TACTICAL DRONE

USERS MANUAL

MACDEV

Manufactured by
MacDev Paintball - Australia
macdev.net

TACTICAL DRONE USERS MANUAL

STATEMENT OF LIABILITY

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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 USERS MANUAL CAREFULLY BEFORE USING THIS PRODUCT.

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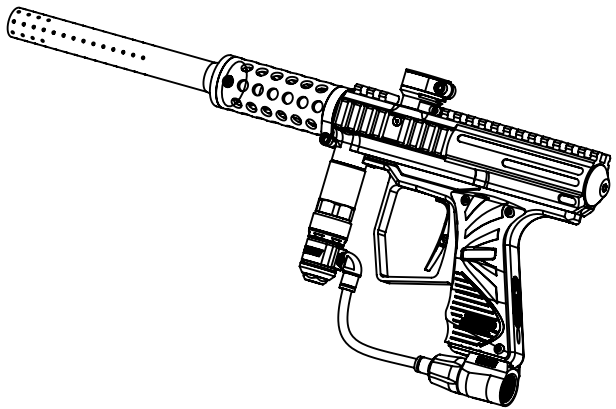
INTRODUCTION

Congratulations on purchasing a Tactical Drone marker. This Drone marker has been manufactured from the highest quality material available using state of the art machining techniques.

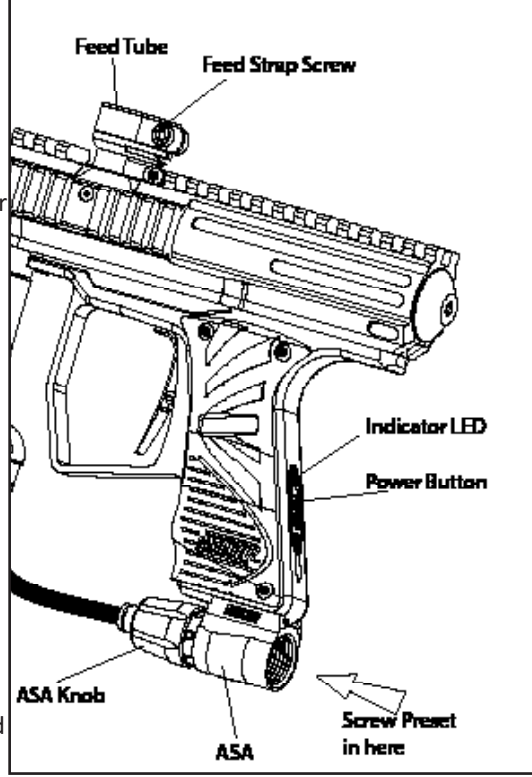
The Tactical Drone has been designed specifically to fulfill the requirements of an effective tactical/scenario platform. The Tactical Drone boasts unrivalled air efficiency, accuracy, sound signature and trajectory in the area of tactical markers.

The modular design of the Tactical Drone will allow the addition of standard sight rails, tactical mounts, stocks, feed systems and other miscellanious accessories - keep an eye out for genuine accessories or quality aftermarket accessories for your Drone.

Please take the time to register your purchase online, this will ensure that your are eligible for warranty repairs, and special offers are forwarded to you via email. To register, visit the macdev website (www.macdev.net) and follow the prompts to register your purchase.



QUICK SETUP



INSTALLING A PRESET AIR SYSTEM

Before installing a preset air system, loosen the venting ASA knob as shown. This will ensure that air supply is off. Screw the preset air system into the venting ASA.

TURNING THE AIR ON AND OFF

To turn the air onto your gun, screw the ASA knob all the way in as shown.

NOTE: when you unscrew the ASA cap to turn the air off again, your marker usually stores one shot. Point the marker in a safe direction to fire off that shot before entering a safe area.

INSTALLING A LOADER

Loosen the feed strap screw, then slide a loader into the feed tube. Ensure that the loader is pushed all the way to the bottom of the feed tube. Secure the loader in place using the feed strap screw.

SWITCHING YOUR DRONE ON AND OFF

Turn your marker on by pushing the power button on your membrane pad. The indicator LED will show either solid red (no paintball loaded) or solid green (paintball loaded). The marker is now ready to fire. To turn your marker off, press and hold the power button until the indicator LED is extinguished.

