

使用說明書



AUTO & SEMI SMG
1/1 SCALE HIGH PERFORMANCE ASSEMBLED

2. Lubricating Points (Please refer to the Maintenance Manual)

- (1) When the ambient temperature is below 20°C (Winter time), and the BB gun is set to the AUTO position, it may not work well because LG has not yet obtained enough heat energy to produce the necessary pressure required to force the bolt backward and the trouble occurs. (Condition analysis: the magazine is very cold, and there is even frost on it. When the slide is pulled, it permits to fire one bullet at a time only. Or the blow back is powerless to force the slide backward.) Use the hands or body heat to warm up the magazine. Care shall be taken not to get frostbite, particularly in the condition that the indoor temperature is extremely low.
- (2) Never store the LG refilled magazine in the poorly vented high temperature environment, near the fire nor in the extremely humid environment, for it will render the magazine damage or gas escape. The LG can shall be entirely emptied before storage.
- (3) It is strongly recommended to apply the HFC brand LG can only to avoid unspecified high pressure contained in the can or the inclusion of extraneous material mixed in the LG to render damage to the magazine.
- (4) In case it is hard to refill LG into the magazine, it may be the case that the magazine temperature is too high and the refilled LG absorbs a great amount of heat thus produces sufficient pressure inside, which makes it impossible to continue injecting LG.
(Condition analysis: The magazine loses the pressure after firing 3 or 4 rounds of bullet or the magazine valve is hard to open.)
(Solution: Place the magazine in the refrigerator for 10 minutes to cool it down, or repeat the processing of bleeding refilling bleeding for 1 and two times to reduce the temperature of the magazine, and finally refill the magazine to the full level. This practice would render an easy damage to the rubber seal.)
- (5) The magazine is very heavy, so be careful not to fall it to the ground or collide it against the hard material, for it would cause deformation to the magazine and make it unworkable.
- (6) After firing practice, the magazine shall be emptied entirely. The high pressure contained inside of the magazine would cause trouble and shorten the life span of the magazine.
- (7) Caution: The fast bleeding of LG from the magazine would consume a great amount of heat energy in the ambient; caution shall be taken to prevent the hurt to the face, eyes and hands, including frostbite.

二、潤滑部位方式參照本說明書後述之保養方法

- (1) 氣溫20°C以下時(冬季)以連發模式持續射擊，會因為瓦斯因無法從周遭吸取足夠熱能揮發導致彈匣內氣壓不足，造成槍機無法回退到後定位置，使槍枝作動不順產生故障(狀況：彈匣十分冰涼，甚置有結白霜，拉一次槍機只能打一發或BLOW BACK後退作動有氣無力，無法使槍機後定)可以用手或體溫加溫於彈匣但小心凍傷，尤其室溫很低時。
- (2) 瓦斯注入後之彈匣不可放置於通氣不良高溫環境或火源電源旁，亦不可長期處於高濕環境下，容易造成彈匣故障漏氣等…損壞，平時未使用存放時請勿充滿瓦斯儲存，避免不必要故障及風險。
- (3) 請使用配合專用之HFC瓦斯避免它將瓦斯過高壓力或不純之雜質損害彈匣，槍枝本體。
- (4) 當瓦斯無法順利充入彈匣時，表示彈匣本體溫度太高，使少許瓦斯充入時立即吸收大量熱能充份揮發彈匣中壓力高漲，使後續液態瓦斯無法充入彈匣。
(狀況：彈匣打3-4發便沒氣，或甚至氣閥已無法開啓放氣)
(解決：彈匣放入冰箱10分鐘再充，或灌瓦斯放氣灌瓦斯放氣重覆1-2次，降下瓦斯槽及彈匣溫度，即可充飽，但此法會對彈匣氣密橡皮造成損傷)
- (5) 由於彈匣本身重量沈重，持用時小心不可使彈匣落於地面或撞擊堅硬物體否則會造成操作不順，影響槍枝本體造成損壞。
- (6) 使用完畢存放時，彈匣不要充滿瓦斯，使彈匣內部有高壓力，增加彈匣機構不必要之負擔，造成壽命減短、故障。
- (7) 注意：瓦斯在快速釋放時會帶走周遭大量熱能小心、臉、眼、手部不要接觸防止凍傷。

3. Secrets to Maintain Good Performance of Magazine

HFC blow back series BB Guns use especially-prepared and hazardless LG to produce an evaporating pressure served as the recoil force. Playing BB guns would invite greatest fun. The following instructions will familiarize the users with the characteristics of HFC series BB gun.

- (1) The LG is capable of absorbing a great amount of heat energy and evaporate to 10 or hundred times volume of propane and chloro-fluoride brow liquidized gas.
- (2) Most LG available in the market is flammable, so use it with great care.
- (3) Normal BB guns require 5~8kg/cm² air pressure to operate.
- (4) Each LG differs in pressure and operation because of its composition. Secure the operation instruction from the seller before using it.
- (5) Never use cooking LG or lighter LG, which are not a good substitute. (They produce insufficient pressure and they are susceptible to burning and explosion.)

三、彈匣性能安定操作秘訣

HFC BLOW BACK系列使用專用無害之瓦斯，揮發之壓力作動機構模擬真槍作動，發射BB彈帶給使用者最大樂趣，要瞭解熟用HFC系列瓦斯槍必須瞭解下敘幾點：

- (1)瓦斯是一種會吸熱揮發成數十~數百倍體積之液態化合物（丙烷或氟氯棕皆是）
- (2)目前市售瓦斯許多具有可燃性（小心使用）
- (3)一般瓦斯槍操作時需5~8kg/cm²之氣壓便可作動
- (4)每種瓦斯因成份不同壓力不同使用前請仔細詢問店家
- (5)請勿使用家用煮飯瓦斯，或打火機瓦斯代替（壓力不足且會燃燒爆炸）

Safety rules to use the magazine

- (1)When the magazine is filled with too much LG or the magazine absorbs too much heat energy, the pressure inside the magazine will become too high, thus the bleeding valve requires a force 10 times greater than the normal operational force to open it. The useful practice is to strike the bleeding valve slightly with hand or tools to release the LG pressure and consequently lower the magazine temperature to the operational range and resume the smooth operation of BB gun.
 - (2)Always try to maintain the magazine working temperature at 25°C - 30°C to ensure the optimal operation pressure and firing rate. If the magazine is cold, warm it up with hands ; if too hot, bleed the pressure in accordance with the procedure stated in section (1) of this paragraph.
- ※In Winter or cold environment (below 20°C), the atmospheric reaction supplies less heat energy and produces insufficiency of pressure, so BB gun could not act smoothly and the Auto fire would fail to respond.
- ※In summer or hot environment, it is the case that the high pressure causes no fire (no way to bleed the pressure by striking the bleeding valve) or white fog emerges in the first few shots. It is a normal operation condition. The firing operation comes to normal after the magazine temperature comes down to normal. If not, use adequate tools to strike the bleeding valve to release the extra pressure.

明瞭以上瓦斯使用需知後，便可以聯想到使彈匣性能安定秘訣

- (1)瓦斯充的過滿，或是彈匣受熱，彈匣內瓦斯壓力上升會造成內壓過大，氣閥需要大於平時數倍甚至數十倍力量方能開啓，此時可以用手或工具輕敲放氣閥放出部份瓦斯，使內部瓦斯壓力降低，也降低彈匣本體溫度使內部氣壓恢復到可操作範圍，也增加內部揮發儲壓空間利於槍枝操作。
 - (2)保持彈匣適中溫度約25°C~30°C可保持良好操作壓力供應（彈內瓦斯揮發速度穩定）彈匣溫度太低時可用手掌握持彈匣給於熱量；彈匣太熱時依步驟1放氣處理。
- ※冬季或低溫環境（20°C以下）會對氣化反應有不良影響（熱能供給不足）而壓力偏低，使作動不順，或無法持續射擊太久。
- ※夏天或高溫環境下，壓力過高會有無法擊發（氣閥無法用擊鎚或手按下）或是前幾發射擊時有白色煙霧狀液態瓦斯夾帶噴出，此為正常現象當射擊幾發彈匣內壓；溫度降低後即恢復正常，如無法擊發用工具敲擊氣閥放氣釋放內壓。

4.Loading BB Bullets into Magazine

Precaution to operate BB bullets

- ※Use HFC brand BB bullets only or the BB bullets whose real roundness of the bullet diameter is exactly 6mm.
- ※This company would not honor the claim for repair and after-sales service on the BB gun which is damaged by applying non-HFC brand bullets (or the diameter of the bullet is less than 6mm such as 6mm-5.85mm and the weight of the solid bullet is 0.08-0.42g.)
- ※The fired bullets shall be recovered and collected in an attempt to prevent the kids and birds from eating them and generating hazard to the environment.
- ※Store the BB bullets properly and keep out of reach of children.

