



**2007 Model Cyborg
Owners Manual**

MACDEV

**Australia
www.macdev.net**

07 Cyborg Users Manual Version 4.02

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Caution!

This is not a toy. Misuse may cause serious injury or death. Eye protection designed specifically for paintball must be worn by user and persons within range. Recommend 18 years or older to purchase. Persons under 18 must have adult supervision. **READ OWNER'S MANUAL BEFORE USING.**

Warranty

The Cyborg marker is covered by the MacDev 12 month warranty against manufacturing defects. The Cyborg is guaranteed free of manufacturing defects for a period of twelve (12) consecutive months beginning immediately after purchase from a registered Cyborg retailer. The solenoid is warranted for a period of thirty (30) days after the date of purchase. If a manufacturing defect is detected, the defective part will be either repaired or replaced at no cost to the owner. The Cyborg warranty is not transferrable in the event of 2nd hand sales - the warranty may only be claimed by the original Cyborg retail purchaser. The Cyborg warranty does not cover damage due to theft, misadventure or operator error/abuse.

To make a successful warranty claim, the owner must produce their warranty card and proof of purchase.

Introduction

Thank you for purchasing an 07 Cyborg marker. This users manual will give you a guide to setting up, tuning and maintaining your marker. Please read it thoroughly to ensure you get the best out of your Cyborg.

The 07 Cyborg is a very high performance paintball marker. When operated correctly, it can achieve speeds and efficiency greater than any other marker previously produced.

Specifications

Operation	Electro-pneumatic
Electronics	MacDev 07 Custom
Solenoid	5V, 5 way
Power Source	9V
Weight (incl Barrel)	1lb 14oz
Length/Height/Width	9.5"/8.2"/1.1"
Max Rate of Fire	Unlimited
Paint Sensor	Visible break-beam
Propellant	Compressed air/nitrogen ONLY
Operating pressure (HPR)	200psi
Cycling pressure (LPR)	65psi
Efficiency (approx)	1900 shots/68cu4500psi fill
Barrel threads	AutoCocker
Calibre	0.68"
Barrel	MatchStik 14", 0.689 bore 2 piece
Lubricant	Dow 55 or Dow 33

