



V-UMP9-RK REPAIR/MAINTENANCE MANUAL

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CAUTIONS AND WARNINGS

Read, understand, and follow all warnings, training materials, and safety instructions for the V-UMP9-RK.

CAUTION: CLASS 1M LASER, PRODUCT, LASER RADIATION. DO NOT stare into beam or view directly with optical instruments.

WARNING: V-UMP9 kits are for training purposes only.

The repair/maintenance procedures described below are to be performed by trained personnel. For installation procedures, please refer to the V-UMP9-RK installation manual. Any procedures not covered in either the installation or the repair/maintenance user manuals are considered Factory Maintenance & Repair and it is required that the item be sent to VirTra for repair.

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I. RECOIL KIT COMPONENTS

A. RECOIL KIT ASSEMBLY

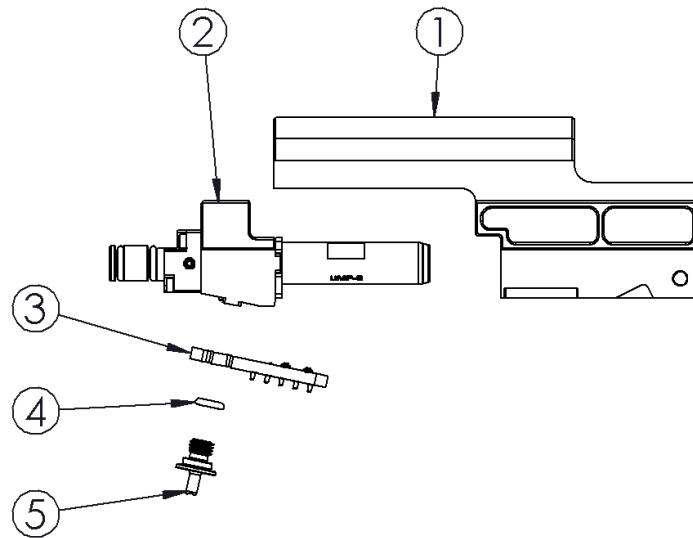


Figure 1: Recoil Kit Assembly

ITEM NO.	DESCRIPTION
1	Bolt Carrier
2	Charge Chamber Assembly
3	Retaining Plate
4	Nipple O-Ring, -008
5	Charge Chamber Nipple

Table 1: Recoil Kit Components

B. CHARGE CHAMBER ASSEMBLY

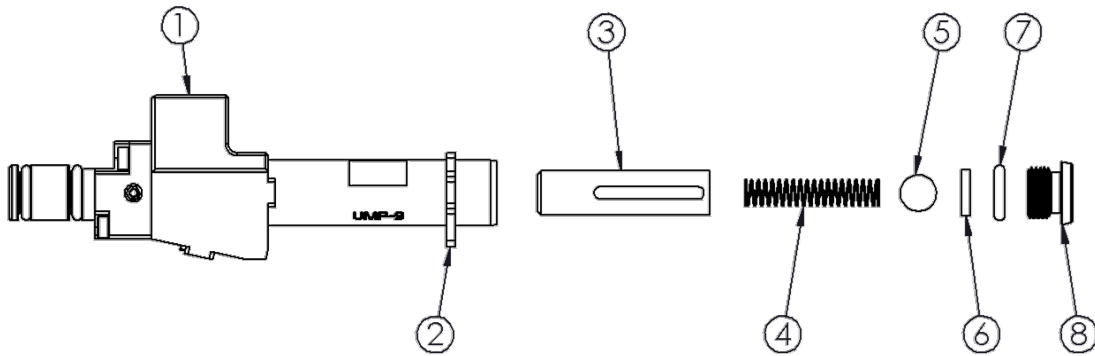


Figure 2: Charge Chamber Assembly

ITEM NO.	DESCRIPTION
1	Charge Chamber
2	Bolt Carrier Bumper
3	Inner Air Chamber
4	Compression Spring
5	Ball Bearing, 1/4" DIA
6	Charge Chamber Ball Bearing Seal
7	Endcap O-Ring
8	Charge Chamber Endcap

