



# CIRT™

*Controlled Impact Rescue Tool*

## Operator's Manual



**! DANGER !**

**THE CONTROLLED IMPACT RESCUE TOOL (CIRT)  
IS FOR USE BY TRAINED OPERATORS ONLY**

**READ AND OBEY ALL SAFETY AND OPERATING  
INSTRUCTIONS BEFORE OPERATING THE TOOL**

**Raytheon**

*Customer Success Is Our Mission*

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**Acknowledgement**

**The Controlled Impact Rescue Tools (CIRT) was developed in cooperation with the US Department of Homeland Security, Science and Technology Directorate.**

**! DANGER !**

THIS TOOL IS TO BE USED ONLY BY PROPERLY TRAINED OPERATORS. YOU MUST COMPLETE THE RAYTHEON CIRT TRAINING PROGRAM BEFORE HANDLING, LOADING, OR OPERATING THIS TOOL. ATTEMPTING TO HANDLE OR OPERATE THIS TOOL WITHOUT PROPER TRAINING CAN RESULT IN SERIOUS INJURY OR EVEN DEATH TO THE TOOL OPERATORS AND BYSTANDERS.



## Acceptable Materials

The CIRT is suitable for use on the following materials only:

- Reinforced Concrete walls and floors between 4" & 8" in thickness
- Reinforced Concrete ceilings 5" thick or less

Never use the CIRT on any other materials. Failure to follow these guidelines may damage the CIRT and cause serious injury to operators and bystanders.

## Unacceptable Materials

Never use the CIRT on non-reinforced concrete. Failure to follow this could result in destabilization of the intended breach, damage to the CIRT, and/or injury to operators and bystanders.

## CIRT Load Safety

1. Only use approved CIRT cartridges in the CIRT tool. The use of any other cartridge is strictly prohibited and may damage the tool and cause serious injury to operators.
2. Never, under any circumstances, store or transport the tool in a loaded condition.
3. Always transport and store CIRT charges in an approved container. Leave the charges in the container until ready for use. *The storage container for the charges has been specially designed to preclude accidental discharge. It also protects the charges from contamination and damage, ensuring proper operation.*

## Operating Area Safety

1. Ensure the proper personal protective equipment is being worn by operators

and any bystanders as necessary. *Loud noise and flying debris from the operation of the CIRT has the potential to injure operators as well as others nearby. Ensure everyone near the operating area is adequately protected.*

2. Keep the breaching area clear of unnecessary bystanders, equipment, and materials that may interfere with safe operation of the CIRT. *Operating the CIRT in an area with excessive debris, obstacles, and unnecessary personnel may affect your ability to handle and operate the tool safely.*
3. Never operate the CIRT around potentially flammable or explosive materials or conditions. *The combustion products vented by the CIRT have the potential for igniting flammable materials nearby. Take this into consideration when selecting and preparing an area for a breach.*

## Tool Handling Safety

1. Always be sure the CIRT is operating properly before attempting to use it. Follow the Functionality Test outlined in the Operating Instructions section on page 7 of this manual prior to use.
2. Do not load the tool until you are ready to operate it. Only load the tool once it has been set up in the immediate vicinity of where it is to be operated. If use is aborted after the cartridge is loaded, unload the tool before continuing. Do not store the CIRT loaded. *Leaving the tool unattended while loaded may lead to accidental discharge by other operators or bystanders with the potential for injury.*
3. Once the tool is loaded do not place any body part or foreign object in or near the opening for the Impactor. *Failure to obey this could lead to serious injury and/or damage to the CIRT.*

4. **Do not allow anyone who has not been trained operate the CIRT.** *This manual is not designed to fully train operators of the CIRT. All operators must complete the approved operator training before operating the tool.*
5. **Using the CIRT in a poorly ventilated area, cleaning the CIRT, or handling the cartridges may result in exposure to harmful substances. Have adequate ventilation at all times when operating or cleaning the CIRT and wash thoroughly after exposure.**

## Misfire Procedure

**If the CIRT does not fire after pulling the triggers, continue to stand in the firing position with the tool firmly pressed against the work surface for a minimum of 5 seconds.**

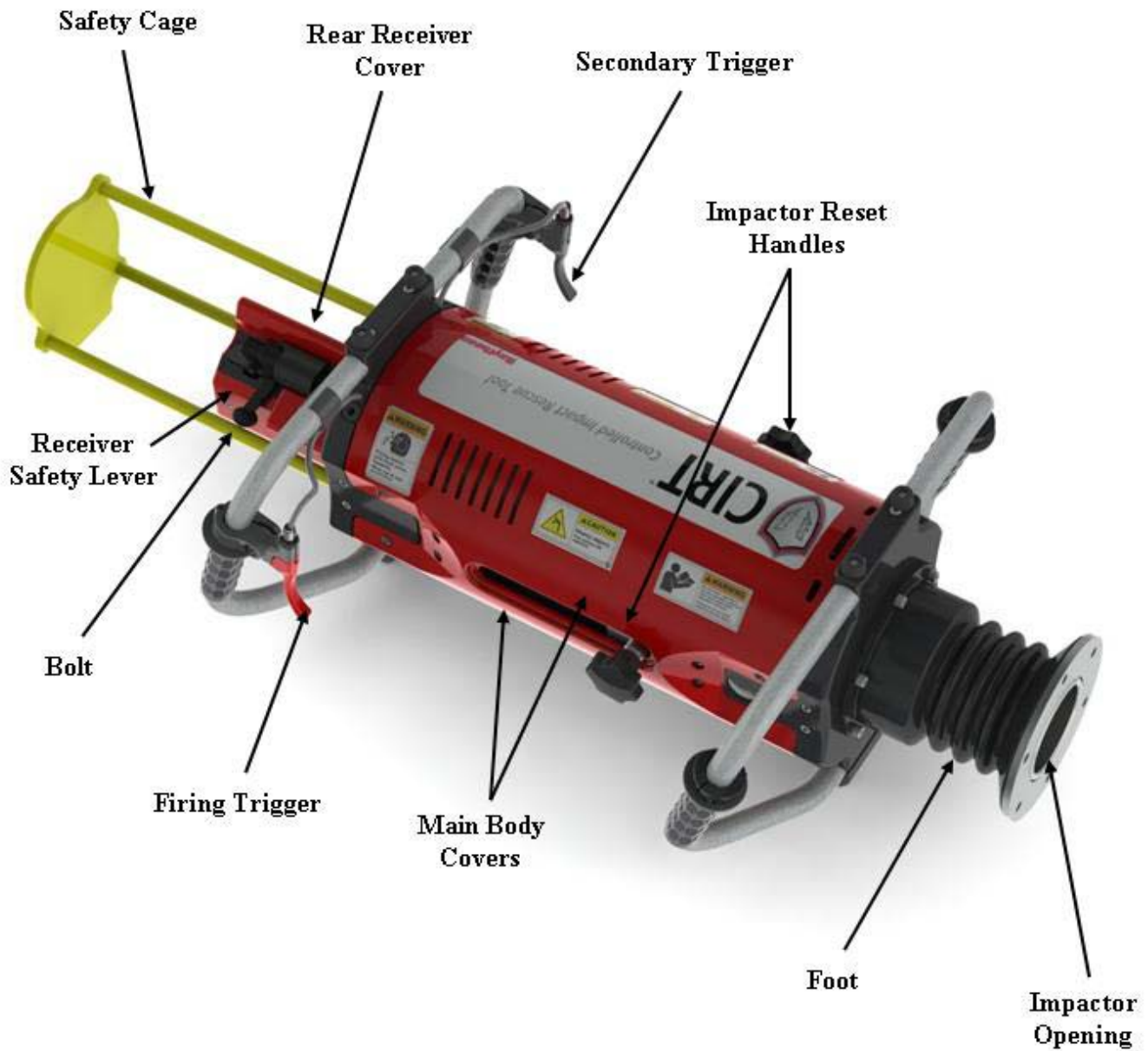
**After 5 seconds have passed, return the tool to a safe loading position and eject the misfired cartridge. Immediately place the cartridge in a safe location away from flammable materials and other cartridges. Placing it in a bucket of water or other non-flammable liquid is preferable prior to disposal.**