Proudly designed and manufactured in Australia



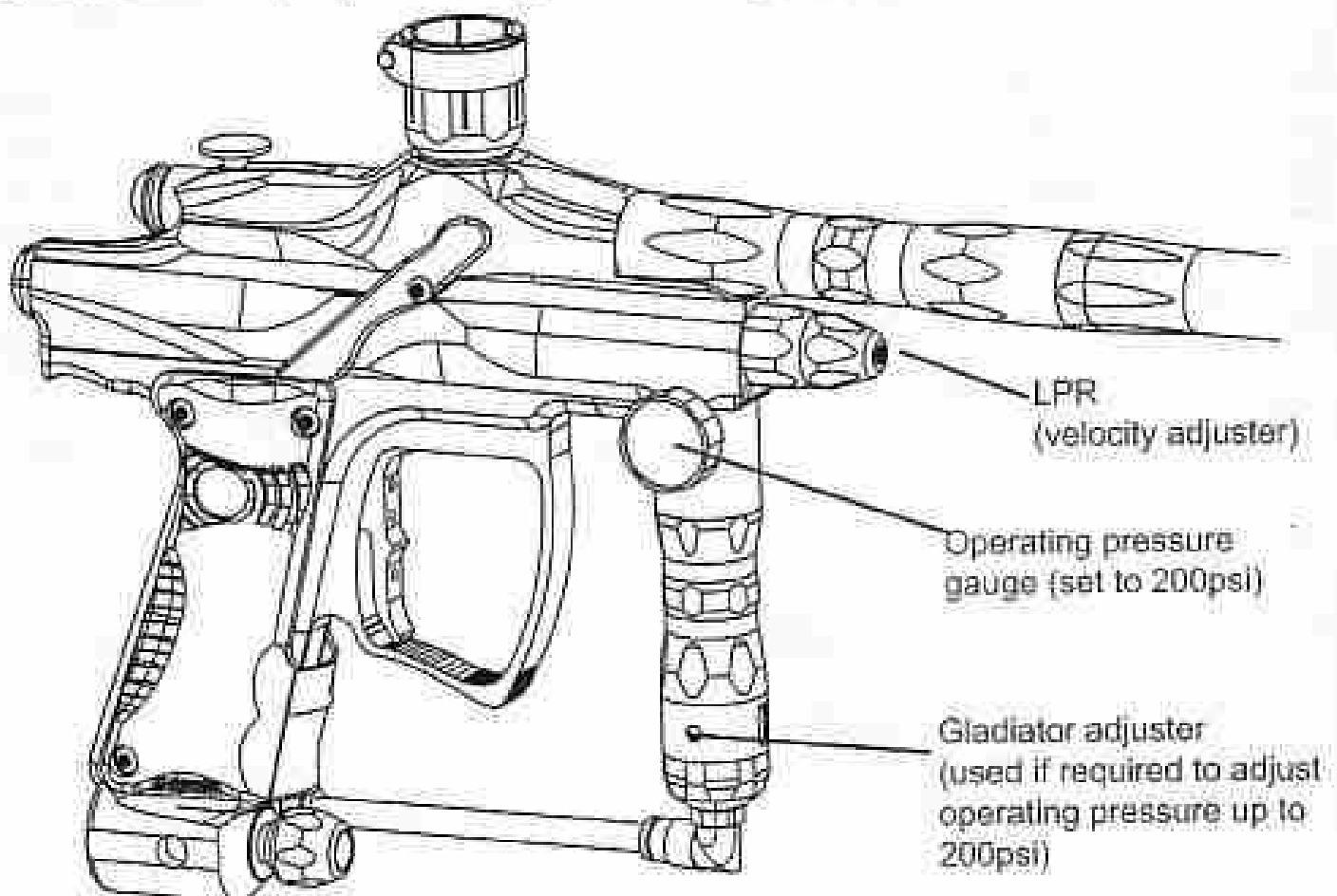
Getting Started

Your 07 Cyborg is packaged with a venting ASA, ready to accept an industry standard screw-in compressed air system (DO NOT USE CO2). While the use of a low pressure output system (400-500psi) is recommended, a higher pressure system (up to 900psi) is also acceptable.

Setting the Velocity

Your 07 Cyborg has been factory set to between 275 and 300fps. Your marker should be adjusted to comply with local legal velocities. The 07 Cyborg velocity can be adjusted over the chronograph using an allen wrench. First gas up your marker and check the gauge on the side (above the front grip). This gauge indicates the pressure setting of your inline regulator (Gladiator) and should be set to 200psi at all times. If required, you will find the Gladiator adjuster on the side and towards the bottom of the regulator. Use an allen key to turn the adjuster counter-clockwise to increase pressure. Always use small increments and watch the gauge as you make adjustments.

Now chrono the marker, to increase the velocity turn the LPR adjuster clockwise, or turn the adjuster counter-clockwise to reduce the velocity. Never set the velocity over 300fps, or use/chrono your Cyborg without first ensuring that you and all other people in range are wearing appropriate protective clothing.



Operating Your Cyborg

Turning the power on and off

The Cyborg on/off switch is located on the underside of the trigger guard. Slide the switch to turn the marker on. When the Cyborg is on, the indicator LED on the side of the grip will ignite. To turn your Cyborg off, simply slide the switch in the opposite direction.

The LED will display the following things:

Solid red: eyes on, no ball in breech

Solid green: eyes on, ball in breech

Flashing red: eyes off

Flashing white: eye fault

Flashing orange: low battery

Deactivating the eye system

To dry fire your gun, you will need to disable the eye system. To do this, press and hold the trigger. After 1 second, the LED will begin flashing red, and the eyes will be disabled. The eyes can be re-enabled by holding the trigger again for 1 second.

Fine Tuning and Customising your Cyborg

Your Cyborg can be adjusted in many ways to suit your individual playing style. You can adjust the trigger feel, sensitivity and speed.

