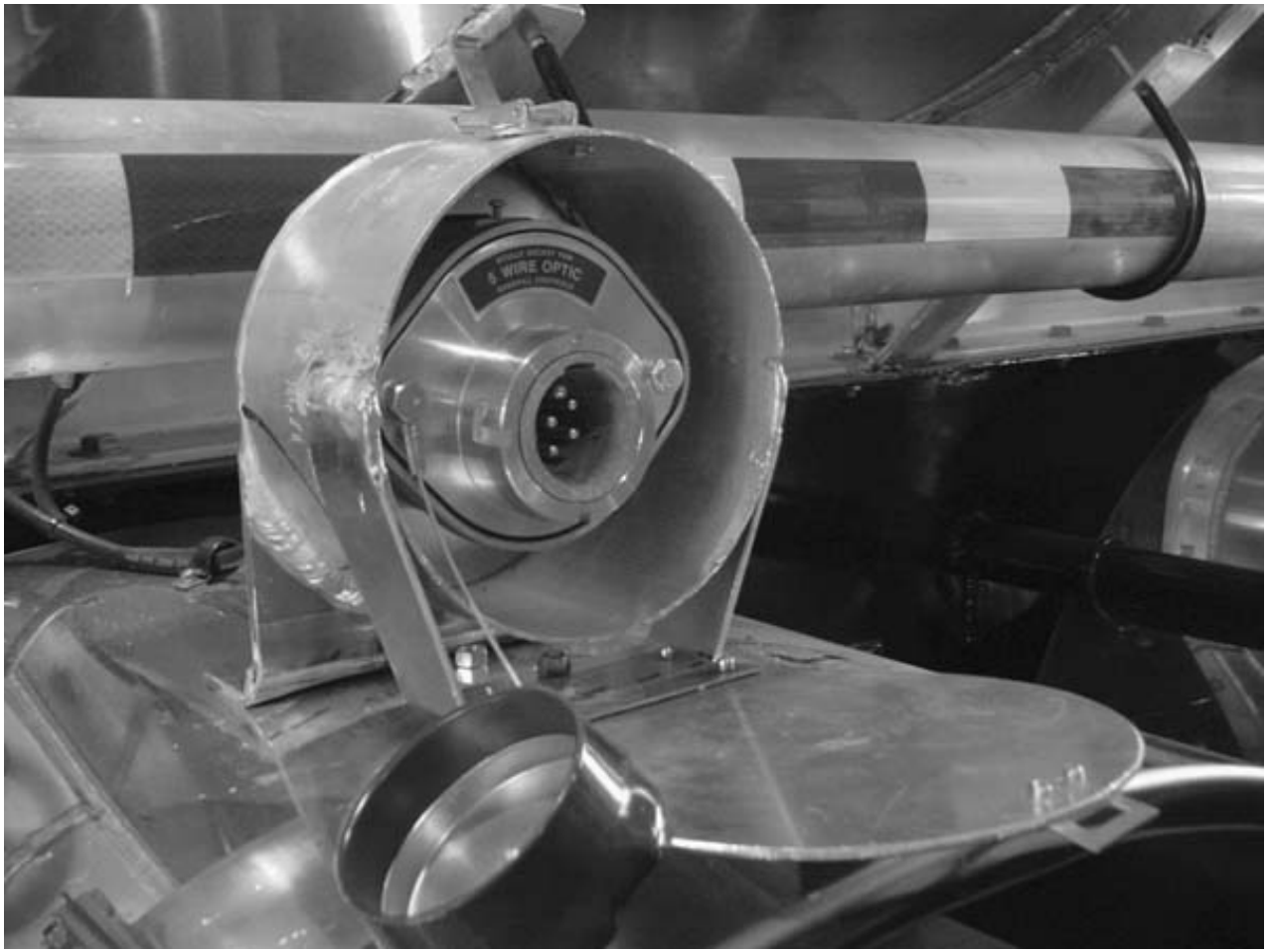
P12-8 Turn vacuum pump on. Shut off when 20 inches is reached. Turn off the vacuum pump and watch the gauge. If vacuum holds the external valve is good.

