

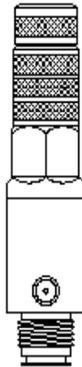
# **VIGILANTE™**

*By Air America, Inc.*

*Congratulations on purchasing your new Vigilante™ second stage regulator! The Vigilante™ is the proud continuation of the time tested Unireg® series of regulators. Your Vigilante™ has been meticulously engineered to meet the rigorous demands of todays paintball markers while providing a lifetime of reliable service at a truly affordable price.*

## **GENERAL INFORMATION**

The Vigilante™ is a single stage optional Low Pressure, 50 psi to 450 psi, or High Pressure, 450 to 850 psi, regulator designed to accept inlet pressures up to 1200 PSI. The Vigilante™ is precision machined from an aerospace grade high tensile strength aluminum alloy, to deliver a safe, constant tournament level output pressure range. The advanced “Super Gun” flow volume design features of the Vigilante™ out pace the air/nitrogen flow requirements of the most demanding low pressure/high volume marker in Paintball today.



**SAFETY ALERT!!**

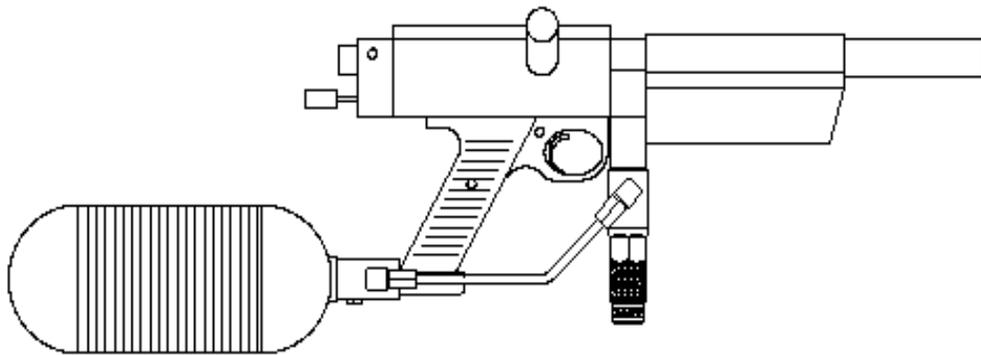
**ALWAYS DE-GAS YOUR SYSTEM**

**PRIOR TO SERVICING OR REPAIRING YOUR REGULATOR.**

## GENERAL INSTALLATION OF THE VIGILANTE™

The Vigilante™ will install into any standard ASA adapter. Air America® has maintained the same high quality CGA 320 thread profile (ASA adapter thread profile) throughout the *UNIREG*® series of regulators.

The use of the appropriate pressure rated steel elbows and disconnects are required when choosing the hardware to connect your Vigilante™ to your Air/Nitrogen/CO2 system. Many of the fittings that are readily available in your local hardware store are made of brass or nickel plated brass. While these fittings may be attractive in price, they pose a serious safety hazard due to an inadequate pressure rating and lack of impact resistance.



## INITIAL ADJUSTMENTS

After attaching the appropriate fittings to your Vigilante™ and having mounted it on your marker the initial pressure adjustments can be made. Each Vigilante™ leaves the factory preset at 750 PSI. Before applying pressure to your system, read the manufacturers suggested inlet pressure for your marker. If the suggested inlet pressure is below 700 PSI or you are not sure of what the required inlet pressure for your marker is, please follow the steps below and in the next section before making any adjustments.

The delivery pressure to your marker is adjusted by turning the adjustment nut on the top of the Vigilante™. You will need a 3/16 hex or allen key for this operation. Turning the nut clockwise will increase the delivery pressure, while turning it counter clockwise will decrease the delivery pressure. Please note that when you decrease the pressure setting you must cycle your marker several times after each adjustment. This will allow the previously regulated pressure to be exhausted and allow your system to stabilize at its new setting.

