



Engineering Bulletin

January 31, 1999

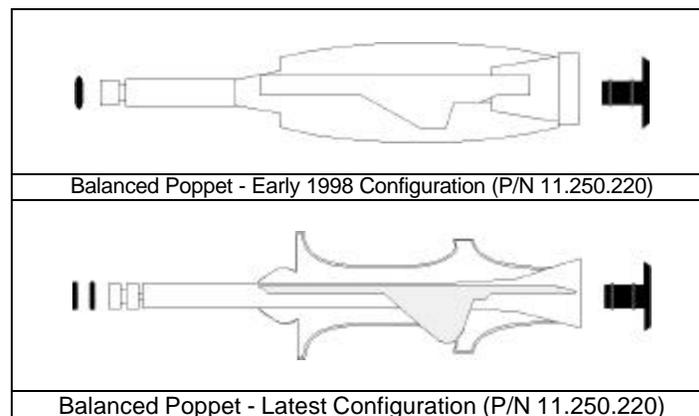
Balanced Poppet Changes - DRAFT ONLY

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SCUBAPRO has implemented an in-line change in the G500 second stage poppet (current part number 11.250.220). Production of G500's with the new poppet will begin arriving in your stores shortly before the end of the year. The new poppet will also become a standard in the G250 second stage in mid-1999. **The SCUBAPRO part number for the poppet will not change.**

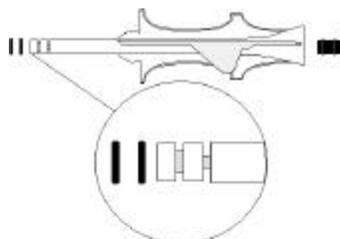
Annual repair kits for the G250/G200B/Balanced Adjustable regulators will be shipped with the new poppet beginning the second week in November (the G500 annual repair kits do not normally contain a poppet or seat and these can be ordered separately).

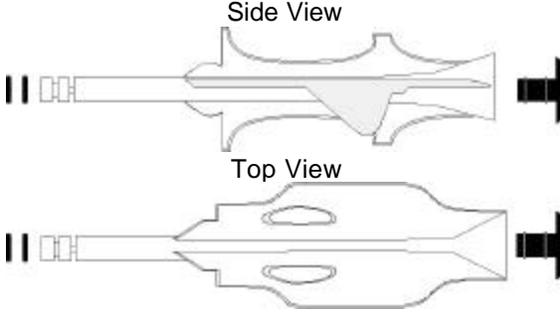
The new poppet can be identified by its distinctive shape and the fact that it uses two o-rings on the balance stem instead of one.



The poppet is designed to deliver better performance. Several features have been engineered into this unique design:

- The edges of each valve carrier surface are shaped like an airfoil to reduce friction and provide greater airflow.
- The area surrounding the seat compartment is smaller than the earlier configuration, providing more room for air to flow (the actual soft seat, however, is the same size).
- The "tail" of the poppet is smaller than the earlier configuration.
- There are two o-rings (P/N 01.050.399) on the poppet stem. The first groove (see illustration below) is deeper to reduce o-ring friction while assisting with stem alignment. The second o-ring groove assists in sealing and keeps debris out of the balance chamber. The space between the o-rings provides a trap for lubricant that helps prevent the o-rings from drying out with use.



<p>The SCUBAPRO S-Wing Poppet</p>		 <p>Side View</p> <p>Top View</p>	
 <p>Balanced Adjustable</p>	 <p>G200B</p>	 <p>G250</p>	 <p>G500</p>
<p>Features</p>		<p>Benefits</p>	
<p>Airfoil wing shape</p>		<p>Provides for less air friction and smooth air flow over the valve seat carrier</p>	
<p>Smaller seat compartment</p>		<p>Less resistance to flow, once the seat is opened</p>	
<p>Flow-through Wings</p>		<p>Flow-through ports in the wings allow for better movement of the air, resulting in a larger volume reaching the diver</p>	
<p>Easy to install</p>		<p>The shape of the "S-Wing" makes it easy to install in any air barrel position</p>	
<p>Two o'ring groves</p>		<p>The first o'ring is designed to provide better poppet alignment with little friction, while eliminating contact between debris and sealing surfaces.</p> <p>The second o'ring provides the seal in a manner similar to earlier versions of the balanced adjustable poppet.</p> <p>The two o'rings together act as a "trap" for lubricant, preventing the o'rings from drying out with use.</p>	

O'ring Changes

The following annual service kits have been affected by changes in o'rings. These changes have been implemented to help prevent/reduce price increases, while maintaining the integrity of the SCUBAPRO service you can provide.

Description	Part Number
MK	

NOTE: Only SCUBAPRO o'rings should be used in SCUBAPRO products. These o'rings have been specially selected for their size, appropriate composition, and necessary rigidity for their individual function. Failure to use the appropriate o'ring could result in catastrophic failure of the regulator, and could lead to injury or death.

<i>If you have any additional questions, please contact:</i>	<i>SCUBAPRO Technical Services 1-800-382-2211</i>
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