**Ensure the Receiver Safety Lever was in the “Fire” position.**

**Load a new cartridge in the CIRT and attempt to operate it again. If a second cartridge also misfires, discontinue use of the tool until a cause can be determined.**

## Warning

**Inspect tool before every use. STOP USE if any component or fastener becomes loose or is missing**





**Whenever approaching the tool for any reason, always begin by opening the bolt and visually ensuring that no cartridge is present.**

## Functionality Test

1. After checking to be sure that the CIRT is not loaded, close the Receiver Bolt **without inserting a cartridge** and engage the Receiver Safety Lever into the “Fire” position.
2. Depress the Secondary Trigger, and release it. Ensure it moves freely and returns fully. If it does not move smoothly or return fully discontinue use of the tool.
3. Depress the Secondary Trigger and hold it in place. Now depress the Firing Trigger, listening carefully for operation of the firing pin. The firing pin should release with an audible click. If the firing pin does not operate when both triggers are fully depressed discontinue use of the tool. Refer to the Firing Cable Adjustment Procedure on page 19 before attempting to use the CIRT.
4. Release both triggers, ensuring that the Firing Trigger moves smoothly and returns fully. If it does not discontinue use of the tool immediately.
5. Open the Bolt to reset the firing pin and close it again **without inserting a cartridge**. With the Secondary Trigger not depressed attempt to depress only the Firing Trigger. Listen for the firing pin to release. If the Firing Trigger alone is able to release the firing pin without the Secondary Trigger being depressed, discontinue use of the tool immediately. Refer to the Firing Cable Adjustment Procedure on page 19 before attempting to use the CIRT.
6. With the Bolt still closed in the firing position and **no cartridge in the chamber**, move the Receiver Safety Lever to the “Safe” position.
7. Depress the Secondary Trigger and hold it in place. Now depress the Firing Trigger, listening carefully for operation of the firing pin. The firing pin should not operate. This tests the operation of the Receiver Safety Lever. If the firing pin operates when both triggers are depressed with the receiver safety mechanism in the “Safe” position discontinue use of the tool immediately.
8. Release both triggers, ensuring that the Firing Trigger moves smoothly and returns fully. If it does not discontinue use of the tool immediately.
9. Open the Receiver Bolt. Using the Impactor Reset Handles on the sides of the CIRT reset the Impactor into the upper (ready) position. Ensure that it moves freely into position and remains there after handles have been released. If it does not move smoothly or does not remain unassisted in the ready position, consult the Troubleshooting Chart on page 9.

**After the CIRT has passed the Functionality Test it is ready to be used. If the CIRT does not pass the test even after consulting the Troubleshooting Chart and Firing Cable Adjustment Procedures discontinue use of the tool and contact your sales representative.**



**Before operating the CIRT ensure that all operators and bystanders are wearing proper Personal Protective Equipment (PPE) and are notified that you will be firing the CIRT**

## CIRT Operation

1. With the CIRT in a safe loading position, move the Receiver Safety Lever to the “Safe” position. Open the Receiver Bolt.
2. Reset the Impactor to the top of the stroke using the Impactor Reset Handles on the side of the CIRT. Ensure the handles return to their starting point at the bottom of the stroke.
3. Insert an appropriate CIRT cartridge into the Receiver. Close the Bolt.
4. Once both operators are ready and the location of the breach has been decided move the Receiver Safety Lever to the “Fire” position.
5. Pick up the CIRT tool by the front and rear handles. It is important that both operators grasp only the handles with no fingers above or touching the triggers until the CIRT is in position.
6. Place the tool against the wall for the breach. Ensure both operators have an adequate stance and grip for the expected recoil of the CIRT.
7. Once both operators are ready, the operator on the left side of the tool may actuate the black Secondary Trigger, thereby disengaging the lockout on the Firing Trigger. The secondary operator should notify the firing trigger operator that the trigger is fully depressed.
8. Once the firing operator has decided that everything is properly in position, and has determined that the secondary operator is ready, they may then actuate the Firing Trigger. This will discharge the CIRT.

9. **Do not attempt to keep the CIRT in contact with the wall while discharging. Make sure neither operator, or any bystanders, are standing in the expected recoil path of the CIRT.** The recoil force of the CIRT is too high to be forcibly stopped. Operators should only control the path of the CIRT during recoil.
10. Once the CIRT has been fired, return it to a safe loading position. Open the Bolt to eject the shell and keep it open.
11. This completes a full firing sequence of the CIRT. Repeat steps 2-10 until desired breach size has been achieved.

## Post-Breaching Inspection and Storage Instructions

It is important to properly inspect and store the CIRT after each use to ensure it will remain in good working order until the next deployment.

1. After each deployment of the CIRT inspect the entire unit for obvious signs of damage. Closely inspect the covers, handles, Safety Cage, Receiver, triggers, and any other visible components to see that they are free from damage and lodged debris.
2. Clean the CIRT tool in accordance with the procedures outlined in the Maintenance and Cleaning Instructions on page 10.
3. Perform the Functionality Test per the instructions on page 7 prior to storing the CIRT to ensure it is still fully functioning.
4. Every 6 months of continuous storage the CIRT should be inspected and cleaned again to ensure continued reliability and readiness.

## CIRT Troubleshooting

Problem	Possible Reason	Solution
CIRT Fails to Fire	No Round Loaded	Ensure there is a CIRT cartridge loaded in the tool
	Receiver Safety Lever Engaged	Ensure the Receiver Safety Lever is set to the "Fire" position
	Cartridge Misfire	Follow the "Misfire Procedure" in the Safety Instructions on page 5
	Trigger Safety Catch Failure	Ensure the Trigger Safety Mechanism is operating properly as outlined in the Functionality Test on page 7
Piston Head Difficult to Reset	Piston/Impactor Assembly Dirty	Remove Piston/Impactor assembly and clean. Reassemble and recheck
	Piston/Impactor Assembly Damaged	Remove and replace Piston/Impactor assembly
Insufficient Penetration into Target Material	Target Material Too Hard	Ensure the CIRT is being used only on approved target materials, listed in the Safety Instructions on page 4
	Piston Not Fully Reset	Fully reset before each firing. Ensure the ball detents are holding the piston in the firing position.
Excessive Penetration into Target Material	Target Material Too Soft	Ensure the CIRT is being used only on approved target materials, listed in the Safety Instructions on page 4
Excessive Recoil	Target Material Too Hard	Ensure the CIRT is being used only on approved target materials, listed in the Safety Instructions on page 4
	Damage to Damping Mechanism	Discontinue use of the CIRT Immediately and contact your sales representative

**If after performing the checks described in the troubleshooting table the CIRT does not perform to specifications, or if you discover excessive wear or damage to any parts not covered in the maintenance instructions, discontinue use of the tool immediately and contact your sales representative for additional assistance.**

Record any CIRT malfunctions and the corrective action taken in the CIRT Maintenance Log (page 22.)