UNDERSTANDING THE BEAM SENSOR

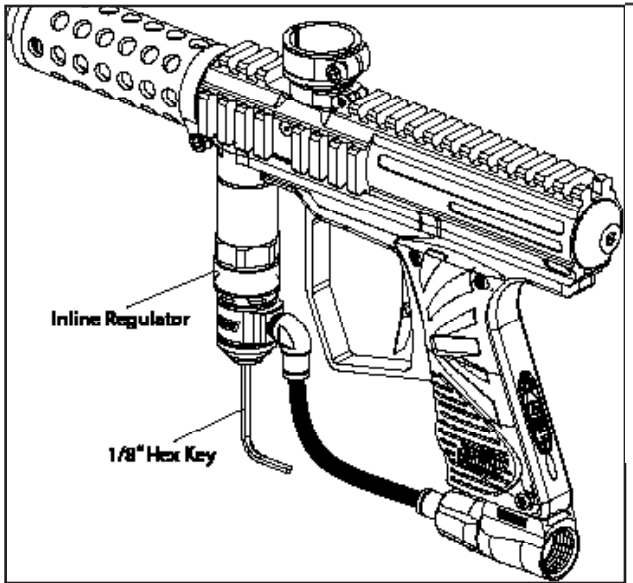
Your beam sensor allows your marker to detect if a paintball is correctly loaded.When your marker is turned on, your indicator LED will use colour to report the beam sensor status.
The status reporting is:
Red LED - no paintball loaded
Green LED - paintball loaded (ready to fire)
Red flashing LED - sensor disabled
Orange flashing LED - sensor malfunction

DISABLING THE BEAM SENSOR

If you would like to fire the marker without paintballs, you must first disable the beam sensor. This can be done by holding the trigger in whilst the marker is turned on. After a short period, the indicator LED will flash red, this indicates a disabled beam sensor. To re-enable the beam sensor, simply hold the trigger again until the LED returns to a solid colour.

ADJUSTING THE VELOCITY

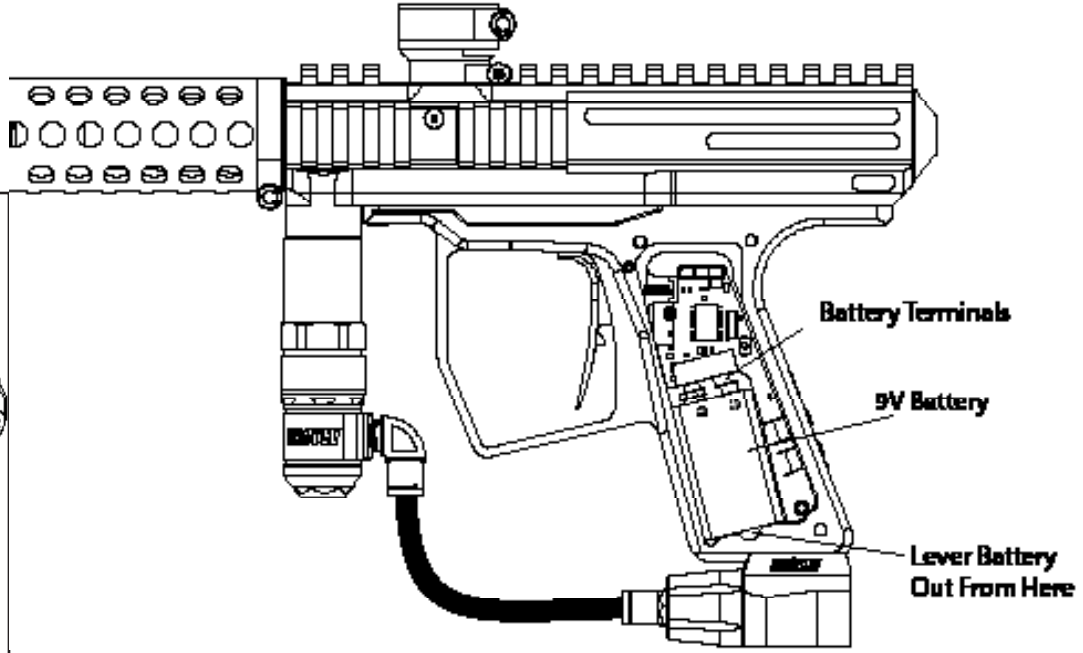
Your marker velocity is adjusted using a 1/8” hex key at the bottom of the inline regulator. Turning the hex key clockwise will decrease velocity, whilst turning counter clockwise will increase velocity.

