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Secretary for
Environmental
Protection

Air Resources Board

John D. Dunlap, III, Chairman

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Pete Wilson
Governor

May 6, 1998

Rick Bisker
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Wayne Division
Dresser Industries, Inc.
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#98-08

Approval of Dresser Wayne WayneVac 1/2" Tubing Retrofit Kits

Field air-to-liquid (A/L) testing of the Dresser Wayne WayneVac Phase II vapor recovery system found high failure rates in older Dresser Wayne dispensers utilizing 7/8" diameter vapor tubing. Part of the failures were attributable to vapor plumbing configurations that allowed the accumulation of liquid in the dispenser canopy manifold and/or in the vapor return line from the canopy to the dispenser vacuum pump inlet.

These liquid traps allow liquid to accumulate and not readily clear during dispensing and/or allow liquid to swap between vapor return hoses in multi-product dispensers (MPD's). This accumulated liquid increases back pressure in the dispenser vapor plumbing and can contribute to non-compliant A/L readings.

As a result, Dresser Wayne has developed 1/2" diameter vapor return tubing kits to replace the existing 7/8" vapor plumbing in these dispenser configurations. The 1/2" tubing kits eliminate liquid traps and the possibility of liquid swapping from one vapor hose to another in MPD type dispensers.

Retrofit kits were installed in test sites in the Sacramento area and liquid removal, A/L testing and dispenser pull tests were performed with passing results obtained.

As required by the Certification Procedures for Gasoline Vapor Recovery Systems at Service Stations, the approvals of the State Fire Marshal, the Department of Occupational Health and Safety and the Department of Food and Agriculture, Division of Measurement Standards are a precondition to certification by the California Air Resources Board. The approvals of these agencies are listed as follows:

- California Department of Forestry and Fire Protection
- Office of the State Fire Marshal
- May 4, 1998

- Department of Occupational Safety and Health
- September 30, 1996.

- Department of Food and Agriculture,
- Division of Measurement Standards
- November 8, 1996.

Attached to this Approval Letter are Exhibit #'s 1-7 giving the kit model #'s, the associated dispenser model #'s and drawings depicting the dispensers with the kits installed.

Proper installation of the 1/2" retrofit tubing kits shall be verified using a procedure which is being developed by Dresser Wayne. This procedure will be made available as soon as it is finalized and approved by CARB.

I find that the use of the Dresser Wayne 1/2" Vapor Tubing Retrofit Kits, when installed in accordance with the manufacturer's instructions, will not adversely affect the performance of vapor recovery systems on which they are installed. Therefore, the Dresser Wayne 1/2" Vapor Tubing Retrofit kits are certified for use with the Dresser Wayne WayneVac Phase II Vapor Recovery System, Executive Order G-70-153-AC.

If you have any questions or wish to discuss this matter further, please call Paul Thalken at (916) 445-0383 or Laura McKinney at (916) 327-1525.

Mr. Rick Bisker

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May 6, 1998

Sincerely,

INTERNET VERSION

James J. Morgester, Chief
Compliance Division

Attachments:

cc:

Mr. Jim Johnston, Chairman,
CAPCOA Vapor Recovery Committee
Monterey Bay Unified APCD
24580 Silver Cloud Ct.
Monterey, CA 93940

Lynn LaBarber
CARB Compliance Assistance Section

Exhibit 1**1/2" Retrofit Kit Model #'s and Corresponding
Dresser Wayne Dispenser Model #'s:**

<u>Exhibit Number</u>	<u>Kit Model Number</u>	<u>Dresser Wayne Dispenser Model # and Type</u>
2	1-921095 6-921095	DL/390 Narrow Top, New Hydraulics (Single Sided Dispensers)
3	2-921095 7-921095	DL/390 Wide Top, New Hydraulics (Single Sided Dispensers)
4	3-921095	Vista Look alike Single Hose, Old Hydraulics
5	4-921095	DL/390/19, Wide Top, Old Hydraulics
6	5-921095	DL/390/19 Narrow Top, Old Hydraulics
7	1-921124 2-921124	DL/390/GQ, Wide and Narrow Top, New Hydraulics, Tubing From Vacuum Pump Outlet to Vapor Riser. (Single Sided Dispenser)