Trigger Adjustment

There are 3 set screws around the trigger area to use for fine tuning the trigger. The lower screw on the front of the trigger is used to adjust the length of the trigger pull - screw it clockwise to reduce the trigger pull length. The second, higher screw on the front of the trigger is used to adjust the actuation position. Screw this screw clockwise to actuate the microswitch earlier in the trigger pull.

The final adjustment screw is located on the top of the trigger - winding this screw in a clockwise direction will increase the trigger pull tension.

Tourney locking the board

On the board, there is a small copper button. Use a q-tip to hold this down, and then turn the power on (with the button depressed).

When the tourney lock is changed, the board will indicate the setting:

Flashing red: Tourney lock on

Flashing green: Tourney lock off



Programming Your Cyborg

To enter programming mode (only possible if tourney lock is off), you must hold the trigger while you turn the board on. The LED will show orange. You must keep the trigger held in until the LED changes to blue. This indicates that you are in programming mode.

To change a setting on the board, you must pull the trigger to indicate the register you wish to change. The board will then flash to indicate the current setting of that register. Wait for these flashes to finish, before entering the new register setting (via the trigger). If you do not wish to change the current setting, you may switch the board off to abort programming. Once you have entered a new setting, the LED will return to solid blue, and await a new register. If you do not wish to change another register, you may turn the marker off.

Register Settings

1. Debounce

Use this setting to avoid the marker recognising false trigger pulls. The default is 5, with available settings from 1-30.

2. Dwell

The dwell controls the amount of time your electronics use to fire a ball. The default is 8. If you set this too low, your marker will become inconsistent or not fire at all. If you set this too high, your marker will be slow and use more gas.

3. Rate of Fire

Use this setting to control the maximum speed your marker can achieve. The default setting is 1. A setting of 1 will give the marker unlimited speed, whilst any other settings of 2-22 will give you a BPS cap equal to the setting.

4. Firemode

The firemode will allow you to set the marker for different rules or recreational use. the modes are:

- | | |
|----|--------------|
| 1 | Semi |
| 2 | PSP |
| 3 | Millennium |
| 4 | NXL |
| 5 | 3 Shot Burst |
| 6 | 6 Shot Burst |
| 7 | Response |
| 8 | Custom ramp |
| 9 | Breakout |
| 10 | Full Auto |

Note: ramping or modes other than semi are not permitted in some countries. If you have purchased your Cyborg within a country with restricted firemodes, you will find the modes removed.



5. Eye sensitivity

This setting controls how quickly the eyes read the ball. A low setting will allow the greatest feeding speeds, however a higher setting will give more reliable reading. Default is 4, and it may be set from 1-30.

6. ABS time

This software option can alleviate problems with bolt stick by setting the time the software waits before applying anti bolt stick. The default is 10sec, however it can be set from 1-30sec.

7. ABS dwell increase

This is the amount of time added to the dwell to alleviate bolt stick. Default is 1, and it may be set from 1-30.

8. ABS on/off

Use this setting to enable or disable the ABS software. Do not use the ABS software unless you have bolt stick problem that cannot be fixed any other way. Default is 2 (off), otherwise it may be set to 1 (on).

9. Eye disable on/off

The ability to disable the eye system by holding the trigger in may be disabled here. Default is 1 (eye disable on), otherwise it may be set to 2 (eye disable off).