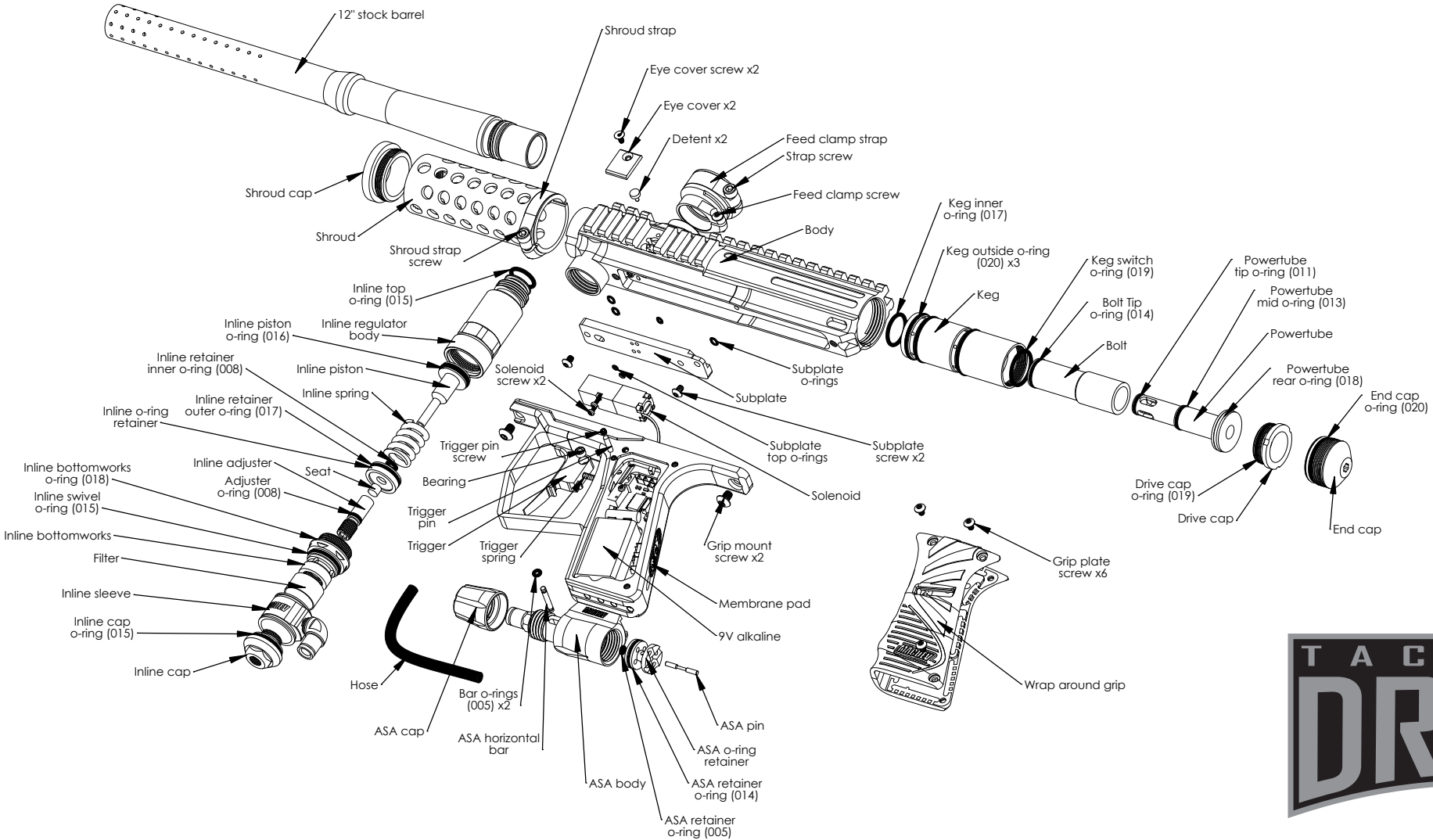


REPLACING THE BATTERY

After using the marker for some time, the battery will require replacement. A low battery is indicated by a flashing orange light at the time of powering up the marker.

