



Linda S. Adams  
Secretary for  
Environmental Protection

# Air Resources Board

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Mary D. Nichols, Chairman  
1001 I Street • P.O. Box 2815  
Sacramento, California 95812 • [www.arb.ca.gov](http://www.arb.ca.gov)



Arnold Schwarzenegger  
Governor

August 6, 2007

#07-03

Mr. Craig Boche  
Development Engineer  
Goodyear Engineered Products  
2701 W. Omaha Avenue  
Norfolk, Nebraska 68701-4421

Dear Mr. Boche:

Goodyear submitted a request for approval of a modified liquid extraction needle valve and venturi elbow used in Goodyear's Maxxim Premier Plus balance vapor recovery hose. The modification replaces the current duckbill valve design with a spring-loaded needle valve design. The dimensions of the venturi elbow and body were modified to accommodate the new needle valve design.

Thirty-six Goodyear hoses installed with the new spring-loaded needle valve design successfully completed an operational test of at least 180 days, as well as challenge testing. The hoses were tested to standards specified in Certification Procedure 201 (CP-201) dated May 25, 2006, "Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities." Per section 19.1 of CP-201:

*Components and replacement parts meeting the currently and prospectively operative performance standards or specifications may be approved for use as a replacement part with the no-longer-certified system for the remainder of the allowable in-use period of the system.*

Approvals of the State agencies listed below, which are a precondition to approval by the Air Resources Board (ARB), have been received:

Department of Food and Agriculture  
Division of Measurement Standards

Department of Industrial Relations  
Division of Occupational Safety and Health

Department of Forestry and Fire Protection  
Office of the State Fire Marshal.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

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Based upon the results of the operational test, information provided by Goodyear, and approvals by all appropriate agencies, ARB staff has determined that Goodyear's Maxxim Premier Plus balance coaxial hose, when installed in accordance with the manufacturer's installation and maintenance instructions (enclosed), will not adversely affect the performance of the Phase II On-Board Refueling Vapor Recovery (ORVR) balance systems. The liquid extraction system is capable of removing five milliliters per gallon (5 ml/gal) of gasoline at a minimum dispensing rate of six gallons per minute (6 gal/min). The hoses with the new modified liquid extraction needle valve and venturi elbow will be identified with a Julian Date code prefaced by the letters 'NV' (i.e. NV2157) and a visual mark on the outer hose indicating the location of the liquid pick-up device.

Goodyear's Maxxim Premier Plus Balance coaxial vapor recovery hose with spring-loaded check valve and modified venturi elbow and body is approved for use as a replacement part in Exhibit 2 of Executive Order G-70-52-AM and referenced in the Phase II ORVR Balance vapor recovery systems listed below. These hoses are approved replacement components for the listed systems until April 1, 2009.

| Executive Order Number | Description  |
|------------------------|--|
| G-70-17-AD             | <u>Modification of Certification of the Emco Wheaton Balance Phase II Vapor Recovery System</u>                          |
| G-70-23-AC             | <u>Recertification of the Exxon Balance Phase II Vapor Recovery System</u>   |
| G-70-25-AA             | <u>Recertification of the Atlantic Richfield Balance Phase II Vapor Recovery System</u>                                  |
| G-70-36-AD             | <u>Modification of Certification of the OPW Balance Phase II Vapor Recovery System</u>                                   |
| G-70-38-AB             | <u>Recertification of the Texaco Balance Phase II Vapor Recovery System</u>  |
| G-70-48-AA             | <u>Recertification of the Mobil Oil Balance Phase II Vapor Recovery System</u>   |
| G-70-49-AA             | <u>Recertification of the Union Balance Phase II Vapor Recovery System</u>   |
| G-70-52-AM             | <u>Certification of Components for Red Jacket, Hirt, and Balance Phase II Vapor Recovery System</u>                      |
| G-70-53-AA             | <u>Recertification of the Chevron Balance Phase II Vapor Recovery System</u>   |
| G-70-125-AA            | <u>Modification of the Certification of the Husky Model V Phase II Balance Vapor Recovery Nozzle</u>                     |
| G-70-134               | <u>Certification of the EZ Flo Rebuilt A-4000 Series and 11V-Series Vapor Recovery Nozzle</u>                            |
| G-70-170               | <u>Certification of the EZ-Flo Rebuilt 5005 and 5015 Nozzles for use with the Balance Phase II Vapor Recovery System</u> |

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Should you have questions or need further information, please contact George Lew at (916) 327-0900 or via email at [glew@arb.ca.gov](mailto:glew@arb.ca.gov) or Pat Bennett at (916) 322-8959 or via email at [pbennett@arb.ca.gov](mailto:pbennett@arb.ca.gov).