四、BB彈裝填方式

BB彈使用注意事項

※請使用HFC或加工精度高6mm真圓度高之BB彈。

※非使用HFC設定規格(6mm以下5.85mm~6mm重0.08~0.42克之實心球體之BB彈)，本公司不負維修、理賠之售後服務動作。

※BB彈使用後務必回收丟棄，防止造成兒童、鳥獸誤食及環保問題。

※BB彈小心保管，防止幼童取玩，造成危險。

Loading Procedures

1. For avoid the release spring strong power break the load structure, please note the magazine must be full load the BB pellets(40pcs).

2. Pull button to the bottom and fixed. (as illustration ①)

3. Load BB pellets by speed loader. (as illustration ②)

4. The BB pellets must be stack one by one (as illustration ③); there is around 3mm space after loading when presses down the top BB. For avoid the blow back system breaking, please take out one BB pellet if the BB is unable to press down(as illustration ④).

5. Press button and release it. (as illustration ⑤)

裝填步驟

1. 為了避免彈簧的彈力破壞上彈頭，每次請裝滿40顆BB彈

2. 將按鈕拉到底並固定圖①

3. 放上快速裝彈器圖②

4. BB彈排列需像圖③所示在上彈後壓下頂端的BB彈有3mm的空隙為了避免破壞BLOW BACK系統，若無法壓下BB彈時請將BB彈取出如圖④

5. 壓下按鈕並釋放圖⑤

5. Loading Magazine

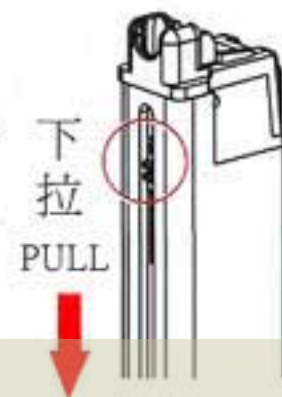
Insert the top of the magazine onto the magazine housing in the hand stock till a "click" is heard, then pull down the magazine to ensure it is securely held in the magazine housing of the hand stock.

⚠Caution: The hand stock of M-11 Gun is a compact design, be careful not to wound the palm when inserting the magazine into the hand stock. In the event there is an overload with more than 40 rounds of bullets, it will fail to fire. Remove the extra round of bullets to resume the fire condition.

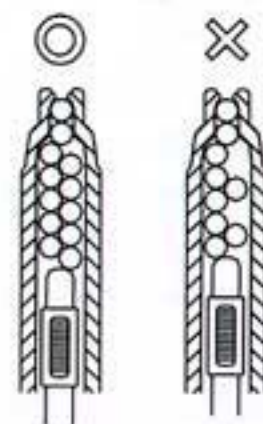
五、彈匣裝置方式

將彈匣上端，垂直向上插入把手下方彈匣容納口之中，直到彈匣與卡筭結合發出「喀嚓」之咬合聲後，再嘗試向下拉引彈匣，是否固定於彈匣容納槽中，完成彈匣裝置動作。

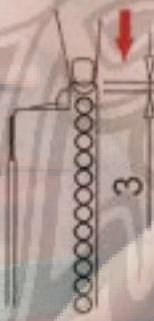
⚠注意：M-11槍體把手小巧所以裝置彈匣時注意不要夾傷手掌，萬一無法或裝填超過指定彈數(40發)時，有時會造成無法擊發BB彈狀況，此時應取出幾發BB彈。



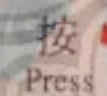
圖①



圖③



圖④



圖⑤



6. Charging Bullet to Firing Chamber

Pull the bolt handle backward till it is caught at the rear position. (Caution: Never point the loaded gun to any person or animal and never extend your finger into the trigger guard irrespective of whether the fire safety is on or not.)

※Open type bolt: The early submachine gun took this design. When it is in a ready to fire position, the bolt is held at the rear position and the shell ejection mouth is open. The advantages of this design are less parts and easy production, and the disadvantage is that the reciprocating movement of the heavy bolt generates a vast vibration which affects the accuracy of shot to the maximum extent.

※ Blow Back System: The pressure of the LG filled system differs in line with the change of temperature. Long firing is certain to decline the pressure and deactivate the performance of the blow back, because no sufficient pressure to force the bolt back to the rear position and the auto fire is therefore interrupted.



三、上膛方式

拉槍身上方之槍機拉柄向後直到卡筭後定（注意：此時無論有無保險均不得指向人、動物，且手指不得伸入護弓之中防止走火）。

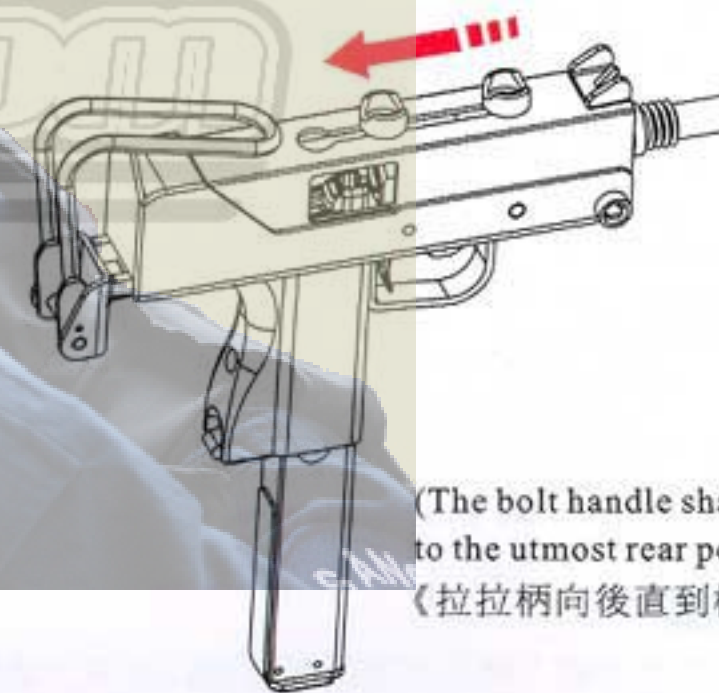
※開放式槍機：一般早期衝鋒槍均採此種設計，外觀特色是上膛待發狀況下，拋殼口是開放的，而槍機是固定於後方，好處是簡單易生產，機件少；壞處是發射時重量大的槍機往返作動使槍身震動變大，影響射擊精確度。

※BLOW BACK：裝置由於目前內充瓦斯會因溫度高低不同影響壓力大小，所以長時間持續射擊可能會造成壓力下降，使BLOW BACK組件（槍機）無法後定，造成無法控制的連續發射（但會自行停止）此時可用握彈匣加溫可有些微改善

7. Warning:

※ due to the operation of blow back in the M11 gun, pay attention all the time not to point the muzzle to any person in order to prevent injury. Even when the pressure is very low and the firing practice discontinues, be careful not to point the muzzle to any person.

※Cultivate a good habit not to touch the safety and the trigger at any time.



(The bolt handle shall be pulled to the utmost rear position.)
《拉拉柄向後直到槍機後定》

七、警告：

※M-11 BLOW BACK在操作時要隨時注意槍口所指方向，避免射傷旁人，當壓力不足或機件故障時常導致無法控制之射擊情況，此時更要小心槍口方向避免傷及旁人。

※養成不任意更動觸碰保險及射擊選擇鈕之習慣。

Operation and Application of Retractable Hand Stock

- (1) Hold two legs of the shoulder rest and press them to the center to disengage the clamps, and take off the shoulder rest from the hand stock.
- (2) Put back two legs of the shoulder rest into the clamps till a "click" is heard. Check to make sure that the shoulder rest is fastened in place.
- (3) Press down the clamps on the lower back of the hand stock and extend the shoulder rest to the full length. Press down the clamps on the upper back of the hand stock to retract the shoulder rest.

※Never completely disengage the shoulder rest from the hand stock.

※If the bolt fails to retract to the rear due to the fact that the pressure is too weak or too strong, repeat the action: pulling back the bolt pressing the trigger pulling back the bolt pressing the trigger for several times to find where the trouble is.

※The bolt vibration created in the fire will affect the shooting impact density.

※The auto firing usually produces a great amount of recoil force; however, a good shooter will utilize the shoulder rest and the sling to his best advantage.