 **DANGER** 

IMPROPERLY MAINTAINED TOOLS CAN CAUSE SERIOUS INJURIES TO TOOL OPERATORS AND BYSTANDERS.

FOLLOW ALL INSTRUCTIONS REGARDING PROPER MAINTENANCE PROCEDURES AND INTERVALS FOR THE CIRT TOOL.

ALWAYS MAKE SURE THE CIRT IS NOT LOADED BEFORE PERFORMING ANY SERVICE OR REPAIR.

### **Cleaning Instructions – Every Use**

**Ensure that you are wearing adequate personal protective equipment for the tools and cleaning products you are using.**

#### **Foot, Impactor Guide Sleeve**

1. Ensure the Impactor is at the bottom of the stroke. If it has been reset, place the CIRT on the ground in the vertical position and tap the Foot on the ground to dislodge the Impactor from the internal retention mechanism.
2. Remove the Foot as outlined in Section 1 of the Maintenance Procedures.
  - a. Check the area inside the Foot for excessive dirt and debris.
  - b. Clean the foot using damp towel and dry thoroughly.
3. Remove the Impactor Guide Sleeve as outlined in Section 2 of the Maintenance Procedures.
  - a. Clean the Guide Sleeve using scour pad, wipe clean and dry thoroughly.

#### **Impactor Assembly and Inner Chamber**

4. Remove the Impactor Assembly as outlined in Section 3 of the Maintenance Procedures.
  - a. Inspect Impactor Assembly (Piston Head, Piston Ring, Main Bumpers, and Trolley) Replace as needed.
  - b. Clean entire Impactor using scour pad and wipe dry.
  - c. Inside of Chamber – Clean with cleaning brush and dry thoroughly.
5. Reinstall the Impactor Assembly into chamber as outlined in section 3 of the maintenance procedures.
6. Install the Guide Sleeve as outlined in Section 2 of the maintenance procedures.
7. Reinstall the Foot as outlined in Section 1 of the maintenance procedures

## **Main Body and Side Rails**

8. Remove the Main Body Covers as outlined in Section 4 of the Maintenance Procedures.
  - a. Wipe clean and dry thoroughly. You will not be able to remove carbon scarring.
9. Clean the Main Body of the CIRT. Blow the area out thoroughly with compressed air.
  - a. Inspect the Main Body of the CIRT (Springs, Dampers, Cables, Bearings)
10. Remove ONE Side Rail as directed in Section 5 of the Maintenance Procedures
  - a. Clean Slide Rail mechanism with scour pad and wipe dry.
  - b. Lightly oil (3-4 drops) inside track and move Slide Mechanism to spread thoroughly.
  - c. Wipe excess oil.
11. Reinstall Side Rail
12. Repeat steps 3 and 4 for remaining rail
13. Reinstall the Main Body Covers as directed in Section 4 of the Maintenance Procedures

## **Receiver Mechanism**

14. Disassemble and clean the Receiver mechanism as directed in Section 6 of the Maintenance Procedures.

**If the CIRT is subjected to environmental conditions outside of normal usage in-depth cleaning of the tool is necessary. These conditions include, but are not limited to, use in a sandy environment and immersion in mud or water.**

## Required Tools for Maintenance:

- Spanner Wrench, 1/4" Pin, Adjustable from 2" to 4-3/4"
- Hex Driver, Ball End, 3/16"
- Wrench, 1-1/4", Open Ended
- Dead-Blow Hammer
- Bearing Extraction Tool TD93DW84
- Hex Driver, Ball End, 1/4" with screw-holder tip
- Hex Driver, Ball End, 5/32"
- Screw Driver, Flat Tip, 1/4"
- Screw Driver, Phillips Head, #2
- Metal Hammer
- Pin Punch, 3/16" diameter

## Additional Items Required:

- Remington "Rem Action" Cleaner
- Remington "Rem Oil" Lubricant
- Anti-seize compound
- Thread Locking Compound, Medium
- Compressed air

## CIRT Maintenance Procedures

Before performing any maintenance operation open the Bolt and verify that the CIRT is not loaded. Using two people place the CIRT horizontally on a sturdy work surface. Ensure you are wearing appropriate personal protective equipment for the tools you are using.

### Section 1 – Foot

#### Removal and Reinstallation

1. Remove the six (6) cap screws securing the Foot to the CIRT tool using the 3/16" hex driver (see Figure 1).
2. To reinstall the Foot, line it up with the holes and tap it gently with the dead-blow hammer until it is seated against the front handle plate. Partially thread in all six (6) cap screws before tightening them in any order.

### Section 2 – Impactor Guide Sleeve

#### Removal

1. Remove the Foot as outlined in Section 1 – Foot.

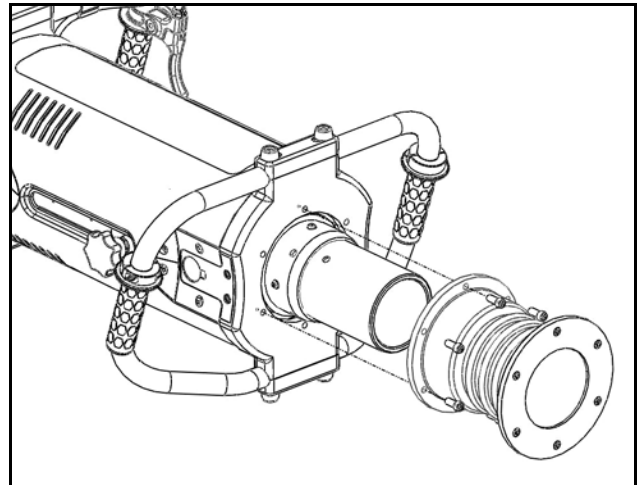


Figure 1 – Foot Removal

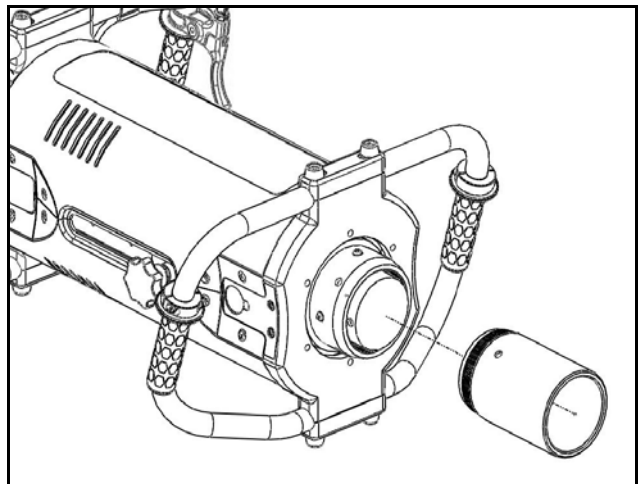


Figure 2 – Impactor Guide Sleeve Removal

2. Use the spanner wrench to remove the Impactor Guide Sleeve (see Figure 2). The sleeve unscrews counterclockwise from the Impactor Assembly Retaining Nut. A light tap from the dead-blow hammer on the spanner wrench may be necessary to disengage the collar.

## Reinstallation

1. For reassembly, apply anti-seize compound to the threads and install the Impactor Guide Sleeve into the Impactor Assembly Retaining Nut while rotating clockwise until it is lightly seated. Use the spanner wrench to tighten. Several light taps from the dead-blow hammer on the spanner wrench may be necessary to fully secure the sleeve (see Figure 3).
2. Reinstall the Foot as outlined in Section 1 – Foot.

