



Linda S. Adams  
Secretary for  
Environmental Protection

# Air Resources Board

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Robert F. Sawyer, Ph.D., Chair  
1001 I Street • P.O. Box 2815  
Sacramento, California 95812 • [www.arb.ca.gov](http://www.arb.ca.gov)



Arnold Schwarzenegger  
Governor

September 28, 2006

# 06-05

Mr. Paul C. Bauer, Technical Services Manager  
Healy Systems, Inc.  
18 Hampshire Drive  
Hudson, New Hampshire 03051

Dear Mr. Bauer:

This letter is to provide Healy Systems, Inc. with approval for the 8177 Spout Assembly as an alternate spout assembly that can be used for Model 800 nozzles certified per Executive Order (EO) G-70-191-AA, "Healy Phase II Onboard Refueling Vapor Recovery (ORVR) System."

This approval also requires that the instructions for the 8177 spout assembly shown in the enclosure be followed in lieu of the existing procedure in the G-70-191-AA Installation and Maintenance Manual.

## Background

During the October 2004 meeting with representatives of the California Air Pollution Control Officers Association (CAPCOA), CAPCOA expressed concern about pressurization of the underground storage tanks (UST) at gasoline dispensing facilities (GDF) operating under EO G-70-191-AA.

To investigate CAPCOA's concern, Air Resources Board (ARB) staff and Healy representatives located a GDF in Sacramento operating under EO G-70-191-AA and installed a pressure measurement system per ARB test procedure TP-201.7, "Continuous Pressure Monitoring" in October 2005. UST pressure data recorded at this GDF were similar to those observed by CAPCOA representatives.

Healy representatives concluded from this data that the nozzle boot was fatiguing, leading to a reduced efficiency in the onboard refueling vapor recovery (ORVR) sensing feature of the nozzle and thus allowing air to be ingested through the boot/vehicle fuel pipe interface. Healy representatives also outlined that some vehicle fill pipe specifications that do not meet the Society of Automotive Engineers (SAE) standards can also contribute to a reduced efficiency of the ORVR sensing feature.

*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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As a corrective action, Healy representatives suggested replacing the 8014 spout on the Model 800 ORVR nozzle with a spout assembly that incorporates the design improvements that led to the 8155 spout assembly on the Model 900 enhanced vapor recovery (EVR) nozzle. The new 8177 spout assembly is almost identical to the 8155, except for the insertion interlock feature. By using the 8177 spout assembly, the position of the nozzle boot is brought closer to the tip of the spout thus minimizing the effects of boot fatigue and non-SAE standard vehicle fill pipe configurations (see pictures in Figure 1).

Each 8014 spout assembly was replaced with the 8177 spout assembly on all twelve of the Model 800 ORVR nozzles at the GDF. ARB staff then monitored the pressure profile for the months of July and August 2006 and found that the UST ullage pressures were significantly reduced when compared to the pressure data from the months prior to analysis.

#### Conclusion

ARB staff concluded that use of the 8177 spout assembly on the Model 800 ORVR nozzle will improve performance of the Model 800 ORVR feature and minimize pressurization of the UST.

The components listed in Executive Order G-70-191-AA and all approval letters pertaining to it may remain in use for the remainder of the useful life of these components or the allowable in-use period, as provided in section 19.1 of CP-201, whichever is shorter.