Table 2: Charge Chamber Components

C. MAGAZINE, DOUBLE SEAL ASSEMBLY

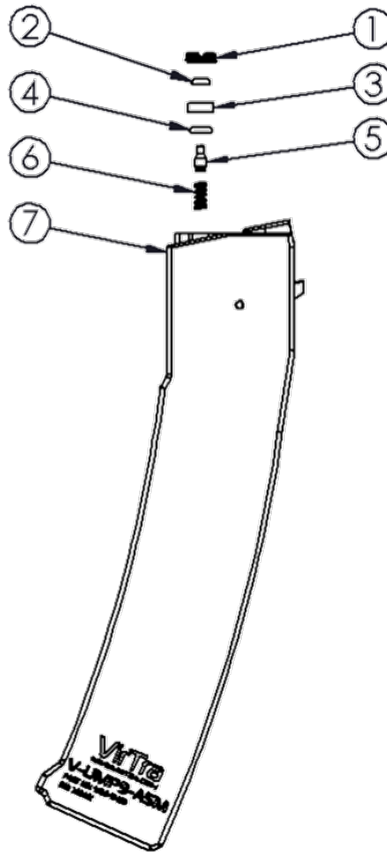


Figure 3: Double Seal Assembly

ITEM NO.	DESCRIPTION
1	Double Seal Cap
2	Top O-Ring, 005
3	Double Seal Spacer
4	Bottom O-ring, 007
5	Double Seal Valve
6	Compression spring
7	Magazine Body

Table 3: Double Seal Components

II. INSPECTION/MAINTENANCE GUIDELINES

A. GENERAL CARE

It is recommended that specific (non-duty) firearms and/or firing pins be dedicated for use with the VirTra CO2 recoil kits.

All magazines should be depressurized at the end of the day to increase the lifespan of VirTra products. To depressurize a VirTra magazine, insert the depressurization tool until all CO2 has been expelled. Allow the magazine to rest for at least 30 seconds, then insert the depressurization tool again to be sure all CO2 has been exhausted.

All VirTra CO2 recoil kits are capable of expending at least 2 full magazines in less than 60 seconds. Prolonged periods of rapid-fire (in either semi or full-auto) will reduce the temperature of both the magazine and recoil kit which will lead to a reduction in the number of shots per magazine and eventually to the recoil kit not functioning at all. If this is experienced, set the rifle aside and allow the magazine and recoil kit to return to room temperature; this may take several minutes.

B. LUBRICATION

Refer to the manufacturer's manual for the firearm component lubrication guidelines.

Using a cotton swab or microfiber cloth apply approximately half a drop of approved lubricant (Slip 2000 or Lucas Oil) to the locations shown in the following figures.

