

Warning

All audiences should read the proclamation of using this maintenance instruction manual carefully before view the content of maintenance instruction manual.

APS Paintball Limited



Proclamation of using this maintenance instruction manual

- The term "APS" or "us" or "we" refers to APS Paintball Limited. The term "you" refers to the user of this maintenance instruction manual (known as "manual").
- The manual is a reference and information, which is made for person who has been trained and authorized to handle and repair Real Action Marker (known as "RAM") or its related accessories. For if person who is not trained and authorized to handle and repair RAM or its related accessories, please do not attempt to repair RAM or its related accessories yourself. We do not bear any indemnification, liability and responsibility for the damage or defective of the RAM or serious injury resulted from repairing the RAM without trained and authorization.

Safety precaution

- For everyone authorized person who attempt to repair our RAM and its related accessories, please make sure any protective equipments (especially mask or goggle) at all time while repairing.
- Unless using cylinder tests the pressure of the RAM, the cylinder should not be installed onto the Marker while repairing. It decreases the risk and aim to be safe.



S-Series

Maintenance Procedures

S-Series RAM

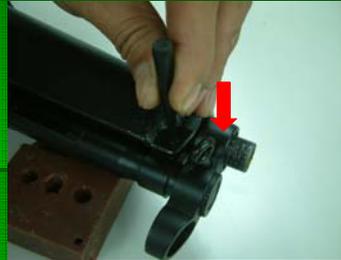


S-series RAM Disassembling

Disassemble the Muzzle



Remove the Locking Pin of the Hand Guard



Remove the Hand Guard



Remove the Body Locking Pin



Separate the Body Group and Hand Grip



S-series Hand Grip Group



Remove the Barrel



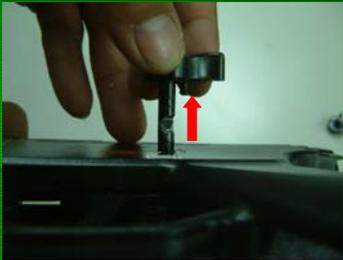
Screw out the Safety Catch (Right)



After removed the Safety Catch (Right)



Take out the Safety Catch (Left)



Take out the Marker Core



Picture of S-series Core



Disassembling S-series Core

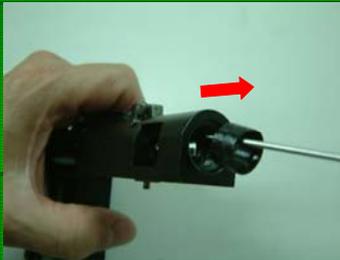
Remove Fire Selector Control Wheel Part 1 and 2



