

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.



R-Series

Maintenance Procedures

R-Series RAM



R-series RAM Disassembling

Pull down the front grip fixing ring



Separate the front grip



Turn the fixing ring to the proper place (shown as arrow)



The fixing ring is pumped up



Remove the barrel lock



Remove the barrel



Tip up the ball holder



Pick up the ball holder



Remove the locking pin



Remove the locking pin



Pull up the locking pins



Pick up the carrying handle unit



Remove the hand grip screws



Remove the hand grip cover



Use the hex key to remove the locking screw



Shown as picture



Remove the hand grip



Loose the safety catch screw until the safety catch is pumped up (Safety catch should be at "SEMI" position.)



Pick up the safety catch



Remove the screw of magazine release catch



Pick up the magazine release catch button



Pick up the spring



Take out the magazine release hook



Pick out the marker core



Picture of R-series Core

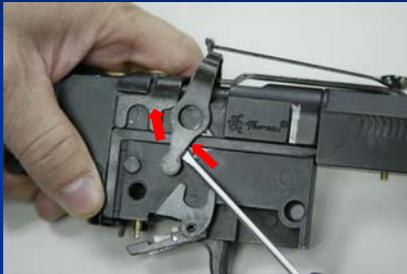


Disassembling R-series Core

Lift up the pull bar locking sheet



Lift up the pull bar locking sheet



Pull up the pull bar locking sheet



Shown as picture



Pull the pull bar locking bar backward



Pick up the fire selector controlling bar



Take out the fire selector controlling bar



Put the pull bar locking sheet inside the chamber to connect the magnet (pointed by arrow)



Screw out the launching unit



Pull out the launching unit



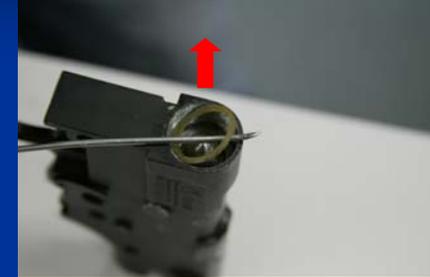
Take out the main spring



Take out the launching rod



Take out the O-ring



Take out the steel windpipe



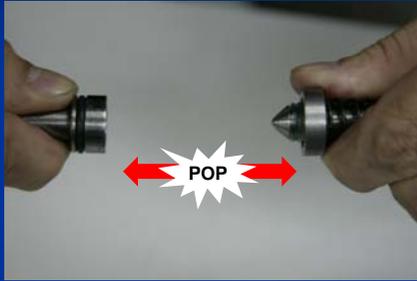
Launching compartment



Test the tightness of Launching Rod



If you cannot hear any "Pop" Sound when you pull out the Launch unit, it means it is loose and necessary to change O-rings



Change O-rings (supposed the Launch unit is loose)



Remove another O-ring



Change new O-rings



Change new O-rings



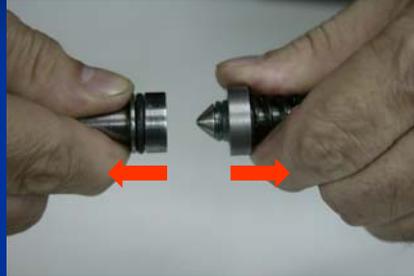
Change new O-rings



Test the tightness of Launching Rod again



Shown as picture



Test the pressure

How to install the pressure gauge

Remove rate of fire unit's screw



Take out the rate of fire unit



Test the pressure



Install the pressure gauge



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 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.



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

Trigger



Remove the locking pin of the trigger



Remove the trigger



Remove the trigger holder



Remove valve



Remove valve end cap



Take out the 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



Add a bit grease oil on the valve pin



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.

Test the rate of fire

- 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

For any questions, please contact:

APS-USA LLC

Tel: (1) 720 747 7782

Fax: (1) 720 747 7784

APS Paintball Limited

Tel: (852) 2409 4466

Fax: (852) 2409 9632

E-mail: aps@apsram.com

Website: www.apsram.com