10. Ramp percentage

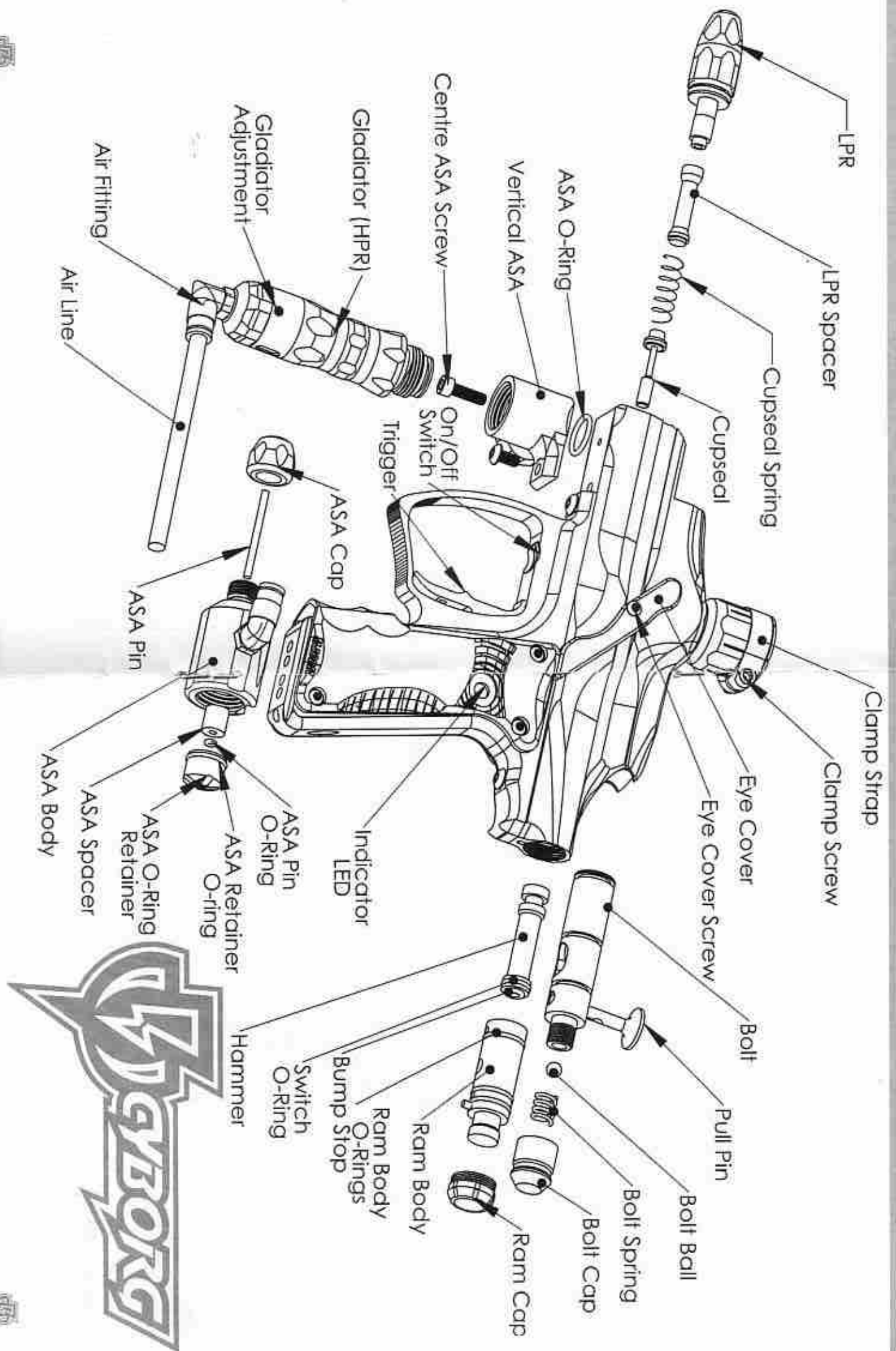
If you are using fire mode 8 (custom ramp) you can set the ramp percentage here. The default is 4 (100%), otherwise it may be set between 1-8 where 1(25%), 2(50%), 3(75%) ... 8(200%).

11. Ramp activation BPS

If you are using fire mode 8 (custom ramp) you can set the ramp activation here. The default is 5 (BPS), otherwise it may be set from 1-15 (BPS).

