

THE MANGLED MANUAL

BOB LONG TECHNOLOGIES 925-625-7929 techsupport@boblongdirect.com www.boblongdirect.com

WARNING!

This paintball marker is not a toy. Misuse or mishandling can result in serious injury or death. Every person within range of a loaded paintball gun must wear eye protection specifically designed for paintball. It is recommended at least 18 years of age to purchase, 14 years old to use with adult supervision or 10 years old to use on paintball fields meeting ASTM standards F1777-97. Ensure you read entire instruction manual before operating your M-TAC.

SAFETY / CAUTION

Follow all local, state, and federal laws concerning the operation and use of paintball markers. <u>By purchasing this paintball marker you assume all liability.</u> B.L.A.S.T. assumes no liability for injury or death due to misuse or mishandling of this marker.

- Never point a paintball marker at anyone not wearing paintball approved goggles. Even at the lowest possible operating velocity, a paintball will cause serious injury should it hit someone in the eye area.
- Never look down the barrel of your marker with or without wearing paintball approved goggles.
- Before performing any maintenance on the marker, ensure air source is disconnected and marker has been dry fired.
- Leave the ON/OFF switch in the OFF position whenever marker is not operational.
- Always use a barrel blocking device (Bag) when marker is not operational. Remove only in designated operational areas.
- Only play at commercial playing fields that have a chronograph, referees, and clearly marked safe areas. Chronograph your marker before each game to ensure marker is operating at a safe velocity. Safe velocity is considered to be 280 feet per second (fps).
- Always know the field where you are playing if you dive behind a bush and land on a rock your equipment or ribs may pay the price.



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WARRANTY

Bob Long Technologies warrantees our markers against manufacturing defects. Electrical components are warranted for a period of 90 days. All solenoids and wire harnesses are tested for function prior to leaving our factory. Solenoids and wire harnesses will only be warranted at the discretion of Bob Long Technologies. Only use factory authorized lubricants when maintaining your marker. The use of non-authorized lubricants or maintenance solutions will void your warranty. The use of Teflon tape as a sealant for any marker component may internally damage electro-pneumatics. The use of Teflon tape for sealing a connection, such as a macro fitting, will void your warranty.

When installing aftermarket grips, ensure attachment fasteners DO NOT protrude into internal grip assembly. Any attachment fasteners protruding into the grip assembly will void your warranty.

For questions concerning your M-TAC or this manual please call (925)625-7929.

THINGS THAT VOID YOUR WARRANTY

- Dremels making contact with parts of your marker.
- Unapproved lube in unapproved places. Triflow is approved on the bolt o-rings, Dow 55 on other o-rings. Other lubes may end up getting on the eyes or through the tubing and to the solenoid.
- Use of your barrel as a club
- Acts of piracy off the coast of Somalia
- Teflon tape on fittings such as the LPR barb

QUICK START GUIDE

AIR SUPPLY: NO, NOT THE BAND FROM THE LAST CENTURY - THE PROPELLANT FOR YOUR MARKER. MUCH LIKE ANY OTHER HIGH PERFORMANCE MARKER, THE M-TAC REQUIRES THE USE OF COMPRESSED AIR OR NITROGEN ONLY. THE M-TAC IS COMPATIBLE WITH BOTH HIGH-PRESSURE AND LOW PRESSURE COMPRESSED AIR SYSTEMS. IF USING AN AD JUSTABLE-OUTPUT AIR SYSTEM, SET THE SYSTEM'S OUTPUT BETWEEN 400 AND 500 PSI. SCREWING YOUR PRESET AIR SYSTEM INTO THE ASA AT THE BOTTOM OF THE GRIP WILL PRESSURIZE THE MARKER, PREPARING IT FOR USE.