## Section 3 – Impactor Assembly

### Removal

1. Ensure the Impactor is at the bottom of the stroke. If it has been reset, place the CIRT on the ground in the vertical loading position and tap the Foot on the ground to dislodge the Impactor from the internal retention mechanism.
2. Remove the Foot and the Impactor Guide Sleeve as outlined in Sections 1 and 2.
3. Remove the plugs covering the two (2) Piston Reset Screws and remove the screws with the 1/4” hex driver (see Figure 4).
4. Using the spanner wrench, unscrew the Impactor Assembly Retaining Nut (see Figure 5). A light tap from the dead-blow hammer on the spanner wrench may be necessary to disengage the nut.
5. Grasp the Impactor and slide the Impactor Assembly out of the tool (see Figure 6).

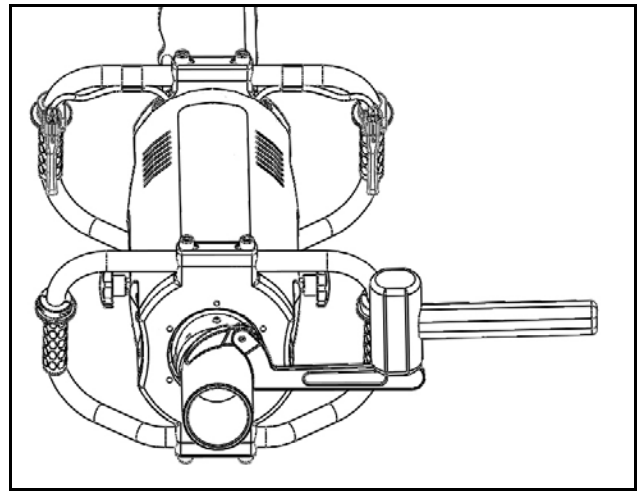


Figure 3 – Impactor Guide Sleeve Reinstallation

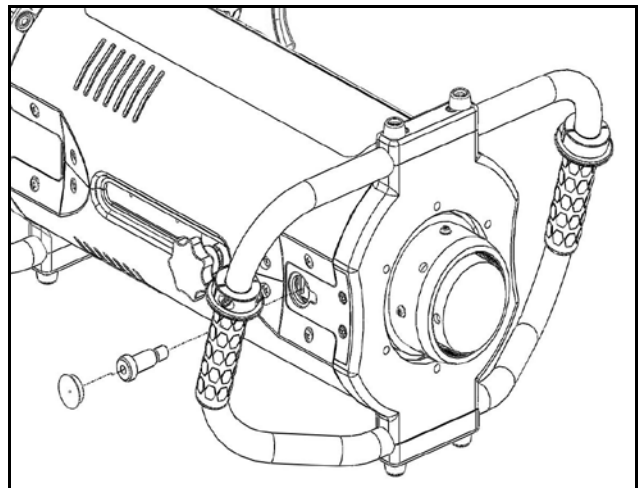


Figure 4 –Piston Reset Screws

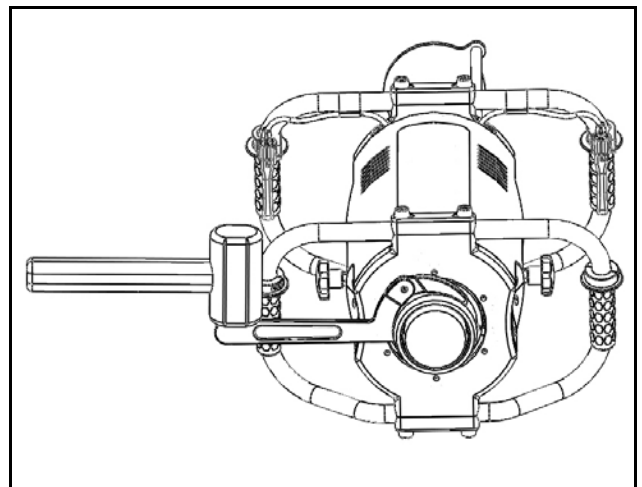


Figure 5 – Impactor Assembly Retaining Nut

## Disassembly

1. With the Impactor Assembly removed from the CIRT tool, place it on a sturdy work surface in a block to hold it steady (see Figure 7). **DO NOT CLAMP ANY PART OF THE IMPACTOR ASSEMBLY IN A VISE.** Using the 3/16" pin punch and metal hammer, drive out the Roll Pin securing the Piston Head to the Impactor (see Figure 7).
2. Unscrew the Piston Head from the Impactor with the spanner wrench and a 1-1/4" open ended wrench (see Figure 8).
3. Remove the Long Bumper, Short Bumper, and Trolley from the Impactor (see Figure 9)
4. Remove the four (4) screws holding the Slide Bearing Retainer to the Impactor Assembly Retaining Nut (see Figure 10). Remove the Slide Bearing Retainer.
5. Block the Impactor Assembly vertically (see Figure 11). Remove the two Slide Bearings by using the Bearing Extraction Tool as shown and lightly tapping with the metal hammer (see Figure 12). Inspect the Slide Bearings for excessive wear and replace if necessary.
6. Once the Slide Bearings are removed the Impactor will slide free of the Impactor Assembly Retaining Nut.

## Reassembly

1. Insert the new Impactor into the Impactor Assembly Retaining Nut in the same orientation as the one you just removed.
2. Stand the Impactor and Retaining Nut upright and slide the halves of the Slide Bearings back into the Nut. Gently tap the Slide Bearings with the dead-blow hammer until they are seated (see Figure 13).
3. Reinstall the Slide Bearing Retainer onto the Impactor Assembly Retaining Nut. Use the medium strength thread locking compound on the four (4) screws (see