Register Summary Table

Register	Description	Register	Description
1	Debounce	7	ABS Dwell Increase
2	Dwell	8	ABS On/Off
3	Rate of Fire	9	Disable Eye Through Trigger
4	Fire Mode	10	Ramp Percentage
5	Eye Sensitivity	11	Ramp Activation BPS
6	ABS Activation Time		



LPR

LPR Spacer

Cupseal Spring

Cupseal

Clamp Strap

Clamp Screw

Eye Cover

Eye Cover Screw

Bolt

Pull Pin

Bolt Ball

Bolt Spring

Bolt Cap

Ram Cap

Ram Body

Ram Body O-Rings

Bump Stop

Switch O-Ring

Hammer

Indicator LED

ASA Pin O-Ring

ASA Retainer O-Ring

ASA O-Ring Retainer

ASA Spacer

ASA Body

ASA Pin

ASA Cap

Trigger

On/Off Switch

Vertical ASA

ASA O-Ring

Gladiator (HPR)

Gladiator Adjustment

Air Fitting

Air Line



Caring for your Cyborg

The Cyborg is a very low maintenance marker, however there are some things that you can do to keep it running at optimum performance. Always use Dow 33 to lubricate your Cyborg, do not use Silicone spray or oil of any kind.

Bolt Maintenance

The 06 Cyborg bolt is made from a very high quality self lubricating plastic with three wiping O-rings. These wiping O-rings should be kept clean and oiled. During normal usage, the Cyborg bolt can become dirty. To remove the bolt, gently pull the pull pin upwards until it clicks. The bolt and pull pin should then slide freely out of the gun. Clean the bolt with a clean, dry soft cloth. If you notice scratches along the bolt, it is likely that you have not cleaned it often enough - it is a good idea to clean the bolt after every days play, or if it gets excessive paint/dirt in it during the course of play.

When replacing the bolt, it is critical to ensure that the bottom of the pull pin is located correctly in the slot on the ram inside the gun. If the bolt is incorrectly installed your Cyborg will not operate correctly and damage may result.

Ram Maintenance

The ram of your Cyborg does the most work of any part of the gun. For this reason the ram system needs to be kept clean and well lubricated. Before removing your ram ensure that there is no gas in the gun. First remove the bolt (as described above in bolt maintenance) and unscrew the ram cap (counter-clockwise) and remove it from the gun. Then grasp the ram end and pull it out of the Cyborg. Now remove the hammer from the ram housing. Clean the old grease off the ram housing bore using a clean q-tip, and clean the old grease from the ram housing and hammer using a clean lint free cloth. Use a clean q-tip to re-lubricate the bore of the ram housing with Dow 33 or 55, and use your finger to re-lubricate the o-rings on the hammer as well as the hammer shaft. Slide the hammer back into the ram housing and re-lubricate the o-rings on the outside of the ram housing. Now your ram is ready to be replaced back into the marker - slide it back in carefully before securing it in place with the ram cap. Take care that the bolt is replaced correctly as described above in bolt maintenance.

Ram maintenance can be performed as often as you like, and should be done at least every 20,000 cycles.