TURNING YOUR MARKER ON AND OFF:

PULLING AND RELEASING THE CHARGING HANDLE TURNS THE MARKER ON. THE BATTERY INDICATOR WILL SHOW THE CURRENT POWER LEVEL OF YOUR BATTERY WITH A FLICKERING RED, YELLOW, OR GREEN LED. AFTER, IT WILL SHOW A SOLID OR BLINKING BLUE LED (UNLESS CHANGED FROM THE DEFAULT).

TO POWER OFF MARKER: PULL AND HOLD THE CHARGING HANDLE FOR ABOUT 2 SECONDS, UNTIL THE LED TURNS OFF, THEN RELEASE. EVERY TIME THE MARKER IS TURNED ON, THE EYES ARE ENABLED.







INTRODUCTION

WE REALIZED SOMETHING WAS AMISS IN THE WORLD OF PAINTBALL. MIL-SIM MARKERS WERE LACKING IN SPEED AND EFFICIENCY COMPARED TO WHAT WAS ON SPEEDBALL FIELDS. PLAYERS WERE FORCED TO CHOOSE BETWEEN ONE FEATURE OR ANOTHER WITHOUT A SOLUTION THAT MET ALL OF THEIR NEEDS. IN ORDER TO MAKE THE MARKER THESE PLAYERS NEEDED BLAST DEPLOYED OUR CRACK TEAM OF ENGINEERS AROUND THE WORLD ON A FACT FINDING MISSION. THEY WERE GIVEN ONE GOAL - FIND OUT WHAT THE PAINTBALL WORLD NEEDS IN THE ULTIMATE TACTICAL MARKER AND DESIGN THE ONE SOLUTION TO FILL THEIR NEEDS.