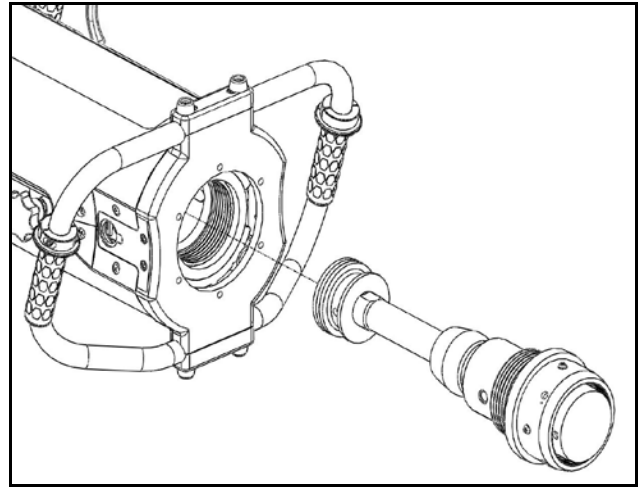


Figure 6 – Impactor Assembly Removal

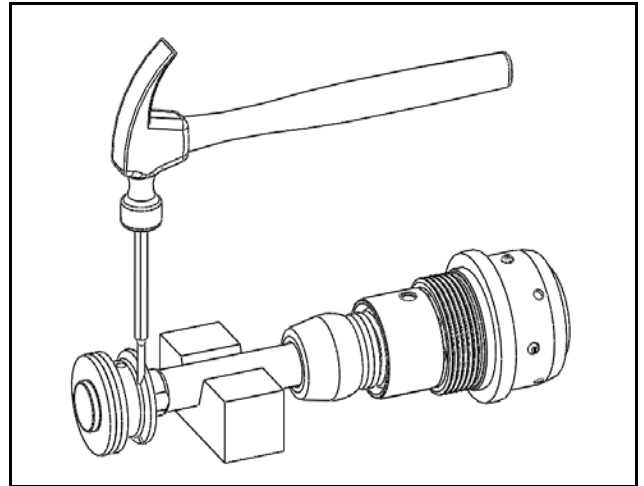


Figure 7 – Piston Head Roll Pin Removal

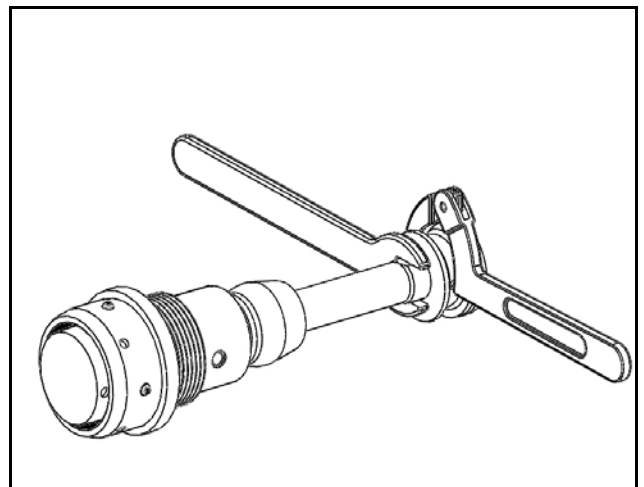


Figure 8 – Piston Head Removal

# MAINTENANCE PROCEDURES

Figure 10). Start all four screws before tightening them down in any order. The first screws tightened may loosen as others are tightened. Go around and retighten all four screws several times until they remain tight.

4. Reinstall the Long Bumper, Short Bumper, and Trolley in the correct sequence and orientation as shown in Figure 9.
5. Reinstall the Piston Head onto the Impactor using the spanner wrench and 1- 1/4" open ended wrench (see Figure 8). Make sure they are tight by tapping the spanner wrench with the dead-blow hammer.
6. Block the Impactor Assembly so it does not move around to prevent damage to the Piston Head. **DO NOT CLAMP ANY PART OF THE IMPACTOR ASSEMBLY IN A VISE.** Install a new Roll Pin into the Piston Head using the metal hammer and pin punch (see Figure 7). **Note: Insert the roll pin into the enlarged hole on one side of the Piston Head which is intended to facilitate pin installation.** Ensure that no portion of the Roll Pin protrudes beyond the hole at either end.

## Reinstallation

1. Slide the Impactor Assembly into the CIRT. Ensure that the holes in the Trolley remain aligned with the holes in the Handle Frame for the Piston Reset Screws (see Figure 14). Push trolley into CIRT until the holes align.
2. Apply two (2) drops of medium strength locking compound on the threads of the Piston Reset Screws. Install the Piston Reset Screws through the holes in the Handle Frame and into the Trolley (see Figure 4). Start both screws before fully tightening them.
3. Thread Impactor Assembly Retaining Nut into CIRT. Apply two (2) drops of medium strength Loctite to the Chamber End Nut threads.

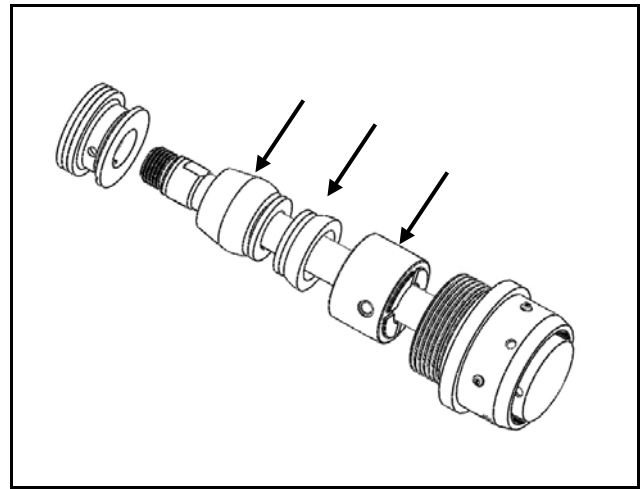


Figure 9 – Piston, Bumpers, and Trolley Order

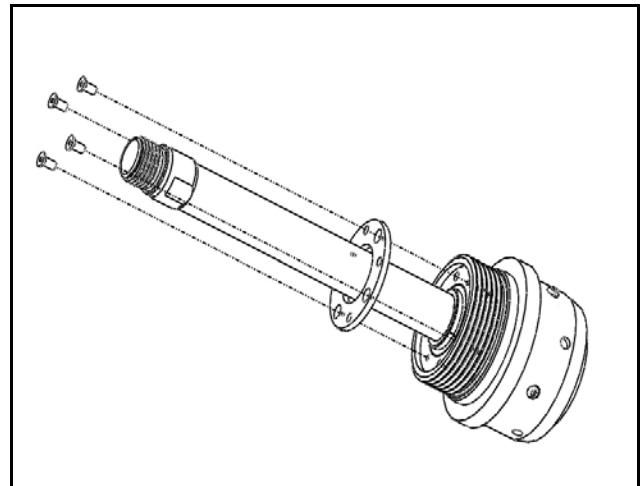


Figure 10 – Slide Bearing Retainer

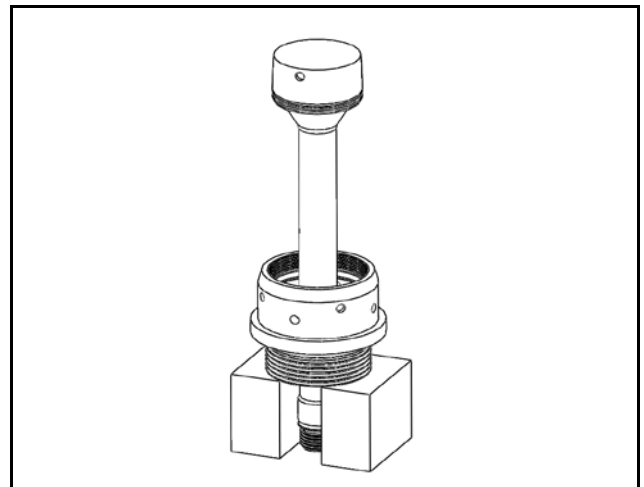


Figure 11 – Supported Impactor Assembly

4. Fully tighten the Impactor Assembly Retaining Nut. Tap the handle of the wrench several times with the dead-blow hammer to ensure it is fully seated.
5. Reinstall the Impactor Guide Sleeve as outlined in Section 2 – Impactor Guide Sleeve.
6. Reinstall the Foot as outlined in Section 1 – Foot.

## Section 4 – Main Body Covers

### Removal and Reassembly

1. Remove the eight (8) screws holding each of the two Main Body Covers. Remove the covers from the CIRT (see Figure 15).
2. Reinstall the Covers one at a time. Avoid pinching cables by tucking them inside the side rail. Start all eight (8) screws holding one cover on before tightening them gently. Repeat the procedure on the other cover.

## Section 5 – Side Rails

### Removal and Reassembly

IMPORTANT – Only one Side Rail should be removed at a time as the unit is spring loaded and will come apart if both Side Rails are removed at the same time.

1. Remove four (4) cap screws attaching the Side Rails (see Figure 16) using a 3/16” Hex Driver. Carefully Remove the Side Rail. Do not detach the cable strap for the trigger cable.
2. Return the side rail into position (check for orientation) lightly tap into place with mallet. Install four (4) cap screws attaching the Side Rails using a 3/16” Hex Driver. Carefully Remove the Side Rail.