Exhibit 2

Kit Model #1-921095
Kit Model # 6-921095 (Single Sided)
for use with
Dresser Wayne DL/390
Narrow Top Dispenser
New Hydraulics

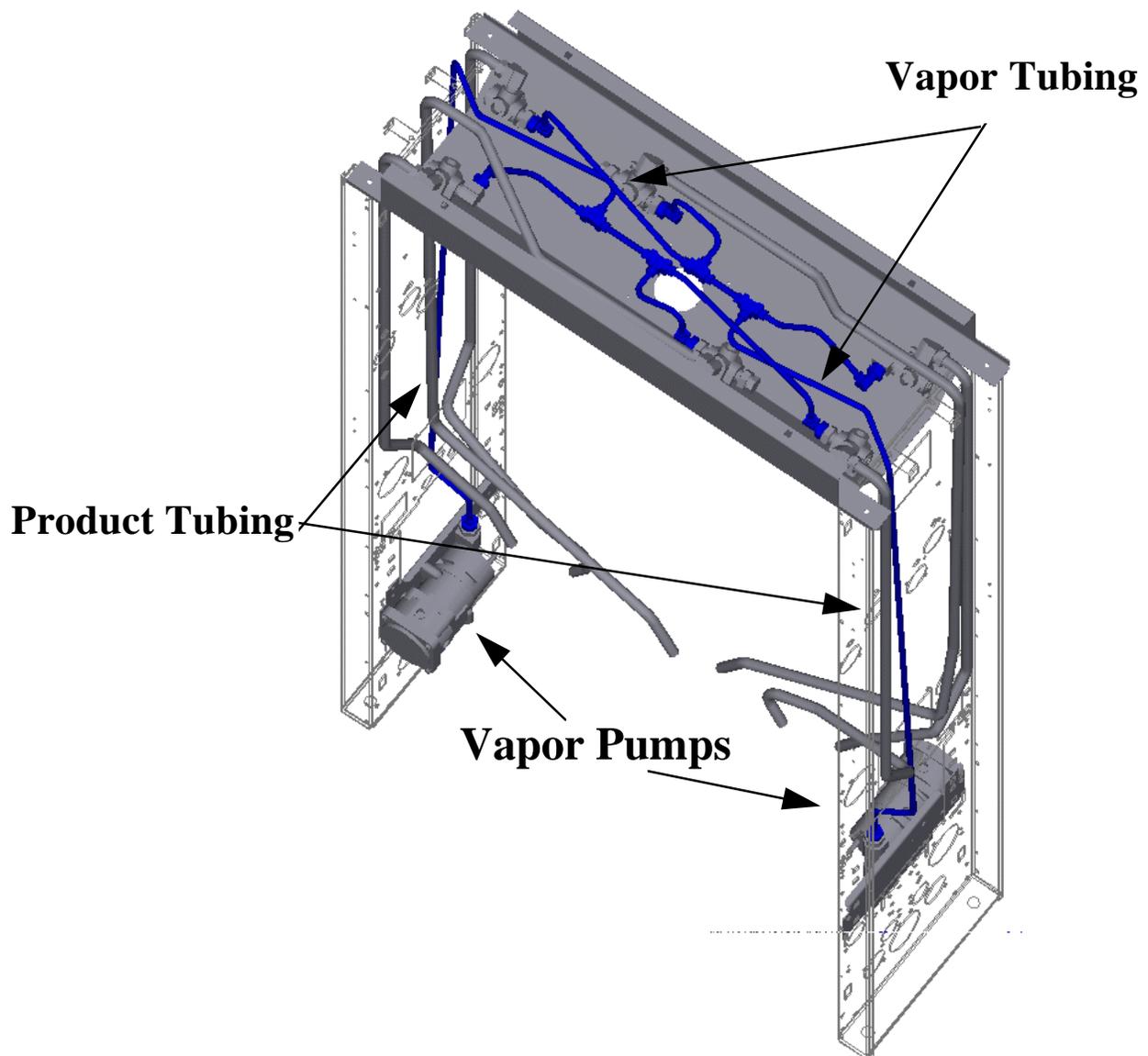


Exhibit 3

Kit Model #2-921095
Kit Model #7-921095 (single sided)
for use with
Dresser Wayne DL/390
Wide Top Dispenser
New Hydraulics