Regulator Maintenance

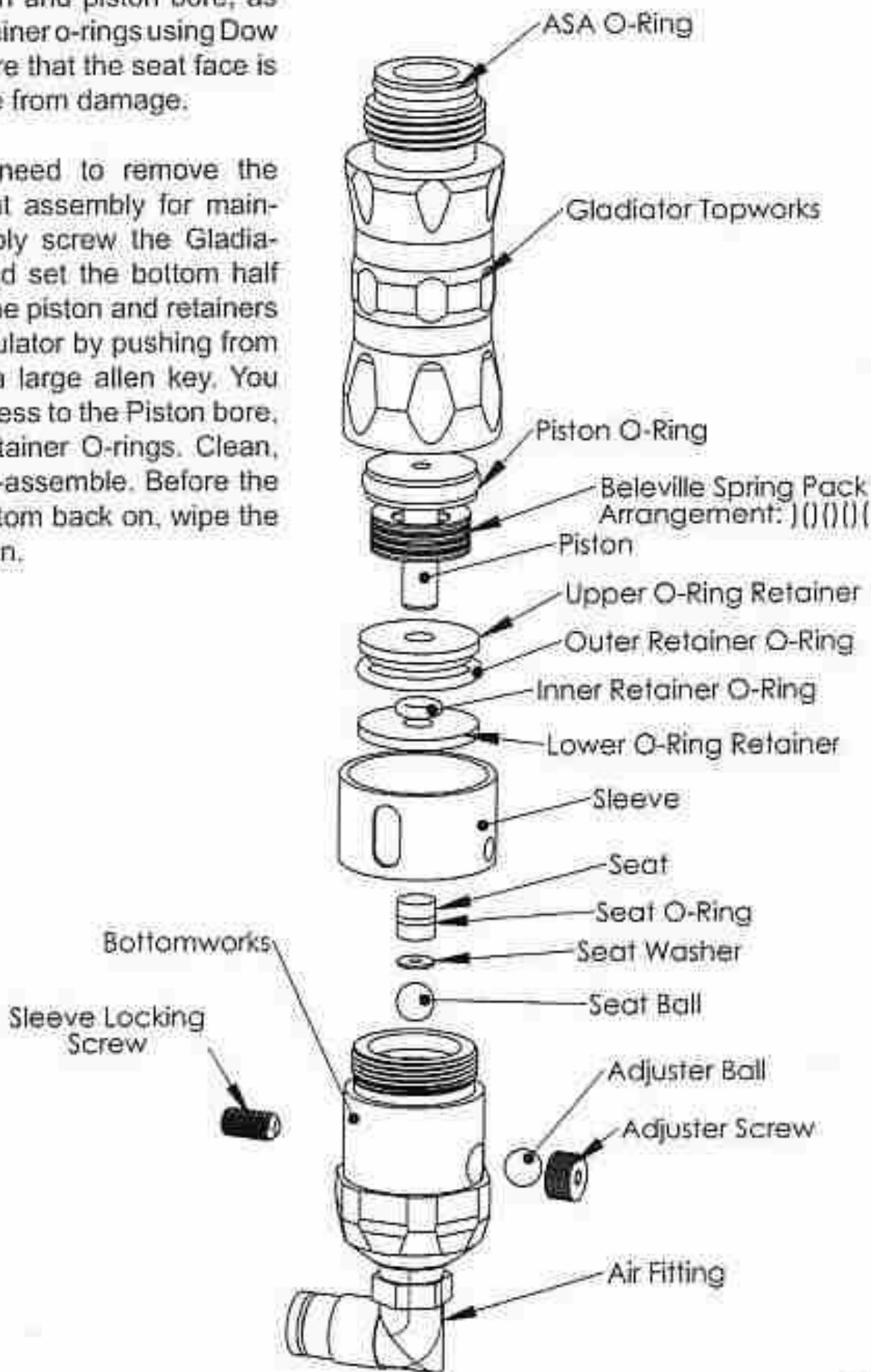
Your Gladiator inline regulator and LPR should be kept clean and lubricated for best results.



Gladiator (High Pressure Regulator - HPR)

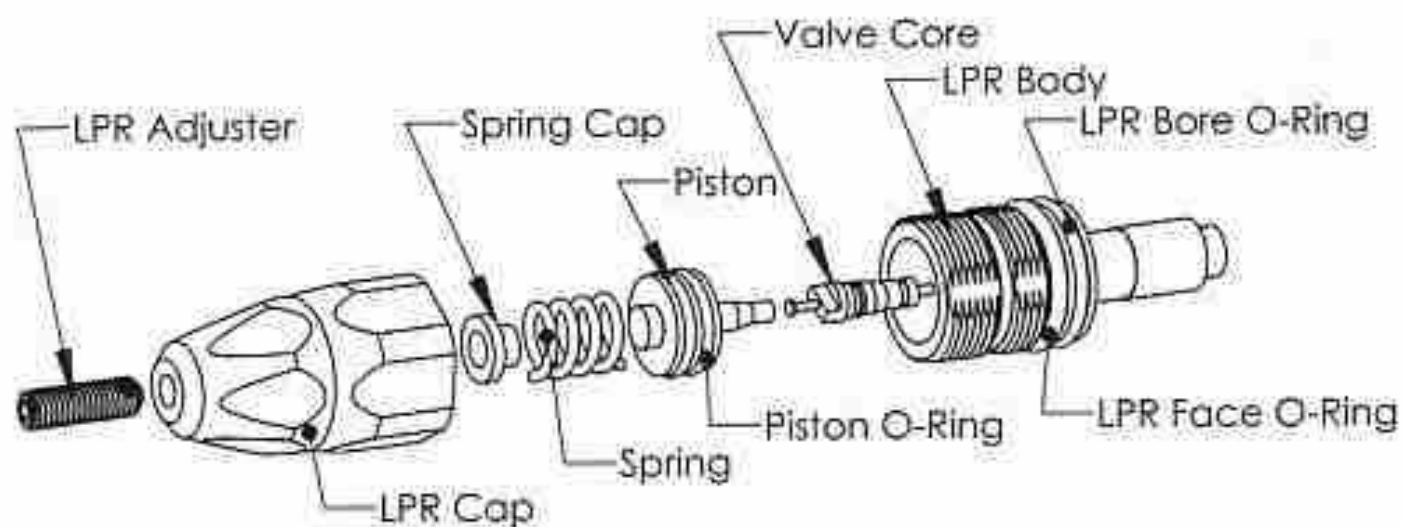
Your Gladiator is a very hard wearing and reliable regulator. Regularly clean and lubricate the piston and piston bore, as well as the retainer o-rings using Dow 33. Also ensure that the seat face is clean and free from damage.