## ADVANCED TUNING

If you do not have access to a test manifold to statically set the delivery pressure from your Vigilante™ you may follow the following steps to establish the proper working pressure for your marker. While this procedure was designed with the Autococker in mind, Steps 2 through 6 apply directly to all other markers that utilize a second stage regulator.

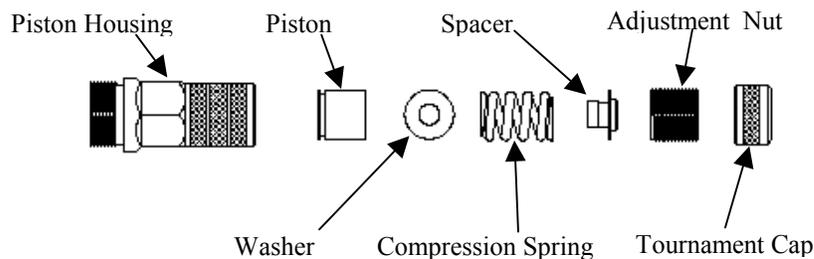
- STEP 1 -** Back the hammer spring adjustment nut out to the minimum setting.
- STEP 2 -** Connect your Vigilante™ system to your marker.
- STEP 3 -** Turn the delivery pressure on your Vigilante™ down to the “no flow” point. This is achieved by turning the adjustment nut counter clockwise until the last 3 to 4 threads remain threaded.
- STEP 4 -** Connect your pressure source and slowly apply gas to your system.
- STEP 5 -** Utilizing a 3/16 hex key, slowly increase your delivery pressure by turning the adjustment nut clockwise. Cycle your marker and continue to adjust the delivery pressure until you have just enough pressure to operate the cocking mechanism properly and the marker sounds like it will propel a ball.  
  
**Autococker owners please skip to STEP 7.**
- STEP 6 -** While shooting over a chronograph, adjust the delivery pressure in 1/4 turn increments until the desired velocity is attained.
- STEP 7 -** For Autocockers, while shooting over the chronograph adjust your delivery pressure until you can maintain a consistent string in the low 200 fps range. At this point further adjustment will result in either no increase in velocity or a marked decrease. Once you have reached this stage you have found the balance between the hammer spring and the chamber pressure in your marker.
- STEP 8 -** After having achieved this balance, utilize your 3/16 hex to adjust the hammer spring tension on your Autococker to produce the desired velocity.

This tuning procedure illustrates the importance of having a balanced set of springs in your marker. The gas pressure in the valve chamber represents stored energy just like the coiled springs in the exhaust valve and hammer portions of your marker. If your hammer spring is too strong for the chamber pressure applied, excessively long valve cycles will occur resulting in poor gas efficiency. On the other hand, if it too weak, the exhaust valve will not open fully resulting in low velocity. Having both elements of spring rate and chamber pressure in balance is critical to the consistent performance of your marker.

## PERIODIC MAINTENANCE

Your Vigilante™ regulator has been designed to provide a lifetime of service with a minimal amount of maintenance. However, the interval for required servicing will vary based on your playing style and the environment to which it is exposed. Dirt, oil and other foreign objects which are introduced into the system will effect performance and shorten the service intervals, so proper care must be taken to ensure that common sense is utilized when cleaning your regulator following use. The following routine maintenance should be performed to ensure that your Vigilante™ regulator will provide optimum performance.

1. Clean all paint, shell fragments and dirt from the exterior of your Vigilante™ with a soft bristle brush or cloth.
2. Remove all paint, shell fragments and dirt from the inlet and outlet ports of your Vigilante™.
3. Remove the tournament cap, spring guide, main spring, spacer and piston assembly from the Vigilante™.
4. Examine the interior of the piston housing for dirt and foreign objects, utilizing a clean cotton swab remove any debris that is found.
5. Examine the piston and piston o-ring for dirt, scratches and nicks. Clean the assembly with a soft cloth and place a light coat of oil on the piston surface and the o-ring. NOTE: Do not use grease, or similar lubricant which is safe for use on Urethane o-rings will suffice.
6. Reassemble the components in the proper order and direction. Refer to the exploded parts diagram for assembly sequence.