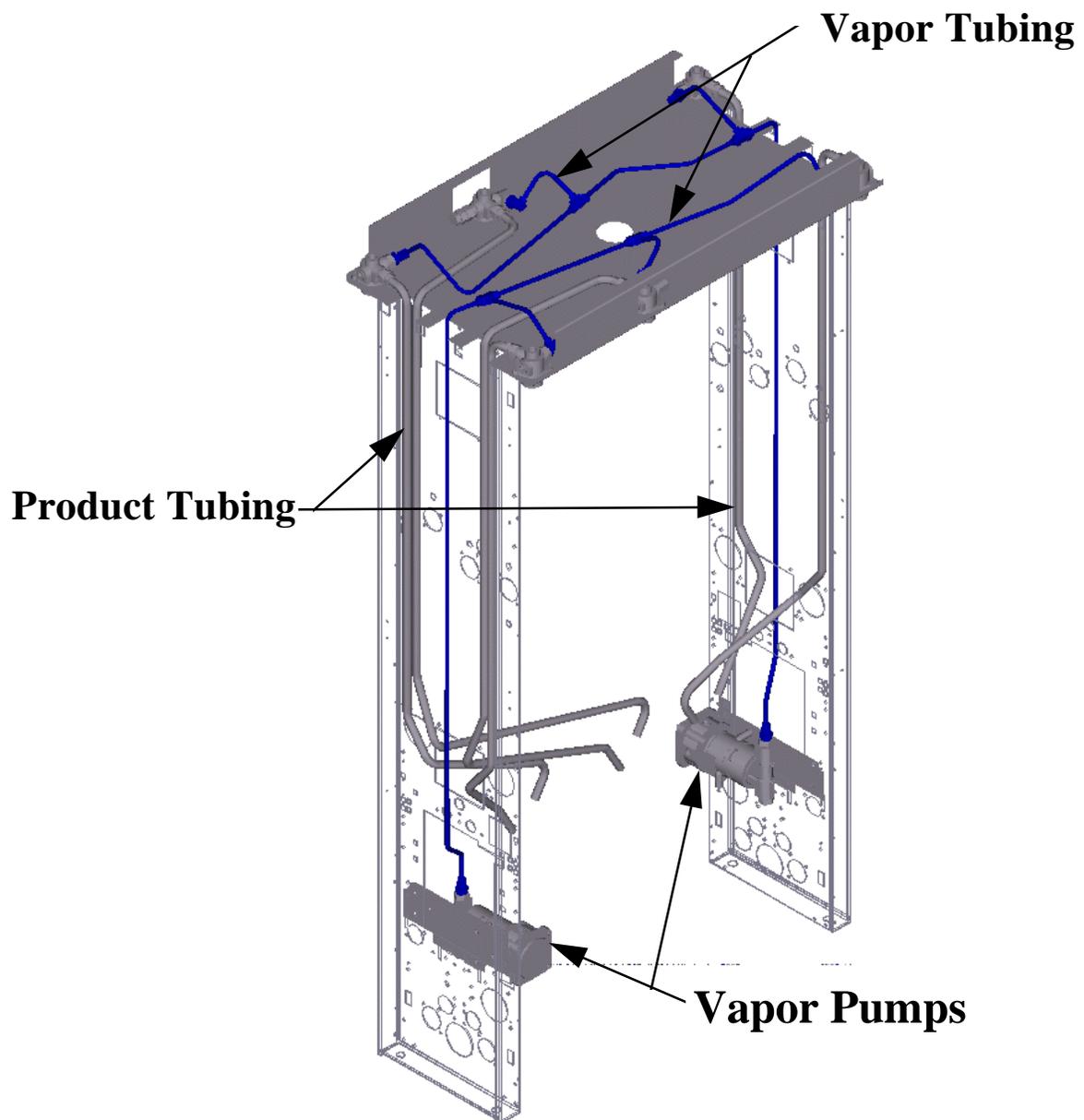


Exhibit 4

Kit Model # 3-921095
for use with
Dresser Wayne Vista
Look-a-like Single Hose
Old Hydraulics