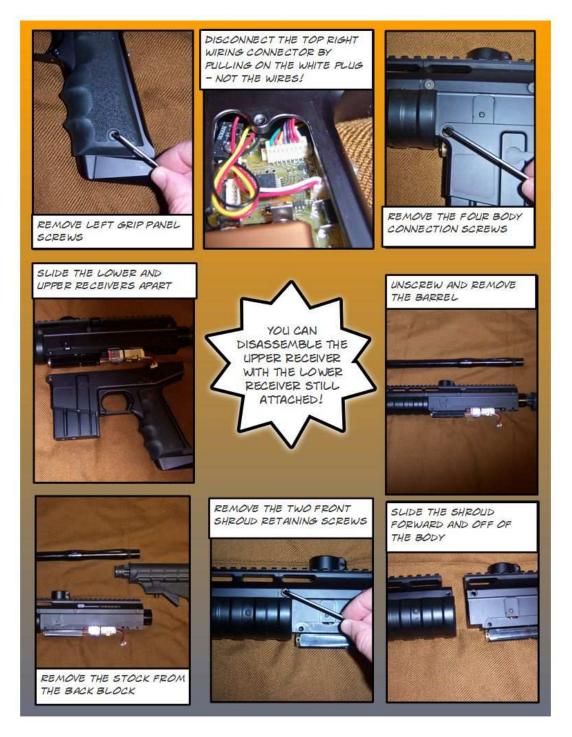




BASIC SPECIFICATIONS

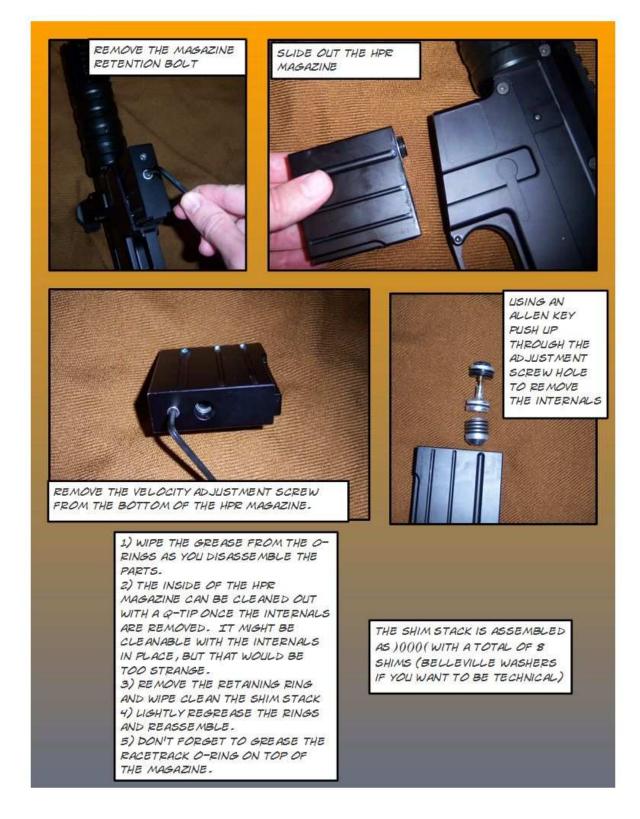
Classification:	Marq Tactical Series	
Configuration:	Electro-pneumatic. Open bolt. In-line poppet	
	valve.	
Barrel Thread Type:	Autococker	
Included Barrel:	M-TAC One Piece Premium Barrel	
Included ASA:	Grip Frame Integrated	
Intended Propellant:	Compressed Air or Nitrogen Only!	
Intended Propulsion Speed:	230-300FPS (feet per second)	
HPR magazine:	190-210psi	
LPR Pressure:	70-80psi	
Estimated Shot Count:	1700+ shots (factory settings using 68ci 4500psi air	
	source)	
Motherboard:	Frenzy 4.0	
4C Eye Compatible:	Yes	
4C Eye Equipped:	No	
Estimated Rate of Fire:	26+BPS	
Trigger Activation:	Micro switch	
Trigger Return:	Spring assist	
Trigger Adjustment:	Post-travel	
	Actual weight will depend on what is bolted to the	
Weight:	rails – If you bolt 20 lbs of gear to your rails and	
	bring it by the Bob Long tent at an event you get	
	free o-rings!	

MARKER DISASSEMBLY



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HPR MAGAZINE MAINTENANCE



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LPR MAINTENANCE



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ANTI-CHOP EYE MAINTENANCE



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PROFICIENCY ENGINE DISASSEMBLY