If you have questions or need further information regarding this approval, please contact Paul Marzilli at (916) 445-7431 or via email at [pmarzill@arb.ca.gov](mailto:pmarzill@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: See next page



Mr. Paul Bauer  
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# 06-05

cc: Mr. Brian Aunger  
San Luis Obispo County Air Pollution Control District

Mr. Jim Swaney  
San Joaquin Air Pollution Control District

Ms. Jeannette Lim  
Bay Area Air Quality Management District



603.882.2472 Telephone • 603.882.5189 Fax  
 sales@healysystems.com • email

<b>FIELD REPLACEMENT INSTRUCTIONS</b>	<b>HEALY PART NO. 8177 UNLEADED SPOUT ASSEMBLY</b>
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<b>1.0</b>	<b>APPLICATION</b>	<i>— for use with Healy Model 800 Series ORVR Nozzles only</i>		
		Field replacement of Healy Part No. 8177 Unleaded Spout Assembly for Healy Model 800 Series ORVR Nozzles.		
<b>2.0</b>	<b>CAUTIONS AND/OR NOTES</b>	All spout replacements require that the nozzle be tested to insure the installation has been completed correctly.		
<b>3.0</b>	<b>FIELD REPLACEMENT OVERVIEW</b>	The MiniBoot must be removed prior to beginning the 800 Nozzle spout replacement procedure.		
<b>4.0</b>	<b>FIELD REPLACEMENT INSTRUCTIONS</b>			
<b>4.1</b>	<b>MiniBoot Removal</b>			
4.1.1	Unscrew and remove the MiniBoot clamp.			
4.1.2	Carefully slide a small 1/8" blade screwdriver down, beside, and under the MiniBoot in the area where the clamp was located (between the MiniBoot and the nozzle body).			
4.1.3	Rotate the MiniBoot and pull to separate the MiniBoot from the nozzle.			
<b>4.2</b>	<b>Spout Replacement</b>			
4.2.1	Use a Phillips screwdriver to remove the #8 panhead screw (Healy Part No. 6102) holding the spout in place.			
4.2.2	With the screw removed, separate the nozzle and the spout. Three o-rings should come out with the spout. If not, check to see if the o-rings are trapped inside the nozzle. Note: There is an additional o-ring inside the nozzle in a separate groove. This should be left in place.			
4.2.3	Install new (not used) o-rings on the replacement spout and lubricate the o-rings with oil. The large o-ring is Healy Part No. 6221, the middle-sized o-ring is Healy Part No. HB-2, and the small o-ring is Healy Part No. 414-1.			
4.2.4	Carefully insert the spout into the nozzle, lightly pushing both parts together until the spout aligns itself and resistance is felt.			
4.2.5	Using a twisting motion and light pressure to slide the two components together to seat the o-rings and align the screw threads in the spout housing with the hole in the nozzle casting.			
4.2.6	Use the new #8 panhead screw and the new o-ring (Healy Part No. 6103) to secure the spout in place.			
4.2.7	Tighten securely to 12 inch-pounds.			
<b>4.3</b>	<b>MiniBoot Reinstallation</b>			
4.3.1	Slide the MiniBoot over the spout. Using a pushing/twisting motion, slide the MiniBoot onto the nozzle.			
4.3.2	Install a MiniBoot clamp and tighten it securely.			
4.3.3	Align the parting line on the MiniBoot with the top center of the nozzle or center alignment hole over stud on spout if provided.			
<b>4.4</b>	<b>Testing</b>			
4.4.1	Dispense a small amount of product into a container deep enough to cover the small hole near the tip of the spout.			
4.4.2	Immerse the spout until the hole is covered and attempt to dispense product. The nozzle should shut off. Repeat these steps three times to be assured that the auto shut off feature is working properly. There should be no sluggishness to the shut off — it should be quick and positive. If shut off does not occur, turn off the dispenser, remove the spout, and check the o-rings.			
4.4.3	Repair or replace the o-rings as necessary.			
<b>5.0</b>	<b>ATTACHMENTS</b>	None		
<b>6.0</b>	<b>NEED ASSISTANCE?</b>	Call Technical Services Department, Healy Systems, Inc., Telephone (603) 882-2472		
<b>7.0</b>	<b>DISTRIBUTION</b>			
	Healy Authorized Distributors	Healy Sales Representatives	Ship with Product ✓	Internal Distribution Only

Figure 1

Differences Between 8014 and 8177 Spout Assemblies