To replace the battery, place the marker down with the barrel facing to your left and the feed tube facing away from you. Use a 5/64” hex key to remove the three screws on your wrap around grip. Open the wrap to reveal the battery. Lever the battery out from the bottom using your hex key. Take care not to break any components during this process. Install a new high quality alkaline 9V (type 6LR61) battery by pushing the battery bottom in first and then gently pressing the top terminals into place.





TACTICAL DRONE

PROGRAMMING YOUR DRONE

ABOUT THE TOURNEY LOCK

The board is equipped with a tourney lock system. When the tourney lock system is activated, the marker cannot be reprogrammed on the field - making it tournament legal.

To use the tourney lock, you must remove the three screws holding the right hand side of the wrap around grip on your frame. On the board, there is a small button. To toggle the tourney lock, hold this down. The board will flash red/green, and then end on either red or green. This ending colour indicates the state of the tourney lock:
Red: Tourney lock on
Green: Tourney lock off
Once you have finished with the tourney lock, replace the wrap around grip and screws before playing.

PROGRAMMING THE SOFTWARE

To program the board, turn the marker off. Hold down the trigger whilst turning the marker on. The indicator light will turn white, continue to hold the trigger until it goes blue (debounce register). Press the trigger once to advance to the next setting as given below. When you have a setting you would like to change, hold the trigger until the indicator light goes out. Release the trigger, and the indicator light will flash to show the current setting. Then when it goes out, input the new setting by the trigger and wait for the indicator light to go solid again.

Register Summary Table

LED Colour	Setting	Default
Blue	Debounce (1/2ms increments)	10
Red	Dwell (1ms increments)	16
White	Fire mode	1 (semi)
Green	Max ROF - only used in capped and ramp modes	5 (10bps)
Yellow	Loader delay (1/2ms increments)	2
Teal	Anti Mechanical Bounce	2
Purple	Anti Bolt Stick	3
Flickering Blue	Factory Setting	-
Flickering Red	Cycle filter	2
Flickering White	Eye Mode	2 (forced shot)
Flickering Green	Bolt Tracking Delay (ms)	10
Flickering Yellow	Test Mode Dwell (ms)	2

DEBOUNCE (BLUE)

The debounce setting of your marker is used to control the amount of ”bounce” in your trigger. A very low debounce setting will result in a lot of bounce. In some tournaments or fields, it will be necessary to reduce the amount of bounce by increasing the debounce setting. Always increase the debounce slowly, because settings higher than 15 will result in your marker feeling unresponsive.

DWELL (RED)

The dwell setting controls the amount of time that your solenoid is held open. A very low dwell will result in very poor performance from your marker, whilst a very high value will result in a very slow maximum rate of fire and excess air usage.

FIRE MODE (WHITE)

Your marker is equipped with 8 different fire modes. These fire modes will allow you to

use your marker in many different situations - tournament play, recreational and scenario. Always follow the rules and local regulations when selecting your fire mode. The available fire modes are given below:

1 Uncapped semi
2 Capped semi
3 Uncapped 3 shot burst
4 Capped 3 shot burst
5 Uncapped full auto
6 Capped full auto
7 Uncapped select fire
8 Capped select fire

NOTE: SOME VERSIONS MAY HAVE SOME MODES REMOVED TO COMPLY WITH LOCAL LAWS. FOR EXAMPLE, ALL MARKERS SOLD IN AUSTRALIA OFFER ONLY SEMI AUTO MODES.

RATE OF FIRE - ROF (GREEN)

Your marker can electronically limit its maximum ROF. This is required in some tournaments or fields. In uncapped modes, the ROF will only be limited by the speed of the marker and hopper. If you use a capped mode (like PSP or Millennium), the mode will obey the maximum ROF. The ROF is adjustable from 8bps in 1/2bps increments (1=8, 2=8.5, 3=9 ... 26=uncapped).