伸縮槍托操作及使用

- (1) 肩托架由兩側向中央施力使卡筭脫離讓肩托架折下。
- (2) 折下肩托架直到後定位卡筭咬合發出“喀嚓”聲為止，並確認肩托架是否後定確實。
- (3) 槍身下方後部之槍托卡筭予以按下拉出槍托；放開按鈕持續拉槍托到定位。

※不要把槍托整組拉開與槍身脫離。

※如有壓力不足或過大導致槍機無法後定定位時，可先拉槍機→射擊→拉槍機→射擊重覆幾次來檢視其故障原因。

※所以在全自動射擊會因槍機作動震力影響彈著點密度。

※半自動時也會有較大後座力，所以使用者善用槍托及前方可附加之槍背帶穩固槍身施行射擊提高命中精度。

⚠ Warning Precaution in Firing!

※As the BB bullet hits the hard surface, it produces a ricochet and the broken pieces fly in all directions. So the shooter shall wear the goggles and protective gear.

※As the gun is loaded with LG filled magazine, the safety must be set on and never point the muzzle to any person. The teenage below 18 is prohibited to use it.

※Never point the muzzle of the BB gun with LG filled magazine to avoid injury to person and animal.

※The firing range of the BB gun is much affected by the wind direction, the temperature and other natural factors. In firing practice, consideration shall be given to projectile deflection beyond the prearranged fire range which might cause personnel and animal injury.

※The shooter shall never fire aiming at person, public utilities and property, for it will constitute a criminal.

※Unless it is definitely sure that the target is aimed, never extend your finger into the protection bow.

⚠ 警告（射擊時注意事項）

※BB彈擊打到堅硬物體會快速反彈或是破碎四射，操作槍枝射擊時一定要戴上護目鏡及防護裝備。

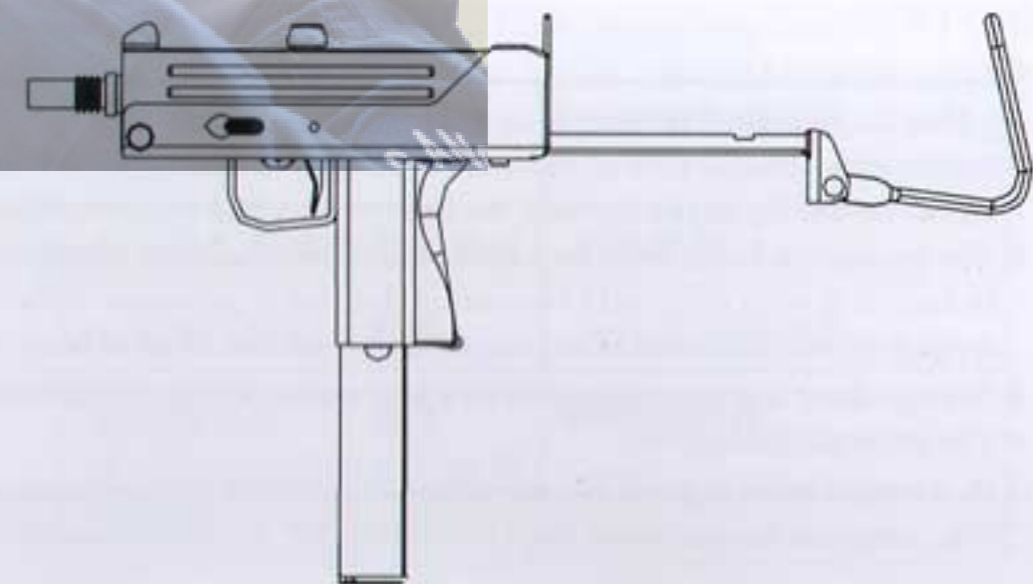
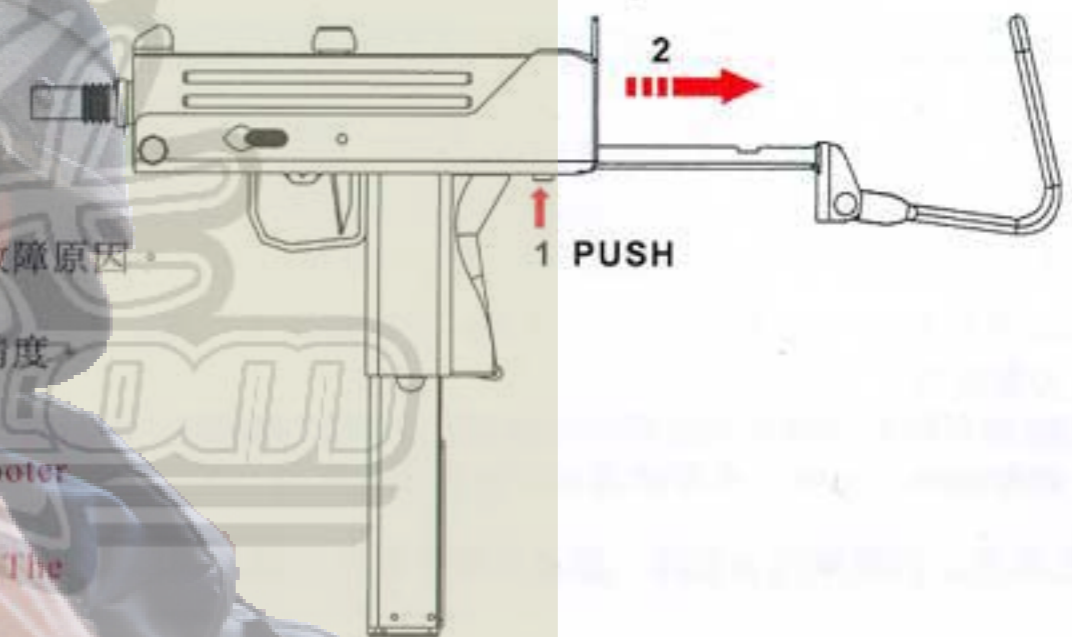
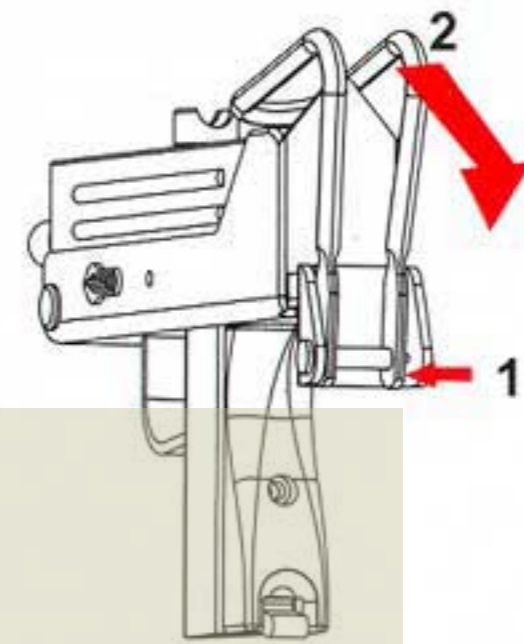
※裝填瓦斯BB彈之後的槍一定要關保險且不可任意指向人或動物，亦不可交由18歲以下幼童把玩。

※裝填瓦斯BB彈完成槍枝，槍口指向特別小心不要朝向人或動物，防止走火誤傷。

※BB彈射程會受風向氣溫等自然因素產生變化，在射擊時小心考量防止子彈偏向超過預設彈道傷及人畜。

※任意射擊他人或公共物品、財產會構成犯罪請持有人自重。

※除非確認射擊目標瞄準無誤否則不任意把手指伸入護弓之中。



8. In fire practice, make no public nuisance and disturbance of community peace.

- ※The borders of the firing range shall be well isolated and protected to avoid property damage, or a safer place should be selected for fire practice.
- ※The projectile of a ricochet is unpredictable when the BB bullet hits the hard material, so an effective prevention shall be taken.
- ※When a plurality of shooters practice the fire together, all shooters shall wear goggles.
- ※Reduce the unnecessary triggering (with LG filled but no bullet loaded) to the minimum because this practice accelerates the parts wear and tear, deterioration and shortens the life span.

(1) At the end when the whole magazine is fired, the bolt is retracted to 1/3 position.

The prior art of M-11 BB gun was designed to retract the bolt to rear end, but the bolt of the HFC M-11 BB gun is designed to 1/3 position as a way to remind the shooter to replace the magazine.

(2) At the end of firing practice.

Check and make sure no bullet is left in the bore. Take off the magazine and press trigger once again, return the bolt to the front position, set up the safety, retract the shoulder rest, empty the magazine, clean the bore and parts and return it to the packing box.