REMOVE THE TWO BOLTS SECURING THE BACK CAP AT THE TOP OF THE UPPER RECEIVER



USING A 1/8" ALLEN KEY SCREW IN THE SET SCREW LOCATED UNDERNEATH THE BACK CAP INSIDE THE UPPER RECEIVER



SLIDE A WRENCH THROUGH THE HOLES IN THE BACK BLOCK AND PULL OUT THE PROFICIENCYENGINE





REMOVE THE 3 SET SCREWS ATTACHING THE BACK CAP

SLIDE THE BACK BLOCK OFF THE PROFICIENCYENGINE

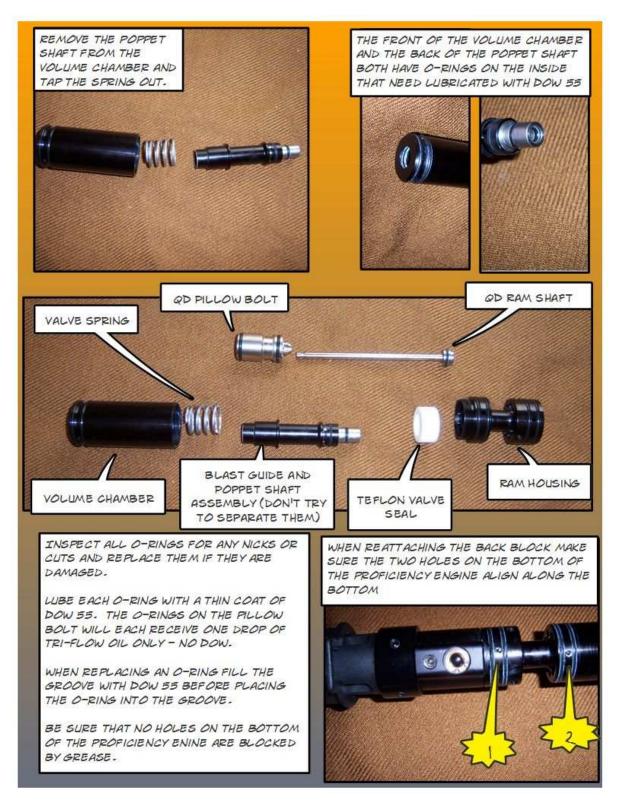


SLIDE THE BOLT SIDEWAYS OFF THE RAM AND REMOVE THE RAM SHAFT FROM THE PROFICIENCY ENGINE





PROFICIENCY ENGINE LUBRICATION



MAINTENANCE SCHEDULE

Mileage	Recommended Upkeep
5,000 Shots (2.5 Cases)	 Clean and relube bolt o-rings Inspect o-rings for damage Clean and relube proficiency engine
10,000 Shots (5 Cases)	 Repeat above steps Clean, inspect, and regrease HPR Piston and o-rings Clean, inspect, and regrease LPR Piston and o-rings
20,000 Shots (10 Cases)	 Repeat above steps Clean, inspect, and regrease poppet shaft o-ring

CONSUMABLES LIST

Part Name	Specifications	Quantity
	•	
	Stage 1 Shroud Fasteners	
Front Of Stage 1 Shroud	6-40 x ¼" Socket Head Cap Screw BO	2
Mainbody To Stage 2 Shroud Assembly	10-32 x ¼" Low Head Socket Cap Screw	2
Stage	2 Shroud Assembly Fasteners	
Front Of Stage 2 Shroud Assembly	6-40 x ¼" Socket Head Cap Screw BO	2
Left Side Stage 2 Accessory Rail To Stage 2 Shroud	6-40 x ¼" Socket Head Cap Screw (BO)	2
Bottom Stage 2 Accessory Rail To Stage 2 Shroud Cap	6-40 x ¼" Socket Head Cap Screw (BO)	2
Right Side Stage 2 Accessory Rail To Stage 2 Shroud	6-40 x ¼" Socket Head Cap Screw (BO)	2
Left Side Of Hand Guard To Stage 2 Shroud	6-40 x ¼" Socket Head Cap Screw (BO)	2
Bottom Of Hand Guard To Stage 2 Shroud Cap	6-40 x ¼" Socket Head Cap Screw (BO)	2
Right Side Of Hand Guard to Stage 2 Shroud	6-40 x ¼" Socket Head Cap Screw (BO)	2
Mainbody To Stage 2 Shroud Assembly	10-32 x ¼" Low Head Socket Cap Screw (BO)	2
Μ	ain Body (Upper Receiver)	1
Rear Air Passage Plug	M3 x 5mm Cup Point Socket Set Screw 18-8 (SS)	1
Bottom Air Passage Plug	M3 x 5mm Cup Point Socket Set Screw 18-8 (SS)	1
Eye Cover To Mainbody	2-56 x 5/16" Socket Head Cap Screw BO	1
Charging Handle To Charging Buffer	2-56 x 3/8" Socket Head Cap Screw BO	2
Charging Buffer Return Spring Retainer	4-40 x 5/8" Socket Head Cap Screw BO	1
Mainbody (Look Sexy, Appearance Only)	10-32 x ¼" Low Head Socket Cap Screw BO	2
Feed Neck Adjustment	10-32 x 1⁄2" Socket Head Cap Screw BO	1
Feed Neck To Mainbody		2
Grip Frame Fasteners (Lower Receiver		
Trigger Spring Stop To Grip Frame	M2 x 5mm Flat Head Machine Screw 18-8 SS	1
Selector Switch Housing To Grip Frame	M2 x 5mm Flat Head Machine Screw 18-8 SS	3
Trigger Guard To Grip Frame	6-40 x 5/8" Cup Point Socket Set Screw BO	2
Trigger Stop Of Trigger Guard	6-32 x 3/16" Cup Point Socket Set Screw 18-8 SS	1
Trigger Switch Activation	6-32 x 3/8" Cup Point Socket Set Screw 18-8 SS	1
Power Switch Alignment Pins	6-32 x 3/16" Button Head Socket Cap Screw 18- 8 SS	2
Grip Panel Screws	6-32 x 3/8" Flat Head Socket Cap Screw BO	4
Front Air Passage Plug	10-32 x 3/8" Cup Point Socket Set Screw 18-8 SS	1

