

Title: Lake Charles VCM Car
Preparation Procedures

Section: III (B)

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I. Routine Maintenance

A. Safety Valve Changes or Repairs

1. Connect ground connections and vapor hose.
2. Blowdown car to atmospheric pressure (0 psig) to control system.
3. Put nitrogen hose in false dome to maintain an inert atmosphere.
4. Put on air line mask.
5. Carefully remove safety valve.
 - (a) Clean seat on valve body and inspect for nicks or scratches.
 - (b) Remove old gasket from dome seat and install a new gasket.
6. Install new safety valve and tighten.
7. Pressurize car to 60 psig with nitrogen, fill dome with water and check for leaks. If no leaks are found, check oxygen content and car is ready to load.
8. If leaks are present, tighten again. If this fails, remove valve, inspect seat and gasket and re-assemble. Repeat steps 6 and 7. If leaks are still present, install new valve. Complete safety valve test form with car number and date installed and restencil car.

Note: If return car pressure is equal to sphere pressure, liquid is present and must be analyzed and transferred to another car or day tank if material is OK.

9. If safety valve was found to be leaking through the valve (top) "O" Ring Seals must be changed. Follow Steps 1 thru 4, then remove top guide and hold down cap. Replace "O" rings in car and re-install. Pressure check car when change has been completed.

B. Angle Valves

1. Replacement

- (a) Procedure is the same as for safety valve replacement.

2. Repacking Stem

- (a) Follow steps 1 thru 4 for safety valve replacement.
- (b) Make sure valve to be repacked is fully closed.
- (c) Remove hand wheel and packing nut.
- (d) Remove spring, follower and old chevron packing.
- (e) Install new teflon packing set, spring and follower.
- (f) Install packing nut and hand wheel.

3. Seat Replacement (Valve leaks through when closed)

- (a) Install reconditioned valve

Follow same procedure as safety valve replacement

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II. Preparation for outside shopping

- A. Repairs to under frame - No purging required unless a specific shop requires it. Check for leaks and tighten all plugs before releasing.
- B. Welding on tank (No entry)

Minimum of three 50 psig purges required.

- 1. Connect ground connections and vapor hose.
- 2. Blowdown car to control system. (0 psig).
- 3. Connect nitrogen to car and pressurize to 50 psig.
- 4. Blowdown to control system.
- 5. Repeat steps 3 and 4 twice.
- 6. Disconnect hoses and ground connections.
- 7. Tag valves "Car Purged With Nitrogen - VCM Content below lower explosive limits".

- C. Tank Hydrotest, Entry or Required by shop - VCM content to be less than 1 ppm

- 1. Connect ground connections and vapor hose.
- 2. Blowdown car to control system (0 psig).
- 3. Pressurize car to 60 psig with nitrogen and blowdown to control system four times. (VCM content will be less than 1%).
- 4. Connect 3" water hose to liquid valve.
- 5. Fill with water until shell full. Vent displaced vapors to control system.
- 6. If tank is to be hydrotested - Remove safety valve and install blind. Perform hydrotest and complete test form.
- 7. Displace water from car with compressed air.
- 8. Vent car to stack and check vapor space for VCM.
- 9. If VCM content is less than 1 ppm, dome is ready to be pulled.
If VCM is greater than 1 ppm - pressurize car with air and vent to stack until less than 1 ppm.
- 10. If car is not entered the same day, the VCM and oxygen content must be rechecked before doing so.

NOTE: If tank is cleaned, hydrotested or dome pulled in an outside shop, a PPG Inspector or representative must inspect tank before dome is installed. If this isn't done, car will have to be inspected before loading at Lake Charles.

III. To put car back in service after dome removal.

- 1. Clean gasket groove on manway nozzle.
- 2. Clean seat on dome, inspect for nicks or rough spots.
- 3. Install dome gasket.
- 4. Tighten dome nuts with impact wrench.

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5. Install angle valves, safety valve and false dome.
6. Pressurize car with Nitrogen to 90 psig and check for leaks.
7. Continue purging with nitrogen until oxygen content is less than 1000 ppm. Dew Point should be 32°F. or less

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