If it is intended to take a break, unload the magazine to avoid incidental firing.

八、常用遊戲槍練習娛樂時，要避免妨害他人安寧及造成旁人誤解報警。

- *標靶周遭若有易損壞物品應予以隔離保護或移開標靶到安全地方施行射擊。
- *跳彈(BB彈打到硬物會高速彈開)的方向不一定，且範圍廣大要小心防範。
- *多數人同時進行射擊時，在場所有人員均應戴上護目鏡。
- *不必要的空氣槍擊發(不裝BB彈只灌瓦斯操作)，由於並非正常操作設定，所以會加速槍枝機件損耗，加速劣化，減少槍枝壽命。

(1) BB彈射擊完了(槍機後定1/3)原本M-11原設計當子彈射完，槍機會受彈夾托彈板作動而後定定位；HFC M-11則是設計後定1/3位置提醒射手更換彈夾。

(2) 結束射擊操作時先確認彈夾有無殘存子彈於槍膛內，退出彈夾、扣板機，使槍機恢復原位；關保險收回伸縮托，取出彈匣中剩餘BB彈及瓦斯，整理清潔表面後放回包裝盒中保存。

⚠想停止射擊操作休息時，務必先取下彈匣，防止無意識狀態下放回槍機造成誤擊。



9. What is the meaning of HOP UP

HOP UP is a means to patch up the elastic rubber with high abrasion and low abrasion on the upper side and lower side in the bore, thus forces the fired bullet to create a swivel movement and a higher parabolic trajectory to increase the firing range and hitting concentration.

⚠ How to develop the maximum performance of HOP UP

- * Select very similar size of bullet ranged from 5.9 mm to 5.98 mm or 6 mm in diameter and from 0.2g to 0.25 g in weight. The light weighed bullet would fly in the sky and the heavy-weighed bullet would fall to the ground.
- * The projectile force shall be kept to gain the maximum stability in an attempt to gain an extremely similar parabolic projectile for each firing. In fact, it is very difficult to maintain the stable pressure of the LG; however, a good shooter shall pay special attention to temperature of the magazine and maintain it not too cold nor too hot so as to have a stable pressure desired.
- * Always keep the magazine part in a neat and working condition and properly lubricated to sustain smooth operation.
- * The external factors =>

(1) A tranquil wind is good for development of HOP UP environment.

(2) The ambient temperature shall be above 20°C to maintain a stable pressure.

九、什麼是HOP UP?

HOP UP 是讓BB彈於發射管中，因上或下方一端裝置磨擦力較大或較小之彈性物件，使BB彈發射時會有彈體自旋，使整個BB彈的射向呈現一個高拋物線提升射程及密集度。

⚠️讓HOP UP 性能安定發揮的條件

*選擇大小正確 5.9~5.98~6mm之BB彈，重量最好在0.2~0.25g，太輕則會有上飄情況，太重則會下墜。

*拋射力量(瓦斯壓)盡力保持穩定，因為每次一樣的發射力量，才能達到相同的拋射彈道，但使用內充瓦斯壓力本來就不易保持穩定，所以射手只能注意彈匣不可過熱或過冷，維持壓力穩定度。

*保持槍枝彈匣機件、清潔、潤滑，維持正常順暢的操作。

*外在環境因素=>1.小心風偏，無風狀態下HOP UP是最好發揮環境。2.環境氣溫不宜低於20°C以下，因瓦斯壓力不夠。

Regulating HOP UP

The regulation of HOP UP entails a 20 m long trial range.

(1)Take a normal firing posture and aim to fire 10-20 bullets to obtain the first impact group served as a basis for calibration. (In general firing, it usually takes 2-3 bullets for calibration. The calibration for HOP UP is different, because the error occurred in the 5-6 bullets fired shows no variation.)

(2)Calibration

Pull off the magazine, and regulate the HOP UP ring by using the feeler gauge attached to the BB gun. The regulating method is illustrated in the enclosed drawings.

(3)The impact area of the first 10-20 bullets is used as the target point for HOP UP calibration, move the regulating ring of HOP UP upward to obtain the second impact area in 20 m range and move the regulating ring downward to obtain the third impact area.

HOP Up調整方式

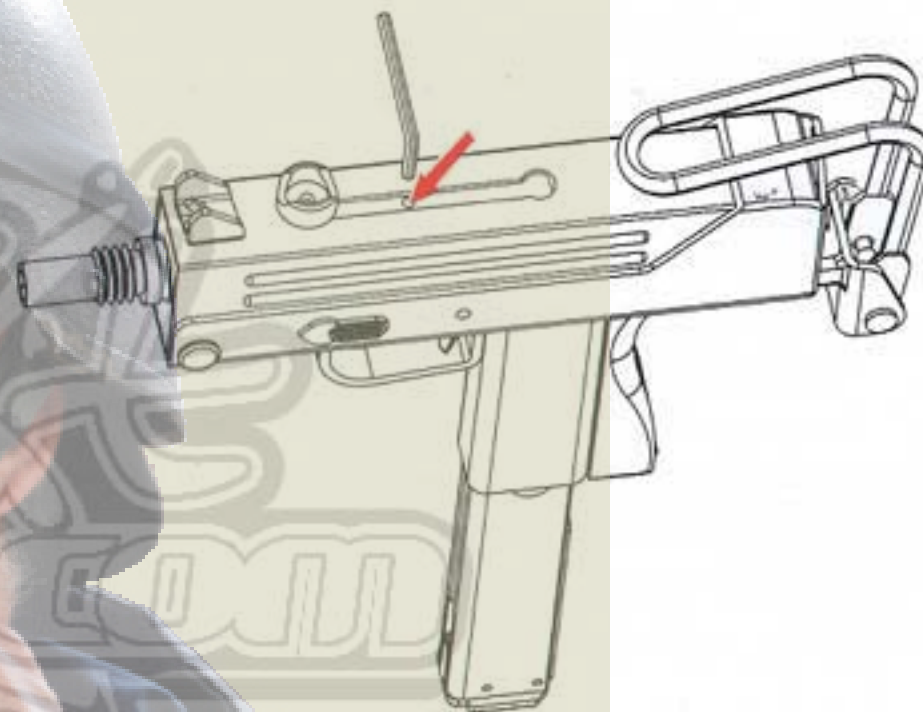
* 進行HOP Up調整需要20m以上試射空間。

1.請依正常瞄準、射擊姿勢發射10~20發，得到第一次彈著群便於校正依據。(一般正常射擊方式校正的2~3發射擊校正方式，不適用於HOP UP校正，因為HOP UP 在前5發~6發時誤差不會有太大差別)。

2.調校時取下彈匣，利用隨槍附贈之調整工具片加以調整HOP UP調校環。其方式如附圖

3.以第一次試射10~20發基準彈著群之中心點為基準點和目標物中心點之差距作為HOP Up調整依據，要在20m處提高彈著群時順時鐘轉動HOP UP調整桿，要在20m處降低彈著群時順時鐘轉動HOP Up調整桿。

⚠️警告：HOP UP 調整工具片具有銳利角度，取用、攜帶、保管時要小心使用保管，小心割傷。



HOP UP performance	Trajectory Profile	Improvement Required
Null	Natural physical parabolic trajectory	Regulating clockwise
Small	It flies a straight line, then falls to ground naturally	Slight regulation in clockwise
Most optimal	flies a straight line with long distance	No regulation required.
Great	It flies a short straight line and then change the course and fly to sky	Slight regulation in counter-clock wise
Irregular scattering	The projectiles fly up and down with very large scattered impact area	Regulating clockwise

HOP UP效果	BB彈的彈道現象	改善方法(HOP UP調整)
無效	自然之物理拋物線彈道	順時鐘調整
小	水平飛行一段距離，再自然落下下墜	少許順時鐘調整
最適中	水平飛行距離最長之彈道	不需調整
大	水平飛行或向上飄升	少許逆時鐘調整
亂飄	混亂亂飛有上、有下、或是彈著面積大而且散亂之狀況	順時鐘調整

(4) Repeat the process of regulating - trial fire regulating to obtain the optimal projectile profile.

(4) 調整>試射>調整之後，求得最好的彈道。

⚠ Attention:

A. The regulation is processed only under one circumstance that all parts of BB gun are in good condition. The regulation on the worn out parts will result in difference or a failure. Please approach your distributor for consultation and assistance.

B. Variation in bullet weight creates a variation in influence. In the projectile calibration, fire the bullet of the same lot and same weight.