Tank Trailer Inspection Symbols and Dates

Inspecting Piping

Remote Closure Device

Skull system Hook Up



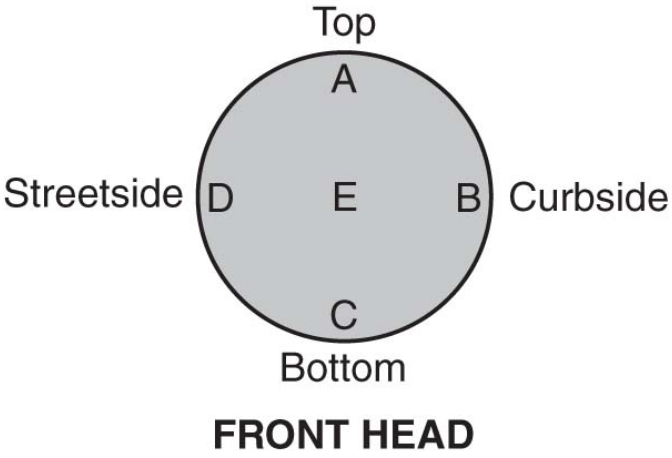
Manhole Cover

Tank Interior

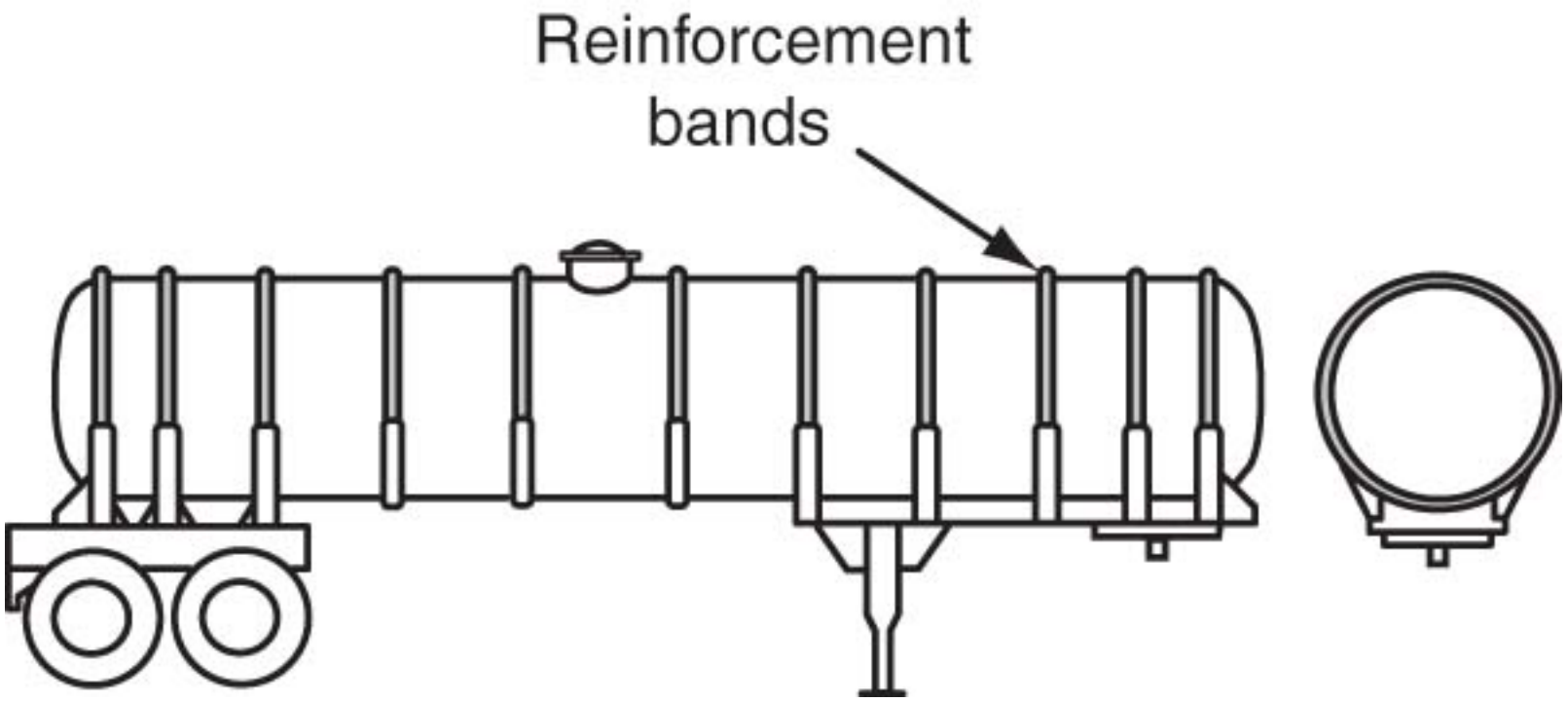
Internal valve

Ultrasonic Thickness Tester

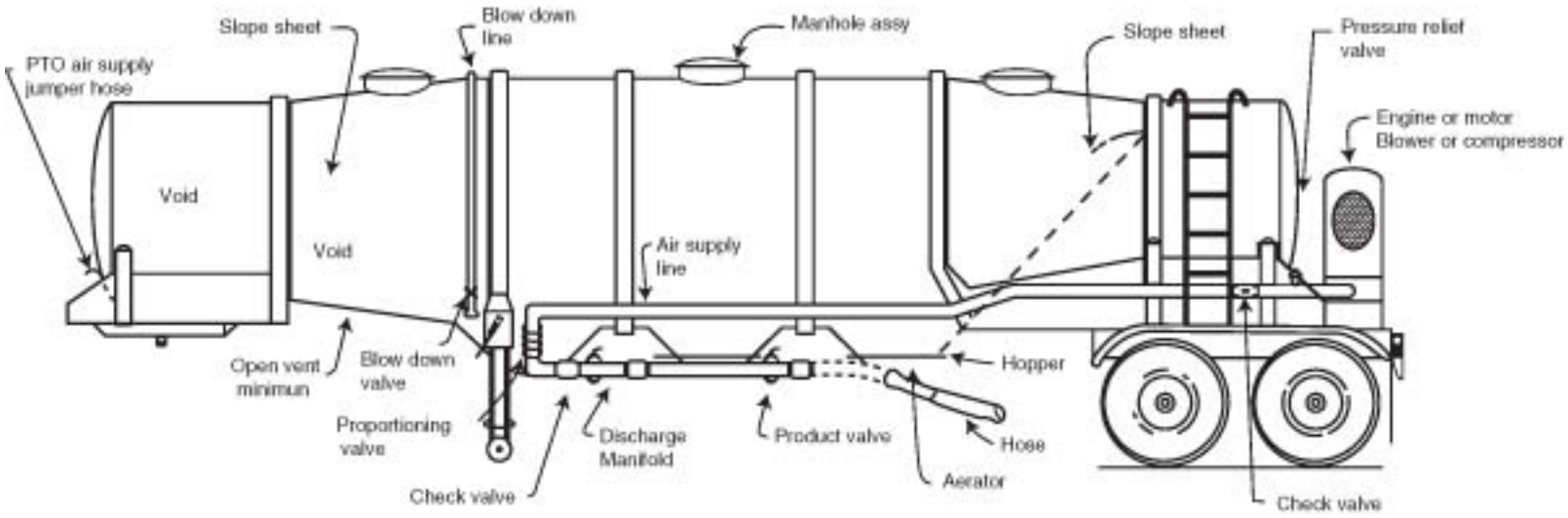
Tank Head Thickness Test Locations



Shell Reinforcement Test Location



Dry Bulk Tank Trailer Components



CAUTION

When performing leak detection, never go on top of the tank while it is under pressure.

Dry Bulk Container

Discharge Valve

CAUTION

All company tank entry safety procedures and OSHA regulations must be complied with.

Summary

- Follow the buddy system when doing internal tank work.
- Tank trailers should be subjected to a C inspection every 60 days.
- Both the internal and external valves are leak tested with a vacuum pump and gauge.
- Use a two-step procedure to open manholes of tanks just tested or suspected of having any pressure in them.
- An external visual inspection is performed yearly.
- An internal visual inspection is performed yearly.

Summary Continued

- A pneumatic pressure test is performed yearly at 80 percent of the tank's maximum allowable working pressure.
- A thickness test of the tank is performed every 2 years.
- An upper coupler inspection is performed every 2 years.
- A hydrostatic pressure test is performed at 5-year intervals.
- Oxygen content in tank must be between 19.5 and a maximum of 23 percent oxygen to prevent suffocation.

Summary Continued

- Do not stay in tank for an extended period of time. Leave immediately at first sign of dizziness, nausea, or labored breathing.
- The two basic configurations for dry bulk tanks are tank type and hopper type.
- The most common operating problem for dry bulk tanks is discharge systems (manifold, hose) plugged with product.

Summary Continued

- Dry bulk tanker leaks will be detected during routine operations by the sound of escaping air or blowing product dust.
- When performing leak detection, never go on top of the tank while it is under pressure.