You do not need to remove the sleeve or seat assembly for maintenance, simply screw the Gladiator in half, and set the bottom half aside. Push the piston and retainers out of the regulator by pushing from the top with a large allen key. You now have access to the Piston bore, piston and retainer O-rings. Clean, relube and re-assemble. Before the screw the bottom back on, wipe the seat face clean.



Low Pressure Regulator (LPR) Assembly

The LPR should be serviced by cleaning and relubricating the piston o-rings and piston bore. You need not remove the assembly from the Cyborg, you can just remove the LPR cap and, remove the piston using a pair of long nosed pliers.



Troubleshooting

Some common difficulties are detailed in this section, for the latest troubleshooting information, please visit www.macdev.net. If you require more assistance with troubleshooting related issues, please contact your local MacDev/Cyborg tech.

The marker is on, but will not cycle

Ensure that the paint is loaded correctly and that there is gas to the marker. If paint is loaded correctly, point the Cyborg at a safe target and hold the trigger for at least half a second. If the marker cycles then paint was not loaded correctly. Check that the trigger actuator adjustment is not set too far in or too far out (always back the adjustment out before trying to screw it in, because screwing it in too far may damage your trigger switch).

There is a leak from the marker

Check the gauge on the side of the gun. It should be set to approximately 200psi. If the Gladiator needs adjustment, then adjust the pressure (see pg 4 "Setting velocity" for detailed instructions on this). Then re-chrono the marker - the leak should disappear when the velocity is set correctly.

If the leak persists check the ram switching o-ring to ensure it is not dry or damaged. If the leak still will not disappear, please contact tech. support.

The marker breaks paint

Ensure that the top tube, bolt and barrel of your Cyborg are completely clean. Check to make sure that the paint is not too large for the Cyborg barrel. Ensure that your anti chop eyes are turned on and the barrel is screwed in completely.

The marker shoots down under rapid fire

Check to make certain that your air system is set to 400psi or above. When firing the gun ensure that the gauge on the side of the gun recharges quickly (if this recharges slowly, perform routine Gladiator inline reg maintenance). If the air system is set correctly and the gauge on the side of the gun recharges well, perform routine maintenance on the Cyborg ram and LPR.



Accessories

Use genuine MacDev accessories or factory approved aftermarket upgrades for best results. For the latest list of approved aftermarket products visit www.macdev.net

Rebuild Kit

The Cyborg rebuild kit contains all the most important parts of your Cyborg. This kit is good for peace of mind, especially when entering an important tournament.

LegionAir Air/Nitro System

The LegionAir air/nitro system is the highest quality compressed air delivery system available. The legionAir will deliver high volume, clean consistent air to your Cyborg in a lightweight compact unit - the ultimate accessory to your Cyborg.

MatchStik Kit

Your Cyborg was supplied bundled with a 2-piece MatchStik barrel. Own the full kit to allow good paint to barrel match with the barrel designed for your Cyborg.

Ram Gauge

Check your LPR precisely for creep and recharge problems. Takes the guesswork out of tuning.



Notes

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