C. Wrong regulation: The user is liable for any damage as a result of disassembly, modification and replacement of parts on the HFC BB gun; however, the distributor will provide assistance in service and repair and the user has to pay the actual cost incurred.

⚠ 注意：

A. 上述調整方式係在正常操作狀況下的表現，如果相關機件磨耗後可能會有不同的調整數據或失效，此時應到經銷商處更換零件。

B. BB彈品牌重量不同時會有不同影響，所以請在校正彈道時全使用同一種BB彈，防止誤差加大。

C. 錯誤調校方式：分解、改造，造成之損壞請使用人自行負責。本公司經銷商仍與以修理但費用由不當操作人負責。

10. Application of HOP UP

HOP UP applies a principle in which an elastic abrasion rubber is posted on the upper part of bore directly contacting with the BB bullet. When fired, the bullet produces a swivel movement along the trajectory course. This design requires more energy and decreases the initial firing velocity but not so significant. Nevertheless, the change of the trajectory profile is largely dependent on the abrasion and BB bullet (weight and shape).

The key problem of the gas-powered gun lies on the gas pressure. The most optimal temperature to operate the BB Gun is 20°C - 30°C in which even under the condition that the cold would lead to poor evaporation of LG, it can be warmed up by hands to increase the pressure to a desired level. (Caution: Never use fire to warm up). Overheating would lead to trouble and risk.

⚠ Warning ! Precaution for Applying HOP UP

(1) Trial fire: The trajectory calibration shall be processed in accordance with the instruction provided in this manual. (Strict maintenance of range rules and personnel safety.)

(2) Familiarity with Operation and Mechanism of M-11 as described in this manual.

(3) Under HOP UP firing, the maximum range is 80m, clean up all material and personnel with this range.

(4) Holding gun in tilt position, pointing muzzle aimlessly, side wind blowing and ricochet would invite unpredicted accident.

十、HOP UP 的使用方法，注意事項

HOP UP 作動原理是在BB彈待射位置（入彈橡膠）上方會有具高磨擦力彈性元件和BB彈上方接觸，使BB彈會在射出時產生順拋射方向旋轉，此構造會有瓦斯壓力較多消耗及初速略減（不明顯）。但是由於其設計原理，所以當壓力（瓦斯壓力）、磨擦力、BB彈（重量、外型精度）相關因素任一項改變均會造成彈道變化（大小程度不一）。

其中瓦斯槍最大問題仍在瓦斯壓力，操作環境最佳溫度在20°C~30°C，如在此溫度以下操作，彈匣有溫度過冷氣化不良時，可用手握持加溫回升壓力（不可用火或40°C以上溫度加溫）。加溫過高可能導致槍枝故障及危險發生。

⚠ 警告 HOP UP 使用注意事項

1. 試射：調校彈道射擊參照本說明書之[射擊時注意事項]務必切實遵守維護他人及自身安全。

2. 操作前務必詳讀本說明書了解熟悉M-11操作及其機構原理。

3. HOP UP 使用下 BB 彈最大飛距可達80m，請注意此範圍內之人事物不要發生誤擊、或引起誤會。

4. 傾斜持槍、槍口無意偏向、側風風偏影響、跳彈反彈，皆會在無預期狀況下誤擊他人要小心注意。

11. Trouble Shooting for HOP UP

Case	Reason	Deposition
Severe flying up	1.HOP UP performance is too strong 2.BB bullet is too light	1.Counter clock wise regulation. 2.Use really round bullet weighed 0.25g each.
Severe falling down	1.The abrasion rubber is worn too much 2.BB bullet is not in really round	1.Clock wise regulation. 2.Use really round 6mm bullet weighed 0.25g each.
HOP UP with scattered impact, no way to calibrate	1.Badly worn abrasion rubber. 2.Abrasion rubber is greased 3.No real round bullet. 4.Improper calibration of HOP UP	1.Replace the abrasion rubber. 2.Remove grease form abrasion rubber. 3.Use really round bullet in same weight. 4.Carry out proper calibration.
HOP UP regulation failure	1.Worn abrasion rubber. 2.Worn parts.	1.Replace the abrasion rubber. 2.Replace the worn parts.
No projectile	1.Poor BB bullet 2.Worn abrasion rubber 3.HOP UP is too light 4.Dirty bore	1.Use really round 6mm bullet 2.Replace with new one. 3.Counter clockwise regulation to loosen HOP UP 4.clean the bore with cotton stick
Poor performance of HOP UP	LG pressure too low (too cold on magazine)	Take a break till the magazine is warmed up
	1.The blow back gets insufficient bleeding. 2.Worn HOP HP parts	(1)Trigger several times with no bullet, let the blow back part to recover to normal operation, or clean and lubricate the blow back parts. (2)Replace the worn parts.

十一. 現象原因處理方式

現象	原因	處理方式
上飄嚴重	1.HOP UP效果太強 2.BB彈太輕	1.HOP UP逆時鐘調整 2.使用真圓度好、重量(0.2g)之BB彈最好
下墜嚴重	1.HOP UP效果不足 2.BB彈真圓度不足	1.HOP UP順時鐘調整 2.請使用正牌6mm真圓度高之0.2g BB彈
HOP UP彈著混亂無法校正	1.入彈橡膠磨耗嚴重 2.入彈橡膠被油脂潤滑 3.BB彈真圓度不足 4.HOP UP沒有調校	1.加以更換新入彈橡膠 2.用乾淨棉花棒清除潤滑油並清潔拋射管內部 3.使用同樣大小重量、真圓度高的BB彈 4.參照前頁調整方法作調整射擊
HOP UP調整無作用	1.入彈橡膠磨損嚴重 2.相關組件磨損故障	1.加以更換新品 2.加以更換新品零件
BB彈無法拋射出槍	1.BB彈不良 2.入彈橡膠損耗 3.HOP UP太緊 4.槍管過髒	1.使用6mm真圓度高之BB彈 2.更換新品 3.逆時鐘調整HOP UP放鬆HOP UP 4.用棉花棒清潔、清洗
HOP UP效果弱	瓦斯壓降低(或彈匣過冷)	暫停射擊讓彈匣恢復常溫(適時補充瓦斯)
	1.Blow Back機件放氣量不足 2.HOP UP相關機件損耗	1.空槍(不加BB彈的彈匣只灌瓦斯)，打數次操作，讓Blow Back中切換氣閥恢復正常，或清潔潤滑Blow Back機件。 2.損耗機件與以更換新品

12.Storage, Carrying, Assignment and Scrapping

- ※At the end of operation, clean it and check to make sure that there is no bullet left in the barrel. Pull off the magazine and empty the bullet from the magazine. Drain the residual LG. Store the gun, the magazine and BB bullet in separate location in the packing box. Store it in a safe place and keep out of reach of children.
- ※The user has the sole responsibility to prevent the children or any person who are not familiar with the BB gun from using it. If the user is willing to lend to other people, he shall teach the borrower the safe rules of operation.
- ※Good custody of the BB gun is a unique obligation the holder has to take. The holder is liable for legal action in the event any hazard and criminal has derived from the poor custody. We have declared this criticalness in our operation manual.
- ※If it is intended to use the BB gun after long storage, please clean and lubricate properly and check the working condition of each parts. Adequate lubrication is the way to keep its long life span and smooth operation.
- ※When carrying BB gun along, please pack it in the packing box or in the carrying bag. Never carry the BB gun and walk along the street. It might create a public disturbance and violate the regulatory rules and invite police interrogation.
- ※When it is intended to assign, sell or donate the BB gun to the other person, the recipient shall be provided with this manual including the regulatory and moral obligations.
- ※When it is intended to discard the BB gun, all parts shall be destroyed, packed and marked with a label indicating "Discarded Toy Gun."

- ※使用完畢後，務必清檢、確認沒有BB彈殘留於槍膛之中，拔下彈匣，清除所有彈匣內BB彈，釋放過多瓦斯，將槍、彈匣、BB彈分別收放到包裝盒中位置，存於安全、隱秘位置，防止幼童任意遊玩，及引起不必要之誤會、危險。
- ※持有人本身具有防止幼童、不明白操作方式之人任意取用BB槍之責任，如果持有人願意出借槍枝於他人，亦需負起監督教導操作使用之安全責任。
- ※保管責任應完全由持有人負起此一重大責任，如果因為保管方式場所不適當所引發之危險、犯罪，持有人必須負責一切法律責任，本公司已於此說明書中明白告知此一重要責任。
- ※長時間存放後，要取出使用時，先檢視全槍機件是否正常作動、是否正常順暢，適當的潤滑保養可維持機件壽命及作動順暢度。
- ※攜帶BB槍時，注意必需包裝於包裝盒中或專用攜行袋、槍盒之中，不可直接手持BB槍行走於街道上，防止招致不知情路人誤會恐慌，及讓自身違反法律規定，而招到警察盤問。
- ※BB槍在轉讓(贈送或轉賣)於他人時除了BB槍本身外，本說明書及其中所有內容、持用規則、操作方法、法律及道德責任，均必需切實轉達告知。
- ※當BB槍丟棄時，建議於以破壞搗毀包裝後丟棄，並確實明顯標示為「廢棄玩具槍」。

13.Maintenance

⚠ Warning !