## TROUBLESHOOTING GUIDE

Your Vigilante™ regulator has been engineered to require a minimal amount of servicing. Air America® will service your regulator under its limited lifetime warranty program upon receipt of your completed warranty registration. Whether attempting to fix a problem yourself, or when corresponding directly with an Air America® Technical Service representative, please use the following as a guide to correctly identify the correct repair procedure.

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>
No Gas Delivery	Obstruction in hose from source Adjustment nut not properly adjusted Internal obstruction in regulator
Poor Gas Delivery (Shutdown)	Output pressure not set high enough for marker Regulator piston sticking (lack of lubrication) Cone spring failure
Poor Gas Delivery (Erratic output pressure)	Regulator piston sticking Cone spring failure Regulator seat and valve pin failure Main spring worn
Output Pressure Creeps Up	Dirt or debris in regulator seat Piston Housing and Gas Body not sufficiently tightened Damaged regulator valve pin
Regulator Leaks from top	Chipped or cut piston o-ring Output pressure set above 1100 psi Regulator “creeping” (see above) Defective or damaged safety in piston assembly

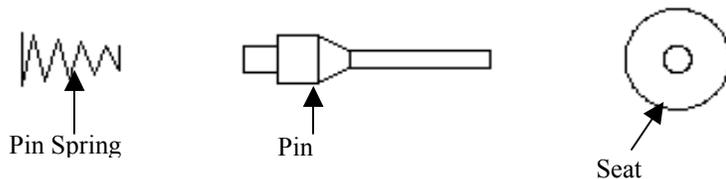
## SERVICING THE REGULATOR SEAT AND VALVE PIN

Please refer to the exploded parts diagram shown below when performing maintenance or when calling in reference to replacement parts.

Your Vigilante™ can be completely disassembled with a 3/16 hex key and a strap or crescent wrench. Please note: complete disassembly is not required to perform routine maintenance, and should only be done when servicing the regulator pin and valve seat area.

1. To service these components, it is first necessary to separate the piston housing from the gas distribution body. Using a strap or crescent wrench and a padded vise, grasp the piston housing and unscrew it from the gas distribution body.
2. Inspect the regulator seat, valve pin and cone spring for dirt, debris or visible damage. The sealing face of the valve pin should be clean and free of nicks, scratches and debris. If the valve pin appears to be marred or bent it should be replaced to ensure proper function.
3. The cone spring is a lightly coiled wire spring. It should be free of dirt and debris and should require a minimal amount of pressure to compress it between your finger tips. If the cone spring appears to be compressed or has been stretched it should be replaced.
4. The regulator seat can normally be removed from the sealing pocket of the piston housing with light finger pressure. Should it be necessary to utilize a pick to remove the seat, use caution to ensure that the sealing pocket does not become scratched or dented. Inspect the regulator seat for visible obstructions or damage and replace before reassemble. The regulator seat for the Vigilante™ series regulator must be replaced upon each disassembly to ensure proper functioning.

5. When reassembling, the new regulator seat should be placed in the sealing pocket of the piston housing. You will note that the new seat fits more loosely than the seat that you removed. The seating material used in the Vigilante™ regulator is designed to be a compression fitting and therefore deforms slightly upon proper assembly.



6. Insert the long shaft of the regulator valve pin through the regulator seat into the piston housing.
7. Place the small end of the cone spring on the stud end of the regulator valve pin.
8. Insert the piston housing assembly into the gas distribution body and screw the halves together. Lubricate the piston housing body o-ring with a light coat of motor oil to prevent the binding of the two halves.

A properly assembled/tightened regulator should have little to no visible gap between the upper and lower halves.