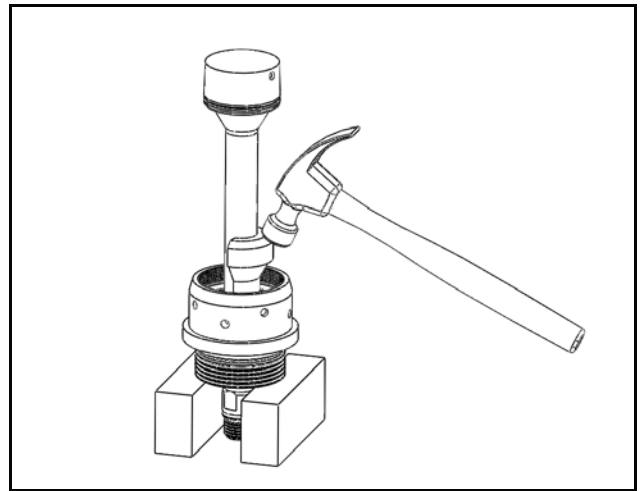


Figure 12 – Slide Bearing Removal

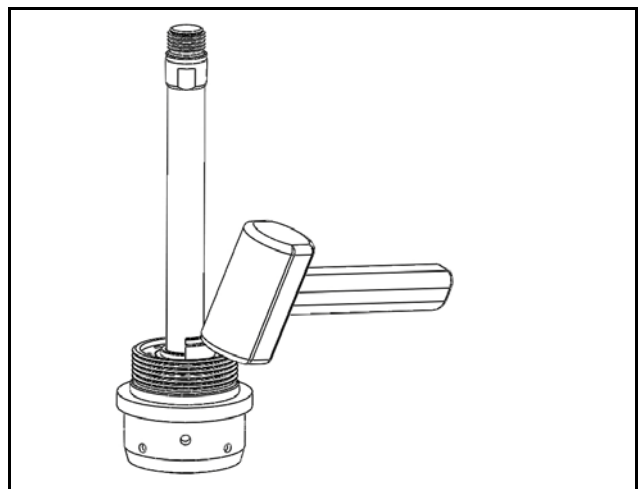


Figure 13 – Slide Bearing Reinstallation

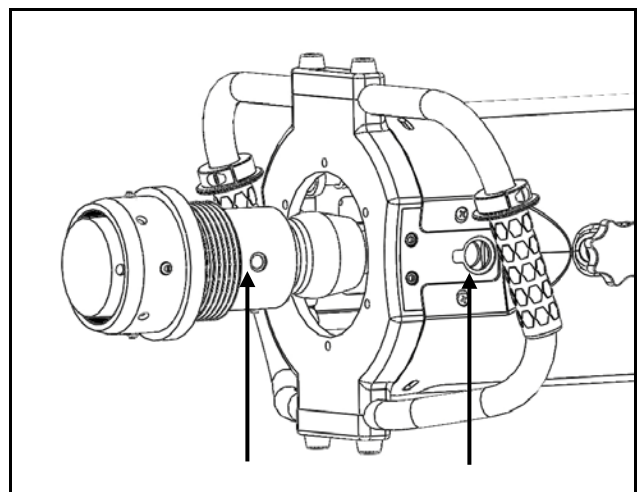


Figure 14 – Piston/Impactor Sub Assembly Reinstallation

## Section 6 – Receiver and Bolt

### Disassembly

1. Remove the six (6) screws attaching the Safety Cage Assembly to the Rear Handle Plate (see Figure 17) using the 5/32 Hex Driver. Remove the safety cage.
2. Remove the four (4) screws securing the Rear Receiver Cover (see Figure 18). The Receiver Bolt must be open to remove the Cover.
3. Slide the Bolt to the rearmost position. Using your finger or small screwdriver depress the Bolt Release Lever located on the Receiver body just forward of the trigger (see Figure 19). Slide the Bolt out of the receiver.

### Cleaning and Inspection

1. Thoroughly spray the Receiver inside and out with Remington “Rem Action Cleaner” and allow it to dry.
2. Spray the Receiver Trigger Assembly at the lubrication points specified in Figure 20 with Rem Action Cleaner and allow it to dry.
3. Place the Receiver Safety Lever in the “Fire” position. Pull the Trigger fully rearward and release multiple times.
4. Pull and hold the Trigger rearward. While holding the Trigger, use a small screwdriver to depress and release the Receiver Sear multiple times (lubrication point 1 in Figure 20).
5. Release the Trigger and actuate the Safety Lever from the “Fire” to “Safe” position multiple times.
6. Spray the Receiver inside and out with Rem Action Cleaner again. Thoroughly dry it with compressed air.
7. Spray the Receiver Trigger Assembly at the lubrication points again with Rem Action Cleaner. Thoroughly dry it with compressed air.

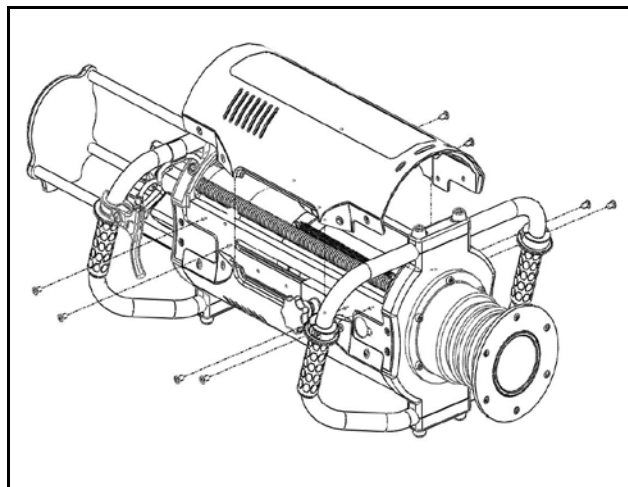


Figure 15 – Main Body Covers

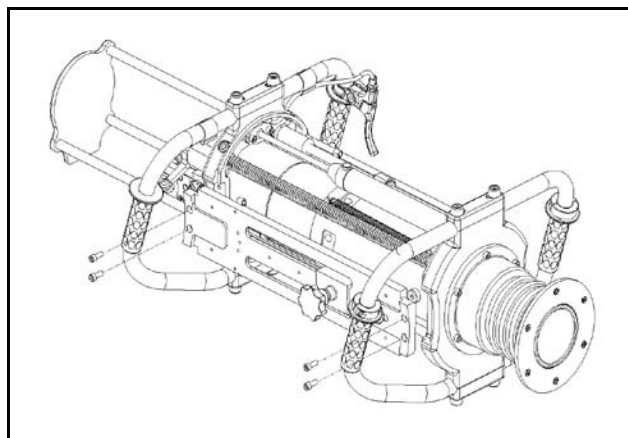


Figure 16 – Body Side Rails

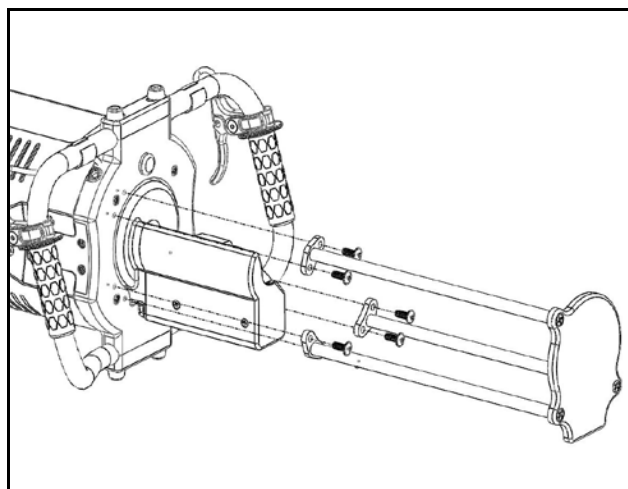


Figure 17 – Safety Cage

8. Place a drop of Remington “Rem Oil” at each of the four lubrication points in Figure 20.
9. Place the Receiver Safety Lever in the “Fire” position. Pull the Trigger rearward and release multiple times. Ensure the Trigger returns completely to the forward position each time. **If the Trigger does not fully return each time, discontinue use of the CIRT immediately and contact your sales representative.**
10. With the Trigger held in the rearward position, depress and release the Sear (lubrication point 1) with a small screwdriver multiple times. Ensure the Sear returns without hesitation each time.

