

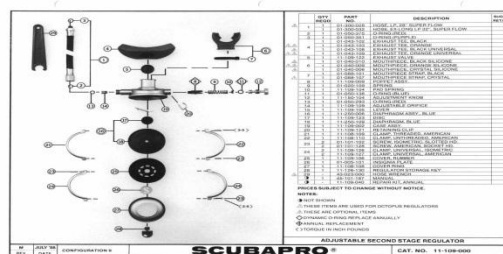


Photo courtesy of the Scubapro museum

The Scubapro adjustable 109 2<sup>nd</sup> stage was introduced in 1969 and is considered by many to be the best and one of the most widely copied 2<sup>nd</sup> stage ever produced.

The intent of this brief is not to argue these points either way but to give the reader some visual reference point and identification guide to the different poppets used in them and how they are assembled.

For a complete in depth education on regulator design and function you should consult Regulator Savvy written by Peter Wolfinger and available from [www.scubatools.com](http://www.scubatools.com). This is a must have book for everyone who wishes to undertake regulator servicing or who just wants to know what's going on inside their "Diving Lung"

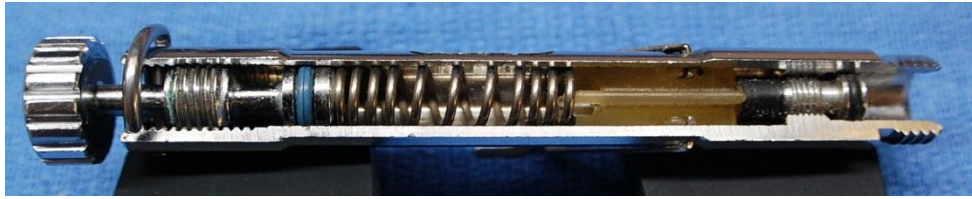


You can download full size PDF's of the schematic at the link below courtesy of Vintage Double Hose

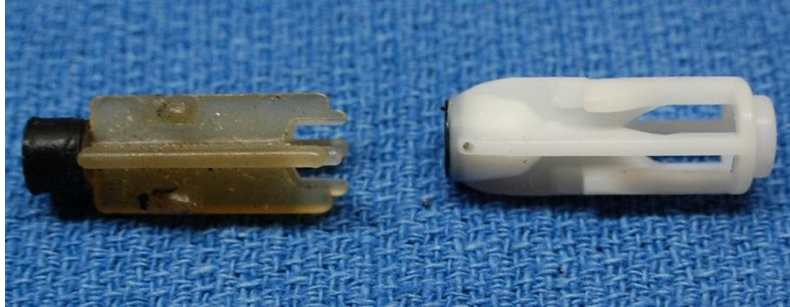
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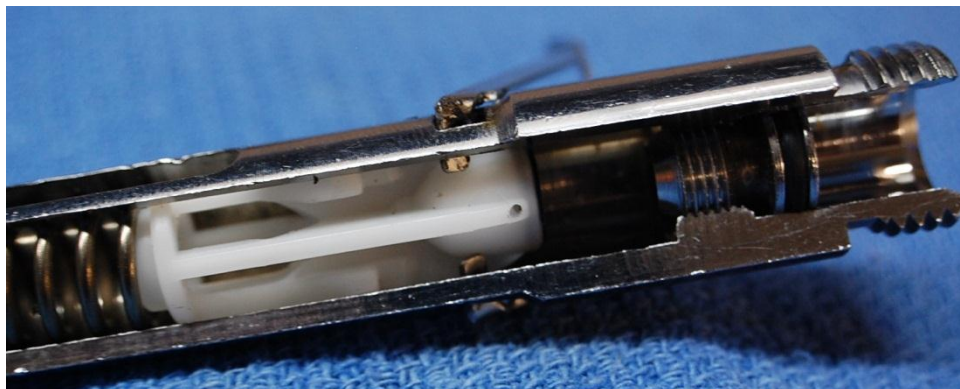
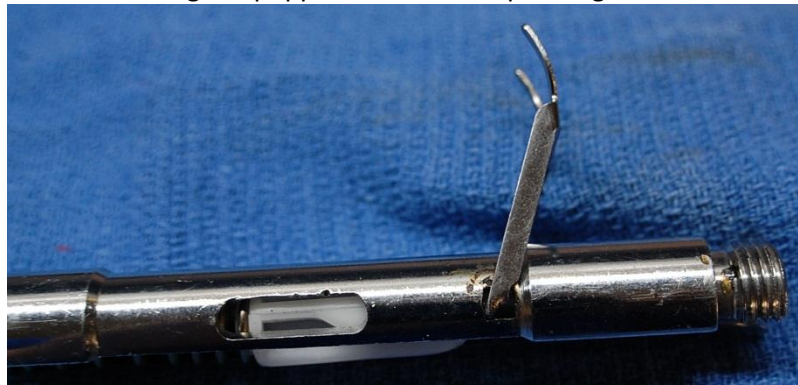
The original poppet style below was used through 1988. The LP seat was not replaceable and the rubber compound it was made from dried out and would no longer seat reliably.



The original poppet style was replaced by the Duro Poppet which has a replaceable LP seat.



When inserting a poppet in the air barrel make sure you get the seat past the lever by lifting the lever past vertical and inserting the poppet with the feet pointing towards the mouthpiece..





The Balanced Adjustable was introduced in 1985.

The details and mechanics of air balancing are covered extensively in Regulator Savvy. In a nutshell, the balanced demand valve offers additional performance improvement as it is less effected by variations in the intermediate pressure. It is one of the most widely copied 2<sup>nd</sup> stages ever produced.

The first version used a modified original poppet



The second version is an all new design with a replaceable seat