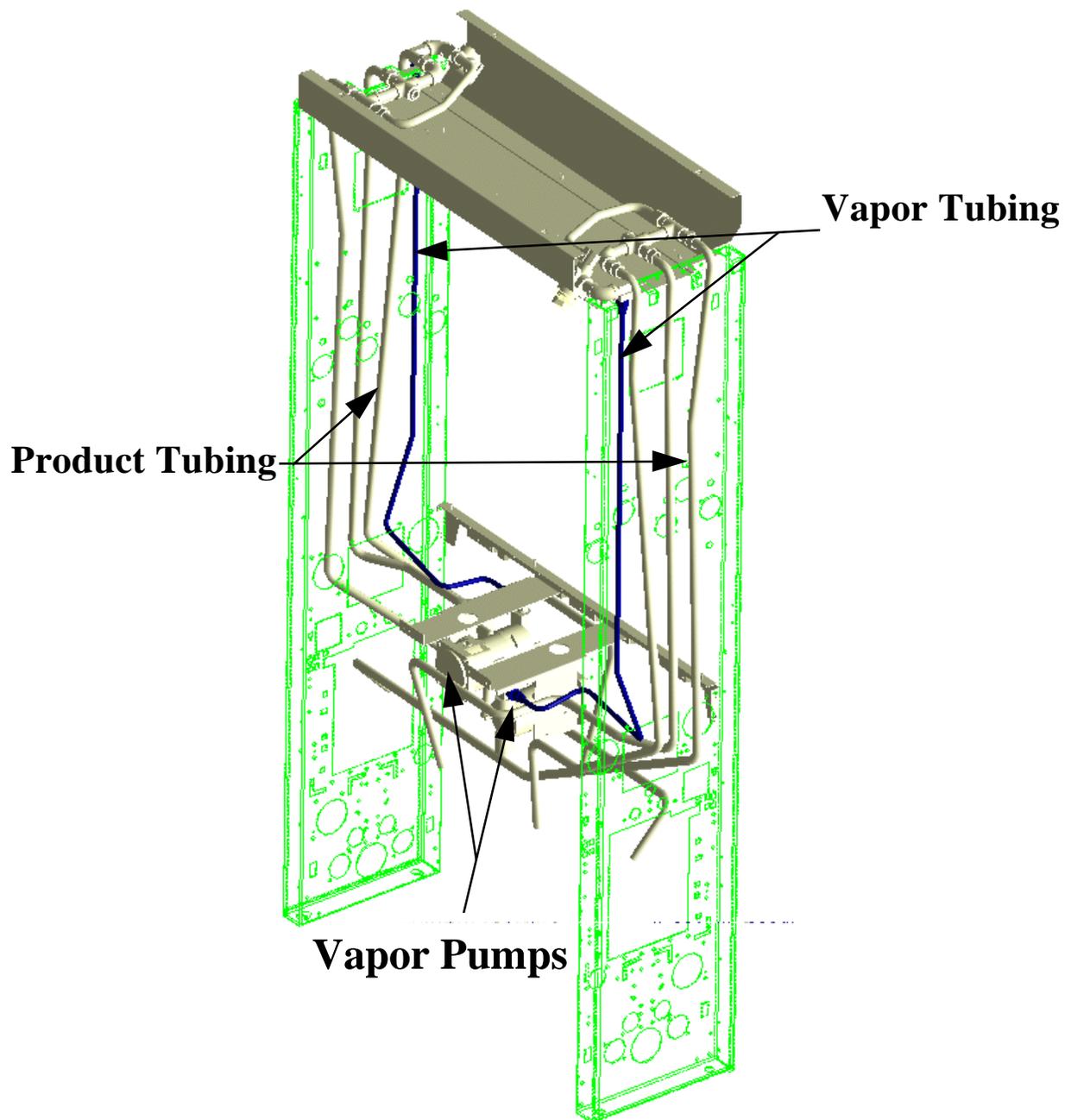


Exhibit 5

Kit Model #4-921095
for use with
Dresser Wayne DL/390/19
Wide Top Dispenser
Old Hydraulics