**If the Sear does not return without hesitation each time, discontinue use of the CIRT immediately and contact your sales representative.**

11. Release the Trigger and operate the Receiver Safety Lever from “Fire” to “Safe” multiple times. It should not be able to remain in a position other than “Fire” or “Safe” and should operate freely and smoothly. **If the Receiver Safety Lever is able to remain in any position other than fully in “Fire” or “Safe” or it does not operate freely and smoothly, discontinue use of the CIRT immediately and contact your sales representative.**
12. Place the Receiver Safety Lever in the “Safe” position and lightly spray Rem Oil on all the external surfaces of the trigger and receiver. Wipe off excess oil.

## Receiver Reassembly

1. Slide the Bolt into the rear of the Receiver. Slide the Bolt all the way forward and to the rear again.

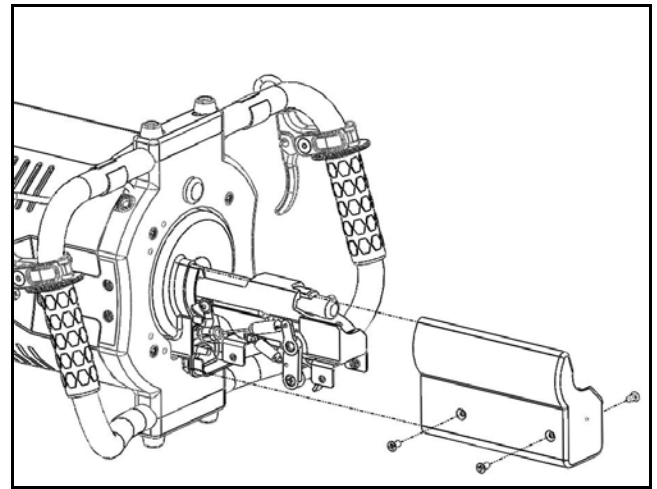


Figure 18 – Rear Receiver Cover

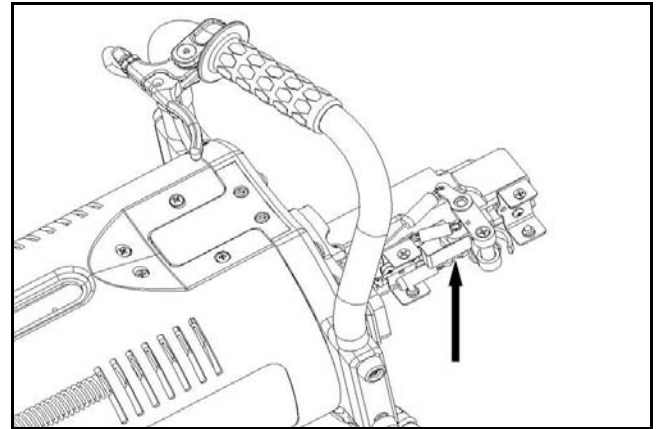


Figure 19 – Bolt Release Lever

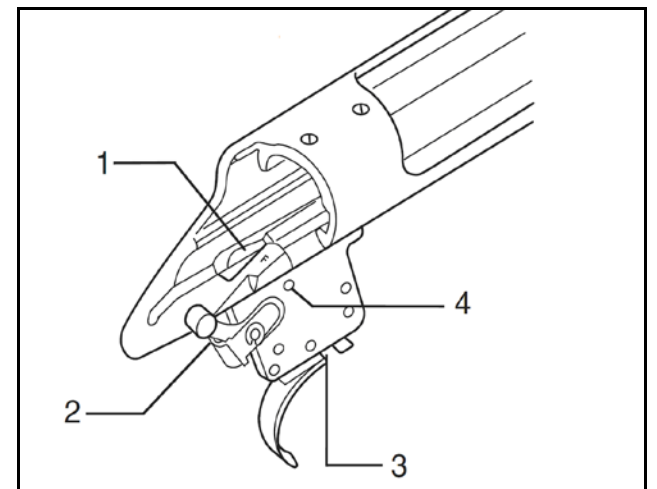


Figure 20 – Lubrication Points

2. The Bolt should now be secured to the receiver again.
3. Reinstall the Rear Receiver Cover and the four (4) screws (see Figure 18). Take care when tightening the cover screws not to over tighten them and crack the cover.
4. Reinstall the Safety Cage Assembly and the six (6) bolts attaching it to the Rear Handle Plate (see Figure 17) using the 5/32 hex driver. Use medium strength thread locking compound on all screws. Start all six bolts before tightening them in any order.

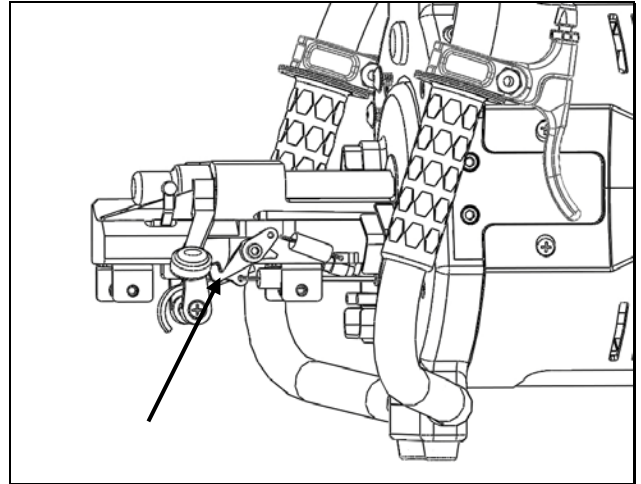


Figure 21 – Safety Catch

## Firing Cable Adjustment Procedure

**Before adjusting the cables, open the Receiver Bolt and verify that the CIRT is not loaded. Using two people place the CIRT horizontally on a sturdy work surface.**

1. Remove the Safety Cage and the Rear Receiver Cover as outlined in Section 5 – Receiver and Bolt. Set the Receiver Safety Lever to the “Fire” position and leave the bolt open.
2. Visually inspect the Receiver Block and trigger handles for debris and damage that may be causing improper operation of the firing and safety mechanisms.
3. First make sure both cables are moving freely. Squeeze and release the Secondary Trigger repeatedly while watching the Safety Catch (see Figure 21). It should move smoothly and return fully to its initial position immediately when released. If it does not, contact your sales representative.