Bottom Air Passage Plug	10-32 x 3/8" Cup Point Socket Set Screw 18-8 SS	1
Front Grip Frame To Mainbody	10-32 x ¼" Low Head Socket Cap Screw BO	2
Rear Grip Frame To Mainbody	10-32 x ¼" Low Head Socket Cap Screw BO	2
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Part Name	Specifications	Quantity
S	stage 1 Shroud Fasteners	
Mainbody to Back Block 10-32 x ¼' Low Head Socket Cap Screw BO 2		2
Stage 1 Proficiency Kit Fasteners		
Ram Housing to Back Block Mounting	8-32 x 1/8" Cup Point Socket Set Screw 18-8 SS	3
Post		
Inline Regulator (HPR Magazine) Fasteners		
Rear Air Passage Plug Of Inline Regulator	10-32 x 3/8" Cup Point Socket Set Screw 18-8 SS	1
Velocity Adjustment Of Inline Regulator	¼"-28 x 3/8" Cup Point Socket Set Screw 18-8 SS	1
Inline Regulator To Grip Frame	¼"-28 x 2 ½" Socket Head Cap Screw 18-8 SS	1
LPR Fasteners		
Solenoid Input Manifold To Mainbody	M2 X 20mm Flat Head Machine Screw 18-8 SS	2
LPR Housing To Mainbody	M2 X 20mm Flat Head Machine Screw 18-8 SS	4
Electronics Fasteners		
Bottom PCB To Grip Frame	M2 x 4mm Pan Head Machine Screw 18-8 SS	1
Top PCB To Grip Frame	M2 x 12mm Pan Head Machine Screw 18-8 SS	2
Left Eye PCB To Mainbody	2-56 x ¼" Flat Head Machine Screw 18-8 SS	1
Right Eye PCB To Mainbody	2-56 x ¼" Flat Head Machine Screw 18-8 SS	1

O-RING LIST

Part Name	Specifications	Quantity	
Mainbody (Upper Receiver)			
Solenoid To Mainbody Seal	1 x 3mm Buna (Durometer 70)	2	
	Back Block		
Front, Outside Of Back Block	011 Buna (Durometer 70)	1	
	Stage 1 Proficiency Kit		
Rear, Outside Of Blast Guide	1mm x 12mm Buna (Durometer 70)	1	
Rear Bumper Of Quick Release Ram Shaft	007 Buna (Durometer 70) Square-ring	1	
Rear, Inside Of Poppet Shaft	008 Buna (Durometer 70) O-ring	1	
Rear, Outside Of Poppet Shaft	010 Buna (Durometer 70) O-ring	1	
Rear, Outside Of Quick Release Ram Shaft	011 Buna (Durometer 70) O-ring	1	
Front, Inside Of Volume Chamber	014 Buna (Durometer 70) O-ring	1	
Front & Rear, Outside Of Quick Release Pillow Bolt	015 Buna (Durometer 70) O-ring	1	
Rear, Inside Of Volume Chamber	020 Buna (Durometer 70) O-ring	1	
Front, Outside Of Volume Chamber	022 Buna (Durometer 70) O-ring	2	
Front, Outside Of Ram Housing	022 Buna (Durometer 70) O-ring	2	
Rear, Outside Of Ram Housing	022 Buna (Durometer 70) O-ring	2	
Inline	e Regulator (HPR Magazine)		
Spring Stack Retainer Of Spring Follower	011 Buna (Durometer 70) O-ring	1	
Top, Outside Of Main Valve Housing	012 Buna (Durometer 70) O-ring	1	
Bottom, Outside Of Main Valve Housing	016 Buna (Durometer 70) O-ring	1	
Outside Of Piston	016 Buna (Durometer 70) O-ring	1	
Inline Regulator To Grip Frame Seal	020 Buna (Durometer 70) O-ring	1	
Low Pressure Regulator (LPR)			
Solenoid Input Manifold To Solenoid Seal	1 x 3mm Buna (Durometer 70) O-ring	1	
LPR Housing To Mainbody Seal	1 x 4.5mm Buna (Durometer 70) O-ring	1	
LPR Housing To Grip Frame Seal	008 Buna (Durometer 70) Square-ring	1	
Outside Of Piston	012 Buna (Durometer 70) O-ring	1	