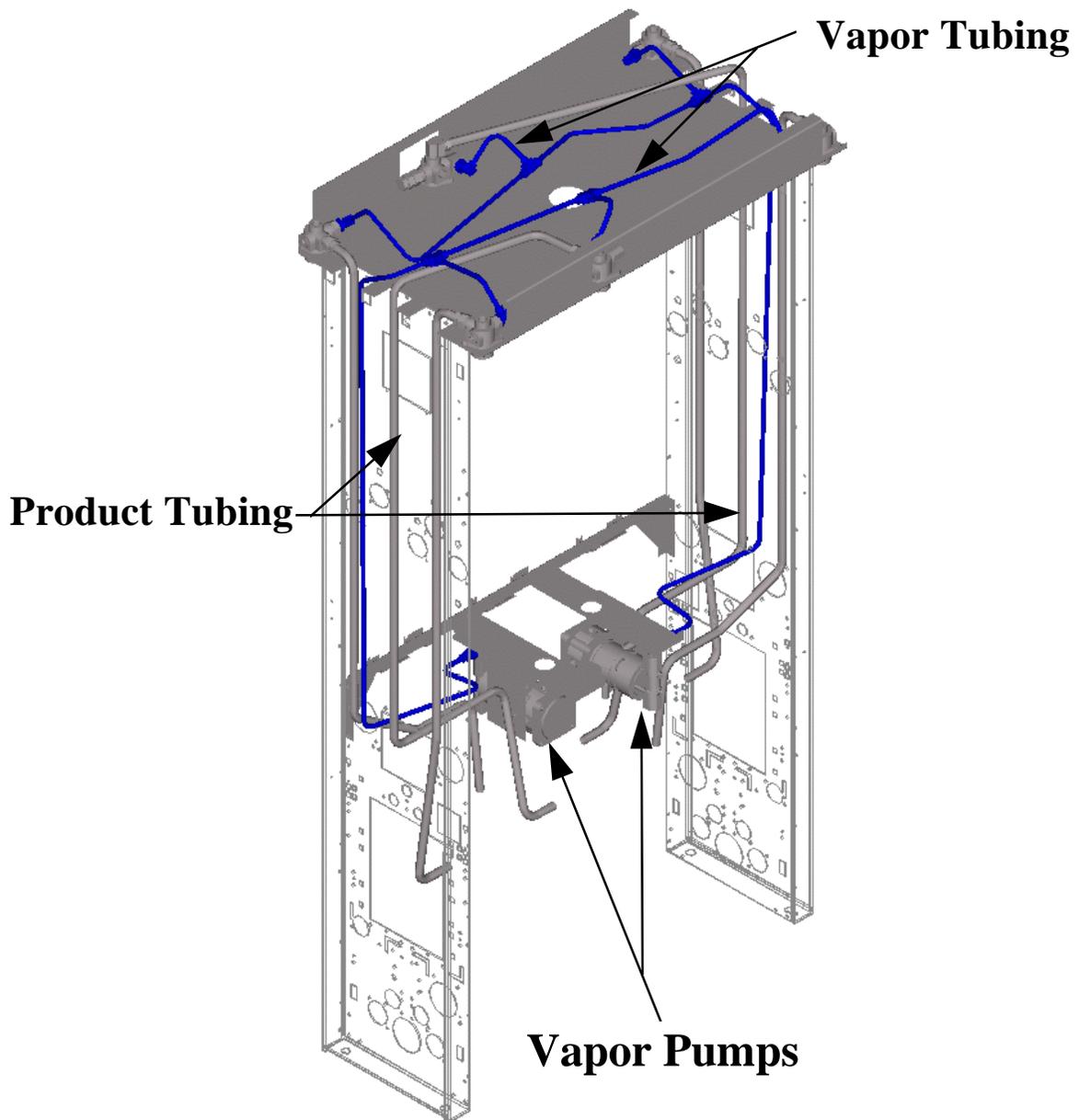


Exhibit 6

Kit Model #5-921095
for use with
Dresser Wayne DL/390/19
Narrow Top Dispenser
Old Hydraulics