Hold the Secondary Trigger down and repeatedly operate the Firing Trigger while watching the Trigger Actuator (see Figure 22). It should also move smoothly and return fully to its original position without

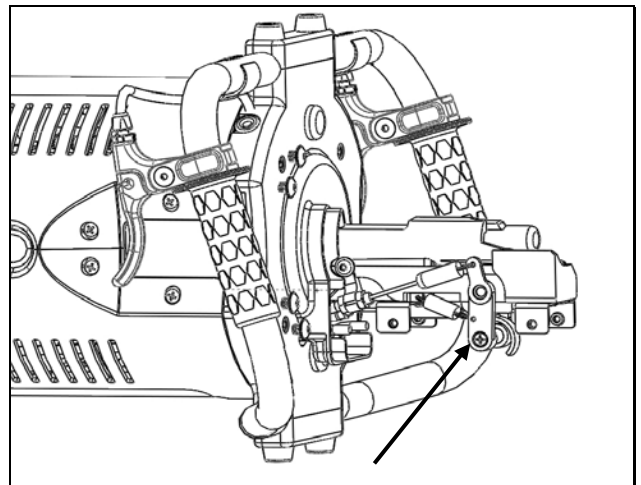


Figure 22 – Trigger Actuator

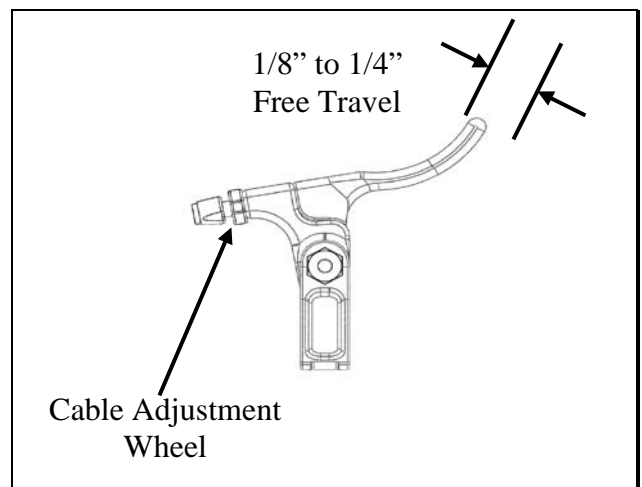


Figure 23 – Trigger Adjustment

hesitation. If it does not, contact your sales representative.

4. Adjust the free travel of the Firing Trigger first. Turn the Cable Adjustment Wheel until the firing trigger has approximately 1/8" to 1/4" of free travel before it starts to move the Trigger Actuator (see Figure 23). Turning the wheel counter-clockwise increases the free travel of the trigger, and turning it clockwise decreases the free travel of the trigger.
5. If the Cable Adjustment Wheel runs out of adjustment before the necessary trigger free travel is obtained, set it to the middle of its travel. Rough cable adjustments can be made using the two Rough Adjustment Nuts at the Cable Mount (see Figure 24). Loosening both nuts to adjust the position of the cable end fitting. Adjust the Rough Adjustment Nuts until the trigger travel is close to the desired position and then repeat Step 5 to finish adjusting the trigger.
6. Once the Firing Trigger is adjusted properly perform the same procedure on the Secondary Trigger. Begin by ensuring that the Safety Catch is fully engaging into the notch in the Trigger Actuator (see Figure 25).
7. Adjust the Secondary Trigger using the same methods described in Step 4 and Figure 23
8. If the Cable Adjustment Wheel for the Secondary Trigger runs out of adjustment before acceptable free travel is obtained, adjust the Rough Adjustment Nuts for the Secondary Trigger Cable using the same procedure described in Step 5 and Figure 24.
9. Reinstall the Rear Receiver Cover and Safety Cage as outlined in Section 6 – Receiver and Bolt.
10. Perform the Functionality Test on page 7. If the CIRT is still unable to pass the Functionality Test after adjustment of the cables discontinue use of the tool and contact your sales representative.

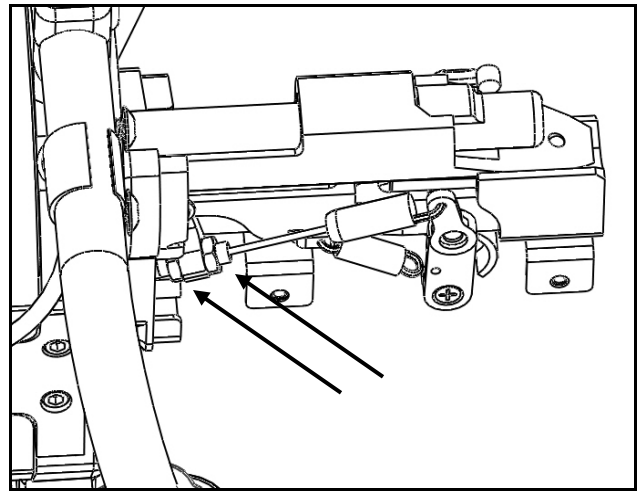


Figure 24 – Rough Adjustment Nuts

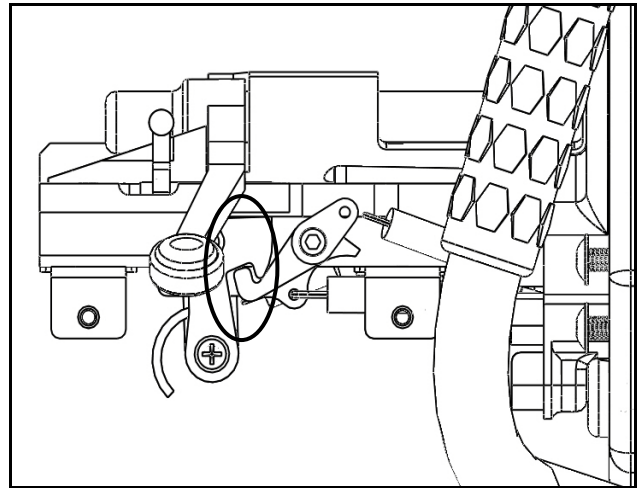


Figure 25 – Safety Catch Engagement

## CIRT Maintenance Schedule

Maintenance Performed	Schedule	Reference
Cleaning Procedure	<ul style="list-style-type: none"> <li>- After each operational exercise or deployment</li> <li>- Every 6 months</li> </ul>	Page 10
Inspect, Clean & Lubricate Receiver	<ul style="list-style-type: none"> <li>- After each operational exercise or deployment</li> <li>- Every 6 months</li> </ul>	Page 17
Functionality Test	<ul style="list-style-type: none"> <li>- Prior to each use</li> </ul>	Page 7
Cable Adjustment	<ul style="list-style-type: none"> <li>- As required for operation</li> </ul>	Page 19
Replace Impactor	<ul style="list-style-type: none"> <li>- When Impactor can not be retracted or is extremely difficult to retract (even after cleaning.)</li> <li><u>OR</u></li> <li>- After completing 20 breaches (based on an average of 15 impacts per breach.)</li> </ul>	Page 13
Replace Bumpers	<ul style="list-style-type: none"> <li>- Inspect after any dry-fire event and replace as necessary</li> <li>- Each time the Impactor is replaced</li> </ul>	Page 13

# CIRT Maintenance Log

Part Number: \_\_\_\_\_

Unit Serial Number: \_\_\_\_\_

Manufacturing Date: \_\_\_\_\_

Date	Tool cleaned	Receiver Lubricated	Functionality Test	Cables Adjusted	Impactor Replaced	Bumpers Replaced	Other:	Notes
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Additional Notes:

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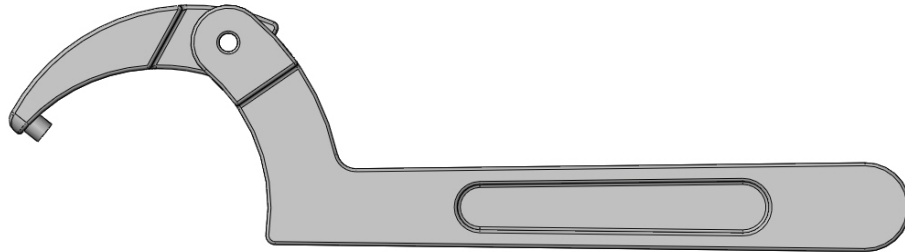
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