Remove the Ball Holder



Shown as picture



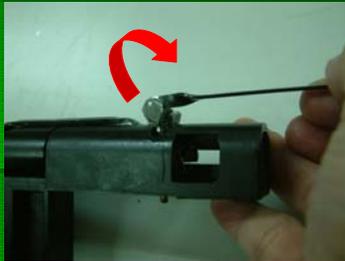
Pull up the Pull Bar Locking Sheet



Lift up the Pull Bar Locking Sheet



Pull Forward Pull Bar



Remove the Top Bar



Unscrew the Launching Compartment



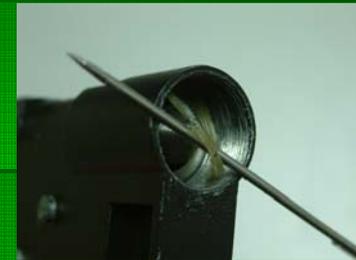
Remove Main Spring

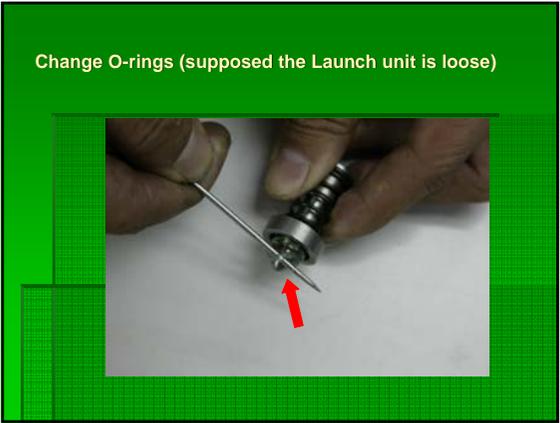
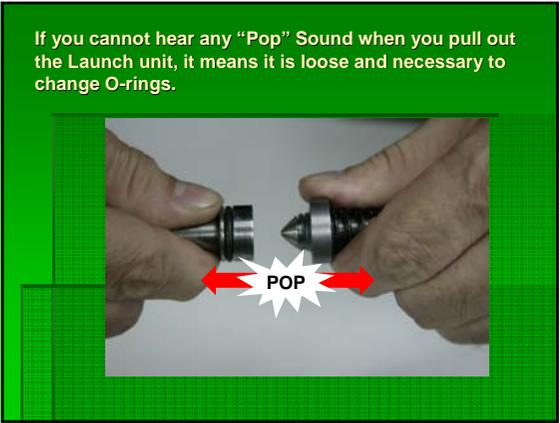
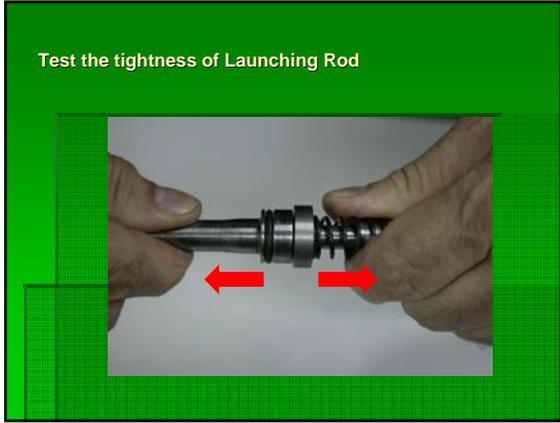


Remove the Launching Rod



Take out O-ring





Change new O-rings



Change new O-rings



Change new O-rings



Test the tightness of Launching Rod again



Test the pressure

How to install the pressure gauge

Adjust the pressure (Left screw in the picture) and adjust the rate of fire (Right screw in the picture)



Remove rate of fire unit's screw



Take out the rate of fire unit



Test the pressure



Screw the Valve tightly



Screw the Valve tightly



Install the cylinder



Tighten the cylinder and release the gas (switching on the valve)



Read the Pressure gauge (The needle should be pointed to 2.8MPa approx.)



Adjust the pressure (if the needle is not pointed to 2.8MPa approximately)



Until 2.8MPa



When pressure gauge shows that the needle is rising rightward, it means the gas is leaking from the pressure unit. So first of all, switch off the valve of the cylinder and release the gas in the marker core, thereafter uninstall the cylinder and pressure gauge.



Repair the pressure unit

Remove the pressure unit's screw



Take out the pressure unit



Take out the spring



Install a screw for removal the thimble



Remove the thimble



Remove the screw valve



Take out the end cap



Take out the spring and the steel ball



Check any damages of Valve and O-ring



Check any damages of Valve and O-ring



Change new Valve and O-ring and re-install all parts of the pressure unit and test the pressure again until the pressure gauge shows at 2.8MPa approximately.



If the pressure gauge shows that the needle starts from 2.8MPa moving down to 2MPa or less, it means the gas is leaking from the trigger unit. Switch off the valve of the cylinder and release the gas in the marker core, thereafter uninstall the cylinder and pressure gauge.



Repair the trigger unit

Remove the locking pin of the trigger



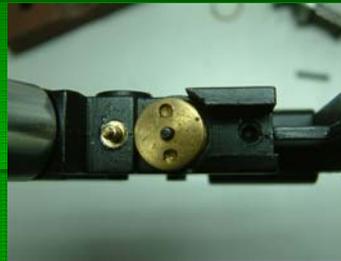
Remove the trigger



Remove the trigger holder



Remove valve



Remove valve



Take out the spring and the steel ball



Check any damages of Valve and O-ring



Check any damages of Valve and O-ring



Change new Valve and O-ring and re-install all parts of the pressure unit and test the pressure again until the pressure gauge shows at 2.8MPa approximately.



Repair If Paintball Marker is functioned (shooting) automatically without pressing the trigger (self-firing).