- ※Negligence in inspection and maintenance means a shortening of life span and invitation of high trouble with the BB gun.
- ※Never defy the rules and method set forth for inspection and maintenance. Arbitrary maintenance will lead to an unexpected outcome.

Recommended Lubricant and Lubrication Method

It is strongly recommended to use the "Silicone" lubricant or "Teflon" lubricant because they will not damage the rubber parts. Other lubricant, even useful, would render hazard to the parts. Remember to use "silicone" or "Teflon" lubricant to always keep the BB gun in perfect working condition.

十三、保養(個人使用保養)

- ⚠警告：※槍枝購入之後如果疏於保養檢視，將會減低槍枝壽命，使故障發生頻率增高。
※不可自行意測而不遵守本說明書中保養方式、程序。任意保養可能導致相反結果。

! 潤滑油之選擇及使用方式：

請使用「第4類石化製品」中所列之「矽利康」「鐵氟龍」類潤滑油，因此類油品對槍枝必要之橡皮機件不會造成損害；其它油類雖可以潤滑，但仍有可能對槍枝機件造成侵害，請持用者務必注意，儘可能使用「矽利康」油或「鐵氟龍」油，保持槍枝機件完美作動。

Precaution to Apply HFC Brand "Silicone" Spray

- (1) Never place it near fire (it is flammable).
- (2) Never place it in an environment above 40°C or under direct sunshine.
- (3) Use it in the place with good air circulation.
- (4) Never drink it (no poison material).

Pre-operation Inspection

- (1) Check any damaged or missing parts.
- (2) Check to see the working condition.
- (3) Check to see any LG leakage and abnormal action.
- (4) Check if the load of BB bullets is smooth and if the projectile is stable.

※ Find out the case of trouble, understand the reasons and research the solution.

These are ways to keep your gun always in workable condition.

Maintenance of Magazine

When the valve on the bottom plate of the magazine is pressed down, it opens a flow channel to bleed out LG... If it is the case to drain a large amount of LG out of the magazine, the rubber parts might be deteriorated due to great coldness and high velocity flow. The ejected LG might bring up the pollutant, loosen the parts and incidentally injure personnel.

Warning!

The drained LG forms a high velocity flow containing heat absorptive volatile material; which may injure eyes, face and skin, and even cause frostbite.

Proper Method to Bleed LG

Place a finger on the rubber seal on the valve, slightly press down the rubber seal and bleed a small amount of LG at each pressing and press 4 to 6 times to bleed out the amount as desired.

◎ Maintenance of Magazine

Clean the channel where the bullet is loaded to the fire chamber. Never grease this channel. The greased BB bullet will adversely affect the projectile of HOP UP. The valve and the rubber seal shall be lubricated frequently.

! HFC噴霧式「矽利康」保養油使用注意事項：

- (1) 不可接近火源使用(推進劑具可燃性)。
- (2) 不可置於40°C以上環境，及日光直射處。
- (3) 使用時需在通風處。
- (4) 不可誤食(雖不具毒性)。

! 使用前檢查

1. 槍枝、組件有無破損、遺失。
 2. 作動是否正常。
 3. 有無漏氣，及不正常作動。
 4. BB彈上彈是否順暢，彈道穩不穩定。
- ※ 先找出故障原因，才能瞭解、排除問題維護您愛槍正常操作，及完整的使用壽命。

! 彈匣之保養

彈匣後方之氣閥，壓下後便會開啓流道，釋放瓦斯，但是經常性大量釋放液態瓦斯時，會造成流道上相關之橡皮組件，產生因高冷及高速流動液態瓦斯擦蝕造成磨耗劣化，注意不要經常作此一動作，且瓦斯噴出有時會帶動污染物或是鬆動組件，飛濺而出有傷人可能性。

! 警告：瓦斯放出時其高流速反高吸熱揮發之物理性質可能造成傷害，小心眼睛、臉部、皮膚遭到傷害或凍傷。

正確釋放瓦斯方式：

用手指輕按彈匣上方瓦斯出口處之橡膠氣密墊，並用手指輕按氣閥4~6次，輕且慢的少量分段放出瓦斯。

◎ 彈匣保養：

清潔BB彈上彈道保持順暢，但不可上油（沾油的BB彈會使HOP UP失效及影響彈道）；氣閥及氣密橡膠墊時常潤滑。

Gun Body

- * Blow back parts (nozzle and nozzle seat) shall be lubricated frequently to keep the passage unclogged.
- * The movable parts shall be checked, swiped and lubricated.
- * Apply the Silicone lubricant with adequate viscosity. Heavy viscous Silicone lubricant gains bad result.

Integral Attention

- ※The air passage parts such as the flow channel in the magazine, the rubber seal of the valve, the nozzle and the nozzle seat, the piston rubber ring shall be lubricated frequently.
- ※The movable parts shall be lubricated frequently, but not so frequently as the above parts.)
- ※Periodic cleaning on barrel and HOP UP parts. Greased and dirty bore will hurt the accuracy of shooting.
- ※For long storage, it shall be stored in the dry place. Heavy compression would lead to trouble.
- ※The BB gun is designed with anti-modification measures. Modification at will is illegal and it might incite injury.

14. Disassembly

- * In the disassembly process, care shall be taken to prevent eye's injury by the flying elastic parts (such as the spring, ball, and so forth and the possible missing parts.)
- * Detail disassembly is not permitted. If necessary, please approach the distributor for assistance in detail disassembly or the repair for the damage caused in the detail disassembly by user himself.
- * The disassembled parts shall be arranged in order to avoid confusion and missing.
- * Children shall be prevented from swallowing the disassembled parts.
- * The user is liable for damage caused by the disassembly not compliant with the disassembly instructions provided in this manual.

※Major part disassembly (Assembly is in the reverse sequence)

- (1) Pull off the magazine, press the trigger and move the bolt to the front position.
- (2) On the right side of gun body, turn downward the hook at the front end of joint pin, separate the male pin and female pin lift up the gun body.

! 槍身主體:

- * Blow Back組件〔浮動嘴、浮動嘴承座...〕，時常清潔並潤滑上油維持順暢度。
- * 活動組件結合或相關作動部份均需時常檢視清潔、擦拭，並加以潤滑。
- * 此部份請用粘度適中之潤滑用矽利康油；使用高黏度之「矽利康」油脂，可能會招致無法作動之反效果。

! 整體注意事項:

- * 氣流經過之部件，彈匣流道、氣密橡膠墊、浮動嘴、浮動嘴承座、承座活塞膠環，要經常潤滑清潔。
- * 活動組件次之加以潤滑清潔（不需上述零件這般頻繁）。
- * 定期清潔槍膛HOP UP組件，及槍管內油份及污垢防止射擊精確度下降。
- * 長期保存注意乾燥及不可重壓，防止槍支故障。
- * 槍枝設計製造時均有防止改造之預防設施，請勿擅自改造防止觸犯法律或傷及自身。

十四、槍支大部分解方式

- * 分解作業中，彈性組件〔如：彈簧、鋼珠...等物件有可能飛射，注意眼睛安全及防止組件遺失〕。
- * 細部分解如非熟手，請送到經銷商處修理切勿自行拆解造成非必要之破壞。
- * 拆下之組件依序排列安放，以防止遺失。
- * 小心幼兒誤食分解下之零組件。
- * 非本方式程序分解槍枝造成之損害均由拆解人負完全責任。

※大部分解程序〔反過來進行即是組裝程序〕

1. 取下彈匣，確認無BB彈殘留於槍膛中，扣板機放回槍機至前方定位。
2. 從右側將結合梢的公頭前端卡鉤向下扳，分離公插梢及母插梢，將其取出槍身。

※Assembly

Insert the male pin and female into the hole from both sides, at this moment, pay attention and assure that the hook on the front of the male pin must catch the groove on the female pin.

(1) Hold the barrel with hand, lightly lift it up and separate from the gun body.