O-Ring Size Chart			
007	Ο	014	Ο
008	Ο	015	0
010	Ο	016	0
011	Ο	020	\bigcirc
012	0	022	\bigcirc

QUESTIONS AND ANSWERS

- Q: How does the M-TAC work? Open or closed bolt? Spool valve? Poppet valve?
 A: The Marq is a revolutionary electropneumatic inline poppet valve design. It is not a spool valve, nor is it a traditional stacked tube design--but rather a unique platform that is unlike nearly any other high end marker available.
- 2. Q: Where can I get repair parts\O-rings?A: Bob Long Technologies and authorized dealers stock replacement parts.
- Q: How can I contact Bob Long Technologies ?
 A: (925) 625-7929 or <u>techsupport@boblongdirect.com</u>
- 4. Q: How do I tell if I have four eyes or two?
 A: Reach up on your cheeks and feel between them and your eyebrows. If you only feel two orbs everything is great you have two eyes! On the other hand all M-TAC markers ship with 4 eyes by default.
- 5. Q: What kind of detents do the M-TAC use?
 A: The M-TAC uses a proprietary (unique to the Marq) detent that is both durable and effective. You can get them from Bob Long Direct or any authorized dealer.
- 6. Q: How do I send my marker in to Bob Long Technologies for service? A: Package the marker up safely with good padding, and clearly write your return address. Inside the box, include a letter saying what's wrong with the marker, and your contact information (YOUR NAME, PHONE NUMBER AND ADDRESS). You will be called if there's a charge, and if you don't hear anything, your gun is probably already on it's way back to you. Be confident that your marker is in the best hands imaginable. If you have any questions regarding the repair status please call.



Q: How do I use the Bob Long LPR tester?
 A:



Note: Left facing gauge reads inline regulator (HPR) pressure. Rear facing gauge read LPR Pressure.

- 1) De-gas your marker.
- 2) Turn off inline regulator (HPR) by backing out adjustment screw counter clockwise until adjustment screw is flush with base of regulator.
- 3) Remove firing engine from marker.
- 4) Lightly grease Pressure Tester o-rings then insert where firing engine was previously.
- 5) When Pressure Tester is installed properly, side gauge will face markers left.
- 6) Gas up your marker.
- 7) Set your inline regulator (HPR) between 230 and 240psi by turning adjustment screw clockwise until pressure reads as such.
- 8) Set your LPR between 70 and 75psi by turning adjuster clockwise until pressure reads as such. A 3/32" hex wrench is needed to properly engage LPR adjuster..
- 9) De-gas your marker once again.
- 10) Re-install the markers engine.

Note: Lightly grease engine o-rings. Engine should slide in mainbody with minimal friction. If the engine becomes bound in any way an o-ring has probably been ruined. Replace o-ring and continue install until engine slides in smoothly.

- Q:What should my LPR/HPR pressure settings be?
 A:LPR 70-75psi. HPR 200psi for approximately 290 fps. These are the factory shipped pressures, as well as the approximations for 290 fps with a good paint to bore match.
- 9. Q:What should I do if my gun is leaking down the barrel? A:Remove the engine from the marker, and replace all the #22 o-rings on the outside of the engine (there's 6 of them). Sometimes even a microscopic nick can create a leak--better to replace a 2 cent o-ring then spend hours troubleshooting your marker. Lube the fresh o-rings with Dow55, and carefully reinsert your engine, making sure not to slice any of the o-rings on the internal grooves in the body.
- 10. Q: My gun won't shoot above 200\220\240\260 what should I do?
 A: Ensure your HPR Magazine regulator is properly lubricated and its seals are in good condition. Ensure pressures are set correctly start with 200psi on the HPR Magazine, and 75psi for the LPR. If none of that fixes the problem, remove the Proficiency Engine. Use an o-ring pick to check the groove in the rear of the interior of your M-TAC. If you find debris or chunks of o-ring replace the outer engine o-rings. If you are still encountering problems you may need to replace your poppet, especially if it's a heavily used marker.
- 11. Q: My M-TAC doesn't seem to be efficient, what can I do to improve efficiency?
 A: Ensure you're running a good paint to bore match. This is a critical factor in obtaining velocity with the M-TAC. Ensure that your pressures are set correctly. Dwell should be set at 6--which is stock. You can check your LPR and HPR easily with the gauge made by Bob Long Technologies. Check the surface of the poppet for deformations and damage, and ensure the rearmost o-rings on the Proficiency Engine are intact and lubricated with Dow 55.
- 12. Q: Where can I buy a M-TAC pressure gauge?A: Bob Long Technologies and any authorized dealer should be able to supply them.
- 13. Q: Are there any how-to videos on maintaining my M-TAC?
 A: Maintenance videos will be available on the download section of the BobLongDirect.com website and on our YouTube channel.
- 14. Q: What should I use to lube my marker?

A: Use Dow 55 on all regulator and Proficiency Engine o-rings. For the O-rings on the bolt use Tri-flow oil. Dow 55 is recommended because it swells o-rings slightly. While Dow 33 has been used as a substitute by some people it is not considered a replacement for Dow 55. Dow 33 is formulated to be a bearing lube. Only Dow 55, which slightly swells o-rings is used during the development of Bob Long Markers. The

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tolerances built into the Bob Long Technologies products were specifically designed for o-rings treated with Dow 55.

15. **Q:** My left eye cover does not fit! What do I do?

A: The hole in the eye cover is slightly off center. Make sure that it is toward the front of the marker and that the retaining screw for the left eye is in the hole toward the rear of the marker.

16. **Q:** What can I attach to the Picatinny rail system?

A: Any accessory that uses this type of rail system. If you are considering mounting a laser ensure that the field where you are playing allows their use. A picture of a heavily modified M-TAC is below.



17. **Q:** I am having trouble reinserting the wiring plug into the lower receiver when reassembling the marker. What should I do?

A: A small zip clip/wire tie can be attached to the wires above the plug. Push the free end of the wire tie into the grip frame as shown below and pull the wiring harness into the open area. You can leave the wire tie attached as long as you push it to the side when reinstalling the grip.

18. **Q**: I am having problems with inconsistent velocity – how do I fix it?

A: Ensure that your regulators are properly lubricated, battery is in good condition, dwell is set to stock settings and that you have a good paint to bore match and that you are shooting paint that is consistent in size. Inconsistent paint size or a poor match will cause air to go around the ball instead of providing acceleration down the barrel. The Bob Long Barrel System is one upgrade to consider if you often shoot a variety of paint sizes.

19. Q. What the heck is that thing in the background of all the pictures?A: It is an Afghan tribal wrap. This manual was put together in the mountains of Afghanistan at

about 5,000 feet elevation. We didn't have a light box handy and it was either use the wrap or keep propping pieces on the camel.