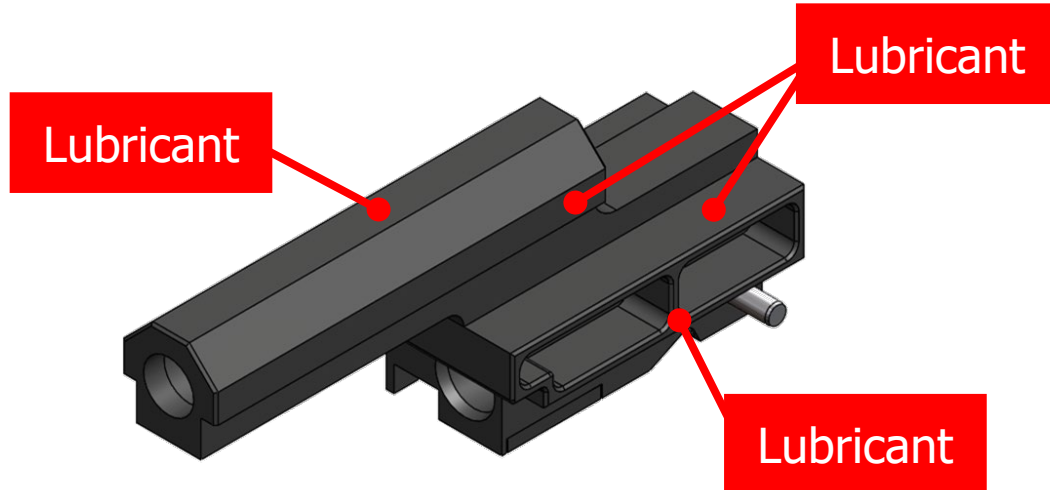


Figure 4: Bolt Carrier Lubrication 1

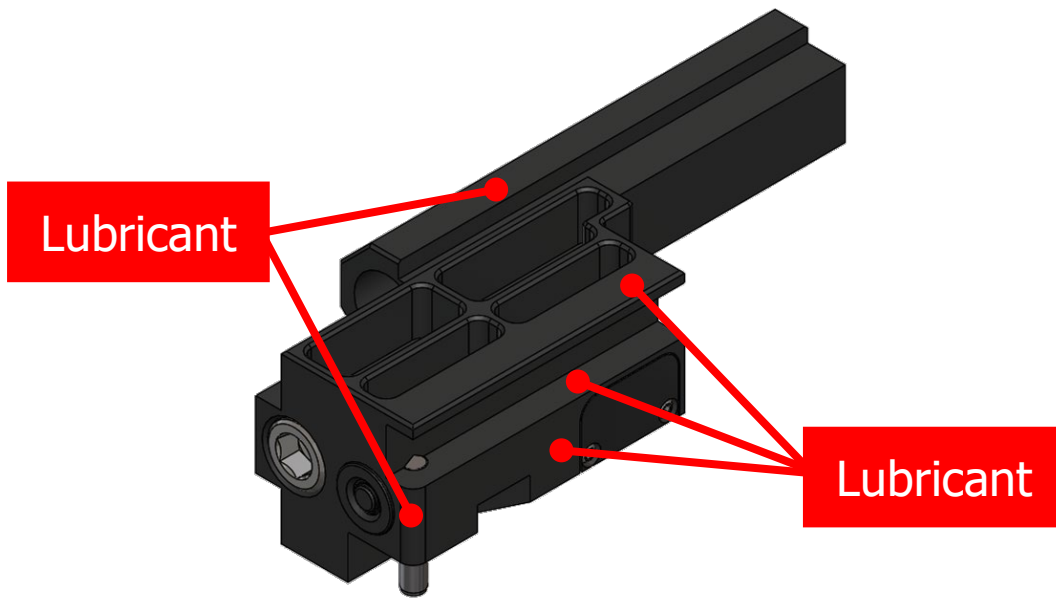


Figure 5, Bolt Carrier Lubrication 2

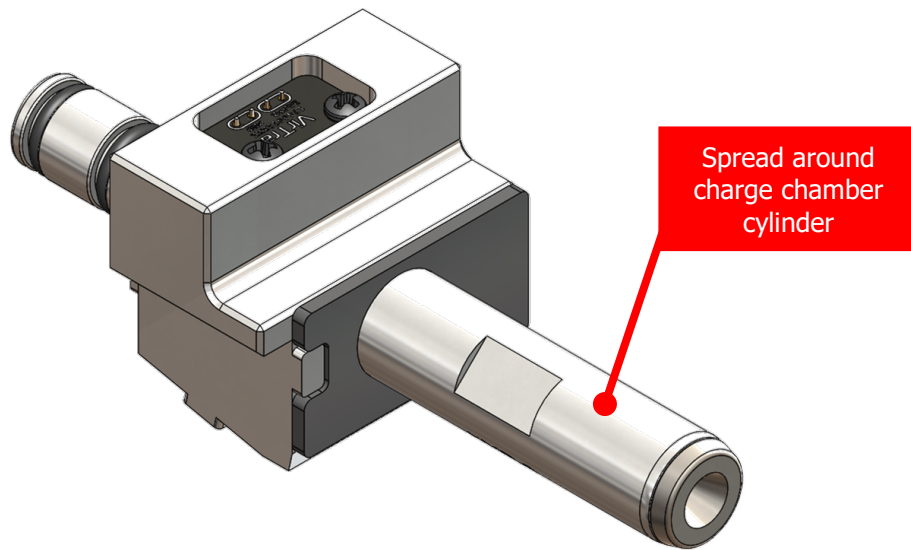


Figure 6: Charge Chamber Lubrication

III. TROUBLESHOOTING

A. MAGAZINE LEAKS

New magazines may leak at the double seal top cap the first few times they are filled up. If this should happen, insert the magazine into a UMP weapon that contains a VirTra recoil kit. Fire the weapon in a safe direction a few times and remove the magazine from the weapon. If this leak persists, repeating this process of test firing the weapon may help eliminate the leaking. This can be repeated 2 to 3 times.

If the magazine continues to leak, the seals may need to be greased with lubricant. Proceed to the following steps to disassemble the magazine.

Warning: Fully depressurize the magazine before proceeding. Refer to 'General Care' for depressurization procedures.