LOADER DELAY (YELLOW)

This is a small dwell included to allow the ball to settle into your marker breach before firing. For a very fast loader, this may be set to 1, for slow hoppers it should be higher. If your loader delay is set too low for your loader, then you may experience paintballs breaking in the breech.

ANTI MECHANICAL BOUNCE (TEAL)

Primarily, you should use the debounce register to remove bounce from your marker. However, if you experience excessive bounce, it may be from a mechanical source. This AMB filter is designed to remove excessive bounce, and it should be incremented slowly to remove bounce when bounce cannot be removed using the debounce register.

ANTI BOLT STICK (PURPLE)

When your marker is idle for long periods, friction and settling effects can cause your bolt or other moving parts to be sticky. The ABS system is used to overcome this on the first shot by temporarily increasing the dwell setting. The ABS is adjustable from 1-10ms where the setting is the temporary increase in dwell, and a setting of 1 removes the ABS completely.

FACTORY SETTING (FLICKERING BLUE)

This setting is only used by the MacDev Factory, do not alter this setting unless directed by a MacDev tech.

CYCLE FILTER (FLICKERING RED)

Your software allows the buffering of a single shot in case you pull the trigger during a cycle. This filter can be used to reduce the time allowed to buffer this shot. Adjustable from 1 (full buffer) to 10 full cycle filter. Higher settings will reduce the amount of mechanical bounce in the marker, whilst low settings will make the marker feel aggressive and responsive.

EYE MODE (FLICKERING WHITE)

Your marker can utilise the beam sensor (eye) in different ways. This setting can be used to select which way you would like to have the sensor used. The system can use a delayed mode, where if a ball is not detected in the breech, a shot will be fired after a half second delay. This mode is useful if you are using a sound activated loader, or if you would like your gun to indicate to you when you are out of paintballs. Another option is the forced mode. In this mode, the marker will only fire if a ball is detected. However, the user can force a shot to be fired by holding the trigger until the marker fires.

The beam sensor can also be used to test the speed of your marker by watching the bolt during dry firing. To allow this, your marker has two test modes - test mode with full dwell, and test mode with adjusted dwell. When fired in these modes, your marker will report back to you the approximate speed achieved via the colour of the indicator LED.

The colours are given below:

red : less than 10bps
yellow : 10-15bps
green : 15-20bps
blue : 20-25bps
white : 25+bps.

To set your eye mode, use the following register settings:

1 - delayed
2 - forced
3 - test mode with full dwell
4 - test mode with adjusted dwell

The test mode with full dwell uses the same dwell that you are currently using with your marker, the test mode with adjustable dwell allows you to conveniently change the test mode dwell without changing the usual operating dwell of your marker. To adjust this dwell, use the last register (Test mode dwell).

BOLT TRACKING DELAY (FLICKERING GREEN)

The bolt tracking delay is a parameter used to ensure that bolt tracking is working correctly. Do not adjust this unless you are advised by a MacDev tech.

TEST MODE DWELL (FLICKERING YELLOW)

The test mode dwell is used to adjust the dwell used when the user selects the test mode with adjustable dwell in the eye mode register (Described above). The user may adjust this setting from 1-30ms.

RESETTING THE SOFTWARE

If you would like to reset your software to the factory default settings, gain access to the tourney button your board, then enter the programming mode. While in programming mode, press and hold the tourney lock button. After approximately 10 seconds, your indicator LED will flash all colours indicating a reset has been completed.

MAINTENANCE

The maintenance of your marker is important. Your package includes spare seals, lubricant and the necessary tools for gaining access to the seals. Use only MacDev Militia Lubricant, this is available seperately in large tubs. Use only genuine seals and parts on your marker to ensure the best performance.

Your inline regulator and drivetrain should be maintained with cleaning and the application of fresh lubricant after every 10,000 shots. This will ensure optimal performance.

Please refer to the parts list (centre pages) for a view of the parts contained in your inline regulator and drivetrain.

INLINE REGULATOR

You should maintain your regulator by cleaning and relubricating the following places:

1. Piston o-ring
2. Inner retainer o-ring
3. Inline regulator body inside bore (where the piston o-ring slides)

DRIVETRAIN

To maintain your drivetrain, you should clean and lubricate the following parts:

1. Bolt
2. Keg switch o-ring
3. Power tube tip o-ring and mid o-ring

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