Remove the valve pin from the valve end cap



Take out the O-ring



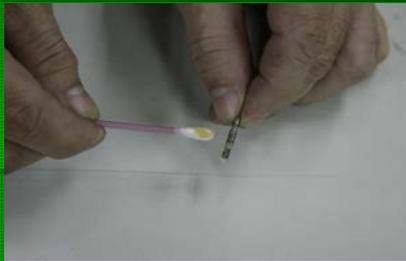
Pick up other O-rings



Change new O-rings



加一點 (低溫雪油) 在開關閥頂針 Add a bit grease oil on the valve pin



放回 (開關閥) 內 Put back the valve pin on the valve end cap



Test the valve pin smooth



Test the rate of fire

- After resolve the gas leaking problem from the pressure unit or trigger unit, re-check the pressure and make sure the needle on the pressure gauge is pointed to 2.8MPa approximately.
- If it passes, tight the rate of fire unit screw all the way and then turn back and loose it a bit.
- Then test the rate of fire "AUTO" mode.
- Push the fire selector controlling bar forward and press the trigger.
- The normal rate of fire is 3 to 4 shots per seconds.
- The tightness of the rate of fire unit screw will affect the performance of the firing (shooting) when users switch the firing selector to "AUTO".

End of the Maintenance Procedures

- Assembling all parts and units
- Be noticed that the case ejector should be pressed down before combining the Body Group with the Hand Grip.
- Make sure the barrel is aligned when all parts and units have been assembled.
- Apply few drops of lubricant oil into the marker core if necessary.

General Maintenance on RAM

(Apply to R-series, S-series and A-series)

Noticed:

Parts number will be different between each series but generally the part mentioned in the followings can be applied to each series.

Gas Leaking

- From muzzle velocity unit – If Paintball Marker cannot shoot projectiles consistently, it is because pressure in the muzzle velocity unit is not steady. Check part 4110 and/or 4111A change them if damaged. (When pressure gauge shows that the needle is not keeping around 2.8 but rising to 4 or over, it means the pressure is not steady and moving rightward.)
- From the trigger unit – if gas is leaking without pressing the trigger, it means gas is leaking from the trigger unit. Check part 4129A and/or 4130 and change them if damaged. (When pressure gauge shows that the needle is not keeping around 2.8 but dropping to 1 or less, it means the pressure is not steady and moving leftward.)

Gas Leaking (Con')

- Paintball Marker is functioned (shooting) automatically without pressing the trigger – It means O-rings (4133 and 4135) inside the trigger screw (4131) are too dry. Change them and add few drops of grease oil.
- From rate of fire unit – If gas is leaking and it is difficult to adjust the rate of fire, please change a new O-ring (4121) if necessary.

Marker firing has a time lag

- A time lag is happened when the projectile is not shot out immediately as pressed the trigger. The reason is that the screw at the rate of fire unit is too tight; or the pressure does not reach 2.8MPa. First, loose the screw at the rate of fire unit. Turn it anticlockwise to adjust a little bit. If it is not improved, try to increase the pressure.

Shot does not go straight

- Check the barrel if there is oily (too smoothed). It makes the shot does not go straight consistently.

Case Jam

- Check the Launching Compartment Unit. If the surface inside the Compartment is rough due to the damage by the case ejector (causing by shooting empty), use a file to cut the rough texture out.
- If the case is jamming between the front of the Launching Compartment Unit and the Barrel Adaptor Cover, it is caused by the incorrect installation of the barrel. In this situation, it is necessary to adjust the barrel back to align the Launching Compartment Unit. Use a sharp tool to test that the Barrel Adaptor Cover does not interrupt the alignment.

Projectile is not loaded

- If the projectile (case) does not rise up to the proper position, it means that the main magazine spring is depreciated or the inner core of the magazine is damaged. Check or change a new main magazine spring (4901). Change the inner core component of the magazine if damaged, too.

Projectile falls out from the Magazine

- If the first projectile falls out from the magazine, possibly the casing hook (4909) is damaged; Or casing hook is not pressed when loading the projectile into the magazine. Change a new casing hook if necessary.

Shot is fatigue

- Check O-rings (4142A and 4143A) in the Launching Compartment if both are too loose. Pull the Launching Compartment sideward by hand carefully. If it is ease to pull out without tension, change new O-rings (but both cannot tighten too much.)

Safety Lever (Fire Selector) is loose

- If the fire selector is loose to fix on one position, especially when it is switched automatically from full auto mode to semi auto mode, change a new Locking micelle (4314) and spring (4315).
- Paintball Marker is function even Safety Lever (Fire Selector) is pointed at Safe mode
- Check that the screw in the valve unit is too tight or too loose.

Case is not ejected

- After pressing the trigger and firing, the case is not ejected immediately. It means that the spring (4152A) of the case ejector is hooked on the case ejector properly; or the spring of the case ejector is broken. Hook it back onto the case ejector or change a new one if necessary.

End of the maintenance instruction manual

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