Sincerely,



William V. Loscutoff, Chief  
Monitoring and Laboratory Division

Enclosure

cc: Jim Swaney  
San Joaquin Valley Air Pollution Control District

John Marvin  
Bay Area Air Quality Management District

Gary Ma  
Yolo-Solano Air Quality Management District

Randy Smith  
San Diego County Air Pollution Control District



## Maxxim Premier Installation Instructions

1. Install the correct hose length and other hanging hardware on the dispenser. This will include whip hose, breakaway, long hose, and nozzle.
  - When installing Maxxim Premier Plus, the end of the hose stamped "NOZZLE END" must be attached to the nozzle.
  - If a hose retractor is required, use the Goodyear Maxguard retractor clamp; part # 532-365-105-000-00.
  - Do not use high retractor tension. High tension is difficult for customers to handle and it reduces the life of the hose. Retractor tension above 12 pounds will void the warranty.
  - Do not mix Maxxim Premier outer or inner hose with components from other manufacturer's stage II hoses. The mixed assembly may not be grounded and could cause a serious fire hazard.
  - Make sure that the long hose does not touch the pavement or the top of the island when the nozzle hangs on the dispenser hook.
2. Tighten the swivel nut to 50 ft. lbs. torque using an open end torque wrench. Do not use a pipe wrench because the teeth on the wrench will damage the fitting. This connection is sealed by an o-ring. Do not apply thread sealant.

*Alternate method:* If a torque wrench is not available, turn the swivel nut by hand until snug and the o-ring is seated. Then use a wrench to tighten the swivel nut  $\frac{1}{4}$  turn past snug. This connection has straight threads and must be cinched tight to prevent the threads from unscrewing in service.

One source for an open end torque wrench is Belknap Tools, both part #'s are needed:  
VB-0608005 open end wrench head  
VB-100ST-I wrench handle preset at the factory to 50 ft lbs

After extended service, the swivel nut o-ring can be lubricated with front end bearing grease or Parker O-Lube.

## Maxxim Premier Plus Venturi Pick-up Length Instructions

It is the responsibility of the installer to determine the optimum venturi pick-up length and verify that hoses installed on a dispenser have the optimum pick-up location. Failure to properly size the pick-up location will reduce the effectiveness of the venturi in removing liquid blockage from the outer vapor hose and may result in failure of the liquid removal test.

When the Maxxim Premier Plus hose is assembled in the factory, a mark is placed on the outer hose to locate the venturi pick-up location. This mark will help the installer determine whether the hose has the optimum pick-up location for the installation.

## Maxxim Premier Plus Venturi Pick-up Length Instructions (continued)

3. Hold the nozzle straight out from the dispenser so that the end of the compressed bellows (simulate when the bellows is compressed in the filler neck of a car) is 48 inches away from the front face of the dispenser (see Figure 1). Hold the nozzle so that the tip of the spout is 30 inches above the pavement and the spout is at a 30° angle above the horizontal plane (see Figure 1). When the nozzle and hose are held in the position shown in Figure 1, the mark on the outer vapor hose should be at the bottom of the loop.
4. If the mark on the hose is not at the bottom of the hose loop as shown in Figure 1, the installer may:
  - Adjust the hose retractor (if installed);
  - Install a different length whip hose; or
  - Install a different long hose with the optimum venturi pick-up location. To determine the optimum venturi pick-up location (e.g., venturi pick-up tube length), conduct the following:
    - a. Hold the nozzle and hose in the position shown in Figure 1;
    - b. Measure the length from the back end of the nozzle (where the hose screws into the nozzle) to the bottom of the loop in the hose. This length is the optimum “pick-up” length for Goodyear’s Maxxim Premier Plus balance venturi hose.
    - c. Contact your local Goodyear distributor to obtain a Maxxim Premier Plus hose with the optimum venturi pick-up tube length.

Questions on installation should be directed to your local Goodyear distributor or Goodyear Customer Service, 1-800-235-4632.