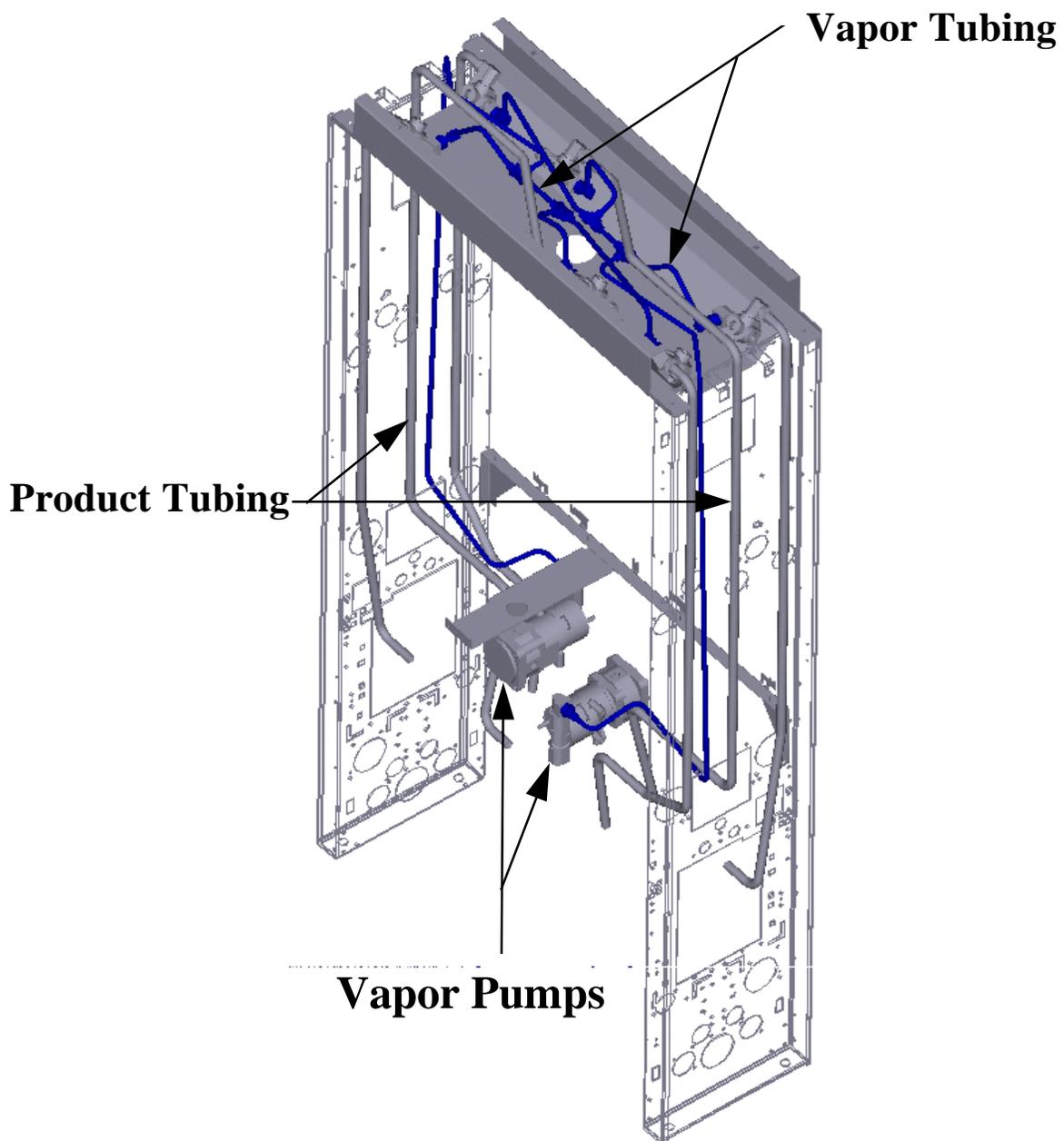


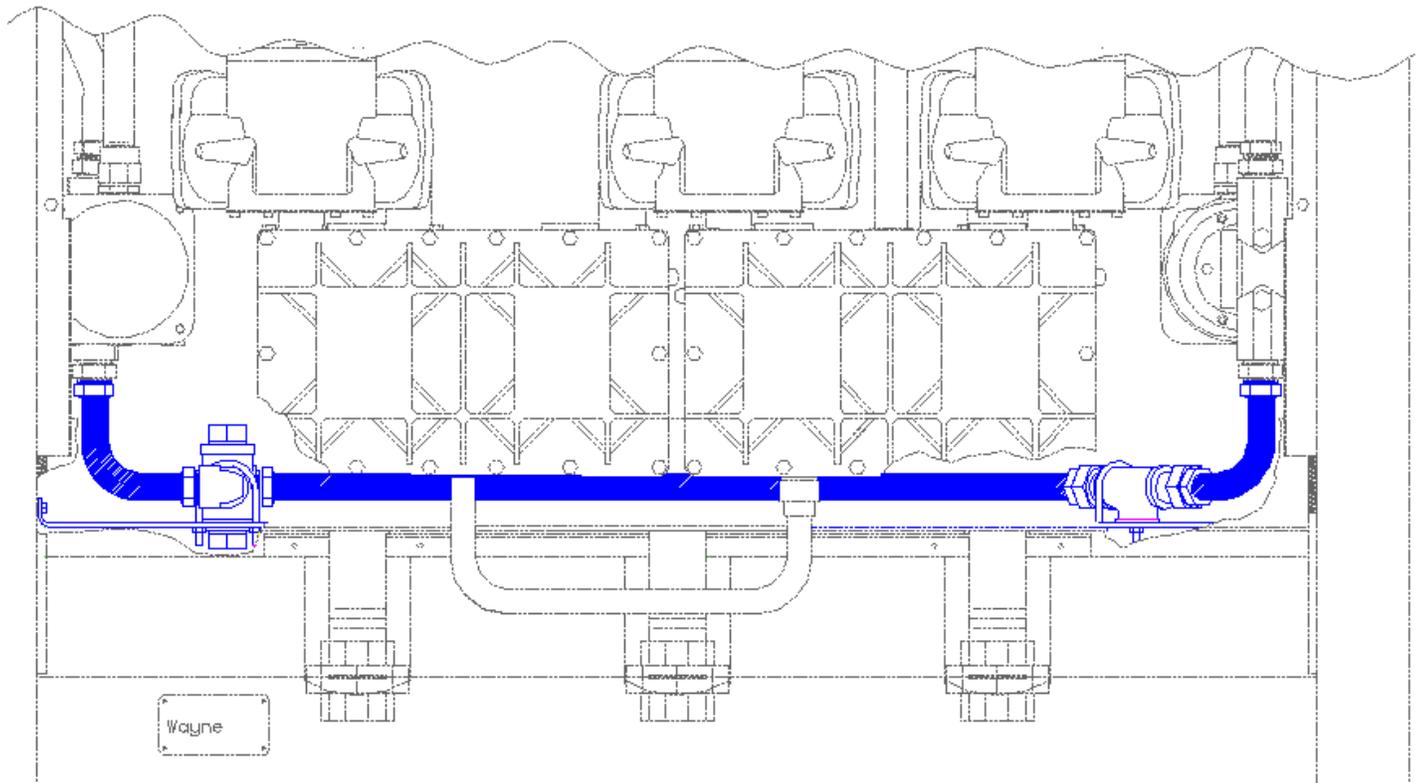
Exhibit 7

Kit Model # 1-921124

Kit Model # 2-921124 (Single Sided)

Vapor Tubes & Components

(7/8" Tubings Below Wayne-Vac Motor Connection)
Used for DL/390/GQ New Hydraulic Series Dispensers



FRONT VIEW

Installation Criteria and Vacuum Leak Decay Guidelines For WayneVac 1/2" Tubing Retrofit Kit Installation.

The 1/2" tubing kits are to be installed using CARB approved installation instructions provided by Dresser Wayne, and the following criteria:

1. Upon initial removal of the vapor tubing from the vapor pump inlet, a suitable plug type adapter shall be installed in the vapor pump inlet to effectively seal the vapor return path to the underground storage tank during the retrofit kit installation. This is to ensure that no open vapor path exists during the upgrade kit installation.
2. After the retrofit kit has been installed and prior to reconnecting the tubing to the vapor pump, connect a suitable fitting which contains a hose barb fitting to the 1/2" vapor tubing outlet.
3. Pull a vacuum of 27" +/- 1" water column (WC) and close vacuum connection, effectively sealing vapor tubing.
4. The allowable leakrate or vacuum decay is 0.005 CFH at 27" WC or -1.0 psi. This leakrate is effectively zero.
5. After 1 minute there should be no degradation in the vacuum reading.
6. If a failure occurs, check the vapor tubing connections for tightness along with all hanging hardware and retest until a passing result is obtained. If a failure is due to hanging hardware, repair or replace hardware and record maintenance performed to obtain passing results.
7. After successfully passing the vacuum leak decay test, the contractor shall perform A/L testing on all dispensing points on the dispenser, ensuring that the A/L at all dispensing points is within the acceptable range of 0.90 to 1.10.
8. Results of the vacuum leak decay test and A/L testing shall be submitted to the air pollution control district upon request within 15 days of completion of the upgrade kit installation.