- Remove the double seal cap (Figure 3, #1) using a thick blade screwdriver.
- Use a small pick or screwdriver to remove the 005 O-ring (Figure 3, #2) and double seal spacer (Figure 3, #3). Inspect the O-ring and replace if any damage/wear is present.
- Use a small pick or screwdriver to remove the 007 O-ring (Figure 3, #4). Inspect the O-ring and replace if any damage/wear is present.
- Invert the magazine and allow the double seal valve (Figure 3, #5) and compression spring (Figure 3, #6) to drop free. Inspect the spring and replace if any damage/wear is present.
- Place compression spring onto the double seal valve and install in the cylinder.
- Apply a thin layer of lubricant to the 007 O-ring and place into the cylinder.
- Apply a thin layer of lubricant to the 005 O-ring, fit into the cup of the double seal spacer, then place into the magazine with O-ring facing up.
- Apply Loctite onto the double seal cap according to VirTra Loctite instructions and install using a thick blade screwdriver. Note: Make sure not to overtighten.
- If the leak coming from the double seal of the magazine will not stop after going through the above procedures, or if the leak is coming from a different area such as the bottom of the magazine, fully depressurize the magazine and contact the VirTra Service Department for further assistance.

B. WEAPON LEAKS

If a leak is experienced when the magazine is inserted into the weapon, and the leak is not coming from the magazine, then items #6 and #7 in Figure 2 and #4 in Figure 1 may be leaking and in need of replacing. If it is determined that a leak is occurring within the recoil kit, follow the steps below. If applicable. Remove the recoil kit from the weapon prior to proceeding.

- Use a 5/32 Allen Wrench to remove the charge chamber cap (Figure 2, #8).
- Use a small pick to remove the Endcap O-ring (Figure 2, #7) and the Charge Chamber Seal (Figure 2, #6). Inspect both items and replace if any damage/wear is present.

- Cover the open end of the charge chamber then rotate the charge chamber till vertical and allow the ball bearing, compression spring, and brass Insert (Figure 2, #5, #4, #3) to drop free. Inspect the compression spring. If the compression spring shows wear, damage, or if the ball bearing is wrapped into the coils, replace the compression spring. Contact the VirTra Service Department for further assistance.
- If any of the internal items are dirty or contain debris, wipe them clean with a soft clean cloth.
- Place the brass insert, compression spring, and ball bearing back into the charge chamber.
- Place the charge chamber ball bearing seal into the charge chamber. Ensure the chamfered side (angle cut) faces the ball bearing.
- Screw the charge chamber cap back onto the charge chamber, taking care not to overtighten.

Reassemble the weapon and test. If a leak is still experienced, use the following steps to replace item #4 in Figure 1.

- Use the Nipple Tool to remove the charge chamber nipple (Figure 1, #4).
- Remove the retaining plate (Figure 1, #5) and use a small pick to remove the 008 nipple O-ring. Inspect the O-ring and replace if any damage/wear is present.
- Reassemble in reverse order.

If leaks continue after test firing, contact the VirTra Service Department for further assistance.

C. SHOT REGISTRATION

Problems with shot registration can be resolved by the following:

- Ensure that all of the lights are off in the training room while using the simulator. Also make sure that no light from any other source shines on the screens.
- Verify the magazine is fully charged by charging the magazine using the supplied charger.
- The V-UMP9-RK is designed to function in a select-fire H&K UMP 9 mm using all of the fire modes (i.e. semi, 2-round-burst, and full-auto). Due to camera speed issues, the UMP can only be used in 2-round-burst and full-auto if the Lane I/D is set to 1, 2, or 3 while using a 120 Hz camera or 1, 2, 3, 4, 5, or 6 while using a 240 Hz camera. This should be set up during installation and should not be adjusted. For more comprehensive diagnostic instructions refer to the manual "Establishing and Assigning Weapon Laser ID". It can be found in the VirTra User Manuals folder on the Instructor Station.
- Another cause of failed shot registration on the system is a poor calibration or change in lighting that requires a calibration of the system. Refer to the V-Tracking™ Calibration Section of the VOS Manual. "Establishing and Assigning Weapon Laser ID." It can be found in the VirTra User Manuals folder on the Instructor Station or in the V-RC Portal.

IV. CONTACT VIRTRA

For any questions or additional help with any part of this manual, please contact VirTra via the information below.

VirTra Service Department

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