* The assembly is in the reverse sequence, pull back the bolt and turn the bolt handle to the left side (or right) at 90 degree and fix it at the rear. (Set up the safety), convenient for combining the gun body.

(2) After the gun body is separated, pull the bolt backward to the rear position and remove the recoil rod. When the handle groove points to the front, lift up the bolt handle and retract the bolt. This is the end of major part disassembly.

15. Trouble Shooting

Case	Reason	Solution
No way to refill LG into the magazine	1. The magazine temperature is too high. 2. The LG can contain insufficient LG or pressure. 3. The nozzle is damaged or out of work	1. bleed the magazine in order to cool the temperature for refilling 2. Replace with new LG can. 3. Replace the nozzle.
Leakage in the magazine	1. Leakage in refilling valve 2. Can nozzle damaged. 3. Quick bleeding causes shrinkage or wear in rubber parts	1. Replace with new grease valve. 2. Replace with new one. 3. Try again after it is cooled down. Replace it if leakage is found.
Bullet is not smooth to be loaded into the fire chamber	1. Too many BB bullets loaded. 2. The magazine is deformed. 3. Deformed guide flap in the magazine	1. It is overloaded more than 48 rounds. Remove few rounds and pay attention to layering 2 & 3. Replace the magazine.
Unable to load bullet to the fire chamber	1. Deformed guide flap in the magazine. 2. Deformed BB bullet.	1. Replace the deformed parts and bullets
No fire action actuated by the bolt	1. Poor load of bullet. 2. Deformed float nozzle, pedestal and piston. 3. High resistance due to no lubrication. 4. Deformed magazine.	1. See the above solution. 2. Repair, calibrate and replace. 3. Apply proper lubricant. 4. Replace with new magazine.

*組合時

將公母插梢分別從槍身前方左右邊插入槍孔結合，但注意公插梢前端卡鉤要和母插梢凹槽扣合方才結合完成。

(1) 手持槍管向上、向前輕輕施力便可分離上下槍身。

* 組合時依上述程序反向操作，但是要將槍機後拉轉拉柄向左(右)90 度固定在後(槍機後定保險)方便上下槍身順利結合。

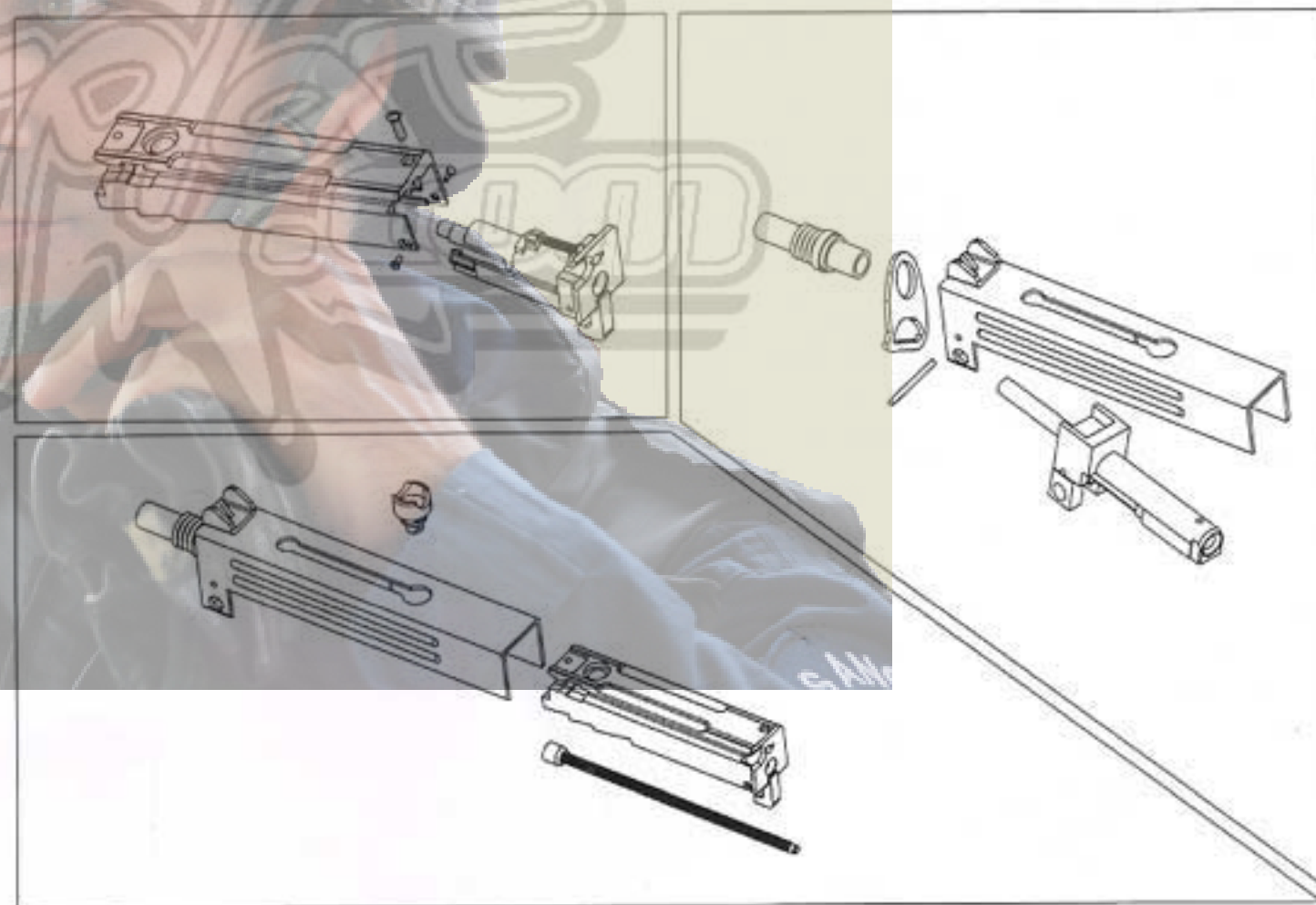
(2) 上槍身分離後，槍機拉柄拉到後方定位取下槍機複進簧連桿，在拉柄凹槽指向前方之正常位置狀況下向上施力拔出拉柄，便可自上槍身後方倒出槍機，完成大部份解。

十五、故障問題及排除方法

現象	成因	排除方法
彈匣瓦斯無法注入？	1. 彈匣本體溫度太高 2. 瓦斯罐本身瓦斯量不足／壓力不足 3. 彈匣瓦斯注入嘴破損／故障	1. 重覆注入、放出瓦斯數次，帶走熱能冷卻彈匣瓦斯便可輕易充填 2. 更換新瓦斯罐 3. 更換新瓦斯注入嘴
彈匣漏氣	1. 彈匣氣閥漏氣 2. 瓦斯注入嘴破損 3. 急速瓦斯釋放造成橡膠零件冷縮或磨耗	1. 更換新品或是加油潤滑清潔 2. 更換新品 3. 等溫度恢復試灌瓦斯，如仍漏氣則更換橡膠零件
彈匣上彈不順暢？	1. BB彈裝填過多 2. 彈匣本體變型 3. 彈匣導彈唇變型	1. 不可超過40發，如有不順先取出幾發再行試射，注意BB彈交疊順序 2. 3. 更換新彈匣操作
BB彈無法上膛	1. 彈匣導彈唇變型 2. BB彈碎裂變型	損壞部份更換新品
槍機無法擊發	1. BB彈上彈不良 2. 浮動嘴、承座、活塞部故障變型 3. 缺乏潤滑產生阻力 4. 彈匣上彈部變型影響 5. 浮動嘴活塞脫落	1. 參照前項處理排除 2. 修理校正，並更換潤滑受損部件 3. 加以潤滑(參照保養方法) 4. 更換新彈匣 5. 拆解槍機將活塞置回原本定位，並加以固定潤滑
板機動作失效或無法擊發槍機	1. 保險鈕關保險狀態 2. 槍機阻鐵磨耗失效 3. 槍機下方卡合槽磨耗	1. 解除保險(開保險下位置) 2. 3. 槍身本身部品更換，請到經銷商處修理

Low velocity, short projectile range	<ol style="list-style-type: none"> 1. Insufficient LG filled. 2. The magazine is too cold. 3. The bullet entrance rubber is abnormal. 4. Poor quality bullet. 5. Inadequate regulation of HOP UP. 6. Failure of piston ring of the float nozzle. 7. The piston cylinder of the float nozzle is broken. 8. Trouble occurs in flow shift valve. 	<ol style="list-style-type: none"> 1. Refill LG. 2. Use hand to warm it up. 3. Use cotton sick to clean up. If no improvement, replace with new rubber. 4. Use the BB bullet as recommended. 5. Please refer to the calibration of HOP UP. 6,7&8. Replace with new parts.
Failure in fire selection	<ol style="list-style-type: none"> 1. Parts failure. 2. Insufficient LG leads to the failure of auto fire. 	<ol style="list-style-type: none"> 1. Replace with new parts. 2. Replenish LG or warm up the magazine.
Firing process not smooth once fired tow round, once no round at all.	<ol style="list-style-type: none"> 1. The magazine is too cold. 2. Poor quality BB bullet. 3. Deformed magazine. 4. No regulation of HOP UP 	<ol style="list-style-type: none"> 1. Warm up the magazine to resume the pressure required. 2. Use the bullet as recommended. 3. Replace with new one. 4. Use adjusting tool to regulate HOP UP.
Safety failure	Parts damaged.	Replace it
Trouble in blow back	<ol style="list-style-type: none"> 1. The magazine is too cold/low pressure. 2. The piston of the float nozzle is dirty. 3. The piston and parts in the float nozzle are worn out. 4. The body and barrel are not properly assembled. 5. The piston cylinder is broken. 6. The bullet entrance rubber is worn out. 7. The joint surface of the bolt is worn out. 8. The pedestal of the piston is deformed. 	<ol style="list-style-type: none"> 1. Warm up the magazine to resume the pressure. 2. Clean and lubricate it. 3. Apply the lubricant as recommended. 4. Reassemble them as instructed. 5, 6 & 8, Replace them. 7. Inspect, clean, lubricate and replace it necessary.

射擊時一次打出2發或不順暢射擊(一槍有一槍沒有子彈)	<ol style="list-style-type: none"> 1. 彈匣過冷 2. BB彈不良 3. 彈匣變型 4. HOP UP未調整 	<ol style="list-style-type: none"> 1. 加溫彈匣恢復壓力 2. 使用正確規格BB彈 3. 更換新品 4. 使用調整工具調整HOP Up 向左向下
保險鈕失效	相關組件損壞	更換新品
Blow Back動作不順暢	<ol style="list-style-type: none"> 1. 彈匣太冷/瓦斯壓力不足 2. 浮動嘴活塞污染不順 3. 浮動嘴內活塞及組件磨擦力過大 4. 上、下槍身未正確結合、固定 5. 浮動嘴活塞筒破裂 6. 入彈橡膠耗損 7. 槍機上下方接合面污染磨耗 8. 浮動嘴承座活塞變型 	<ol style="list-style-type: none"> 1. 加溫彈匣恢復瓦斯壓力/補充瓦斯 2. 清潔並潤滑 3. 加以清潔潤滑 [參照本書保養方法] 4. 重新分解、組裝(參照大部分解：組裝方法) 5,6,8. 更換新品 7. 清潔、潤滑、檢視後若仍無法操作即更換新品





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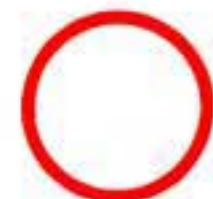
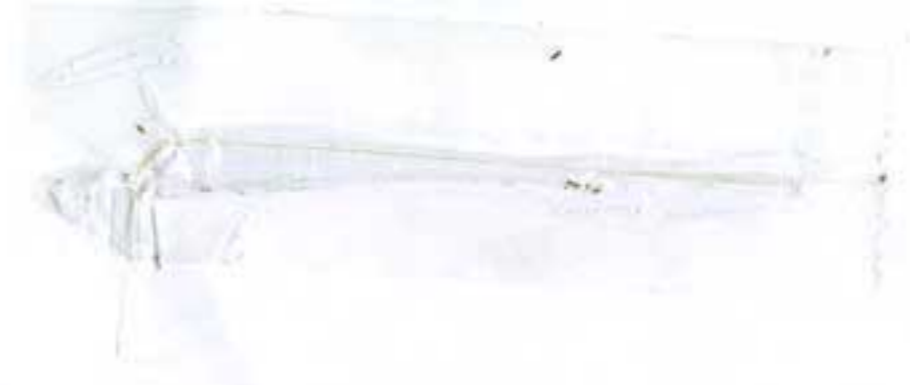


調整HOP UP

以微調方式（以順時鐘30度為1單位）做調整如調整過多易造成橡膠變形及無法正常射擊

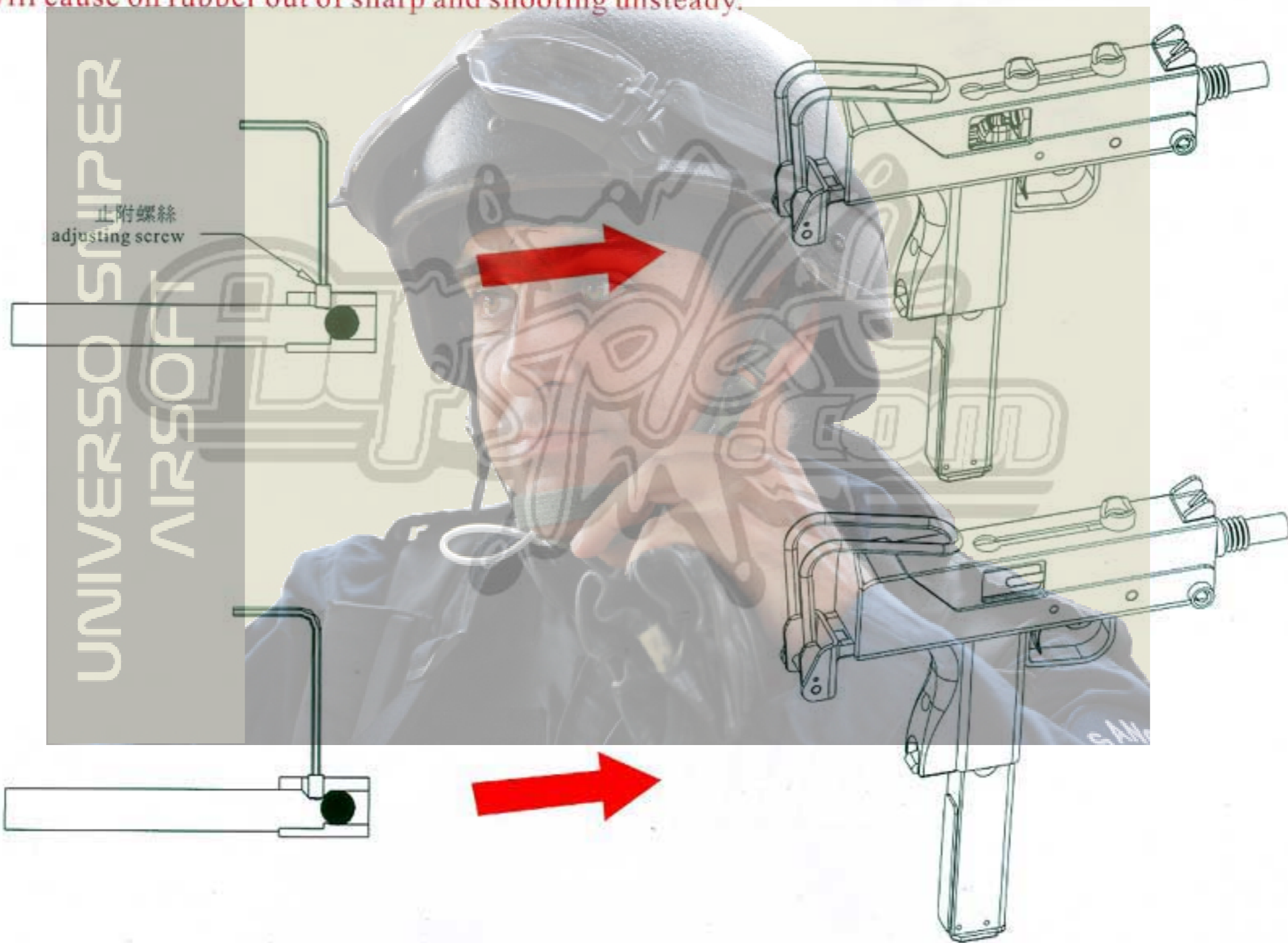
Adjustable Hop Up

As 30° per unit via clockwise direction to adjust hop up. Over adjusting will cause on rubber out of sharp and shooting unsteady.



正確
correct adjusting

止附螺絲
adjusting screw



錯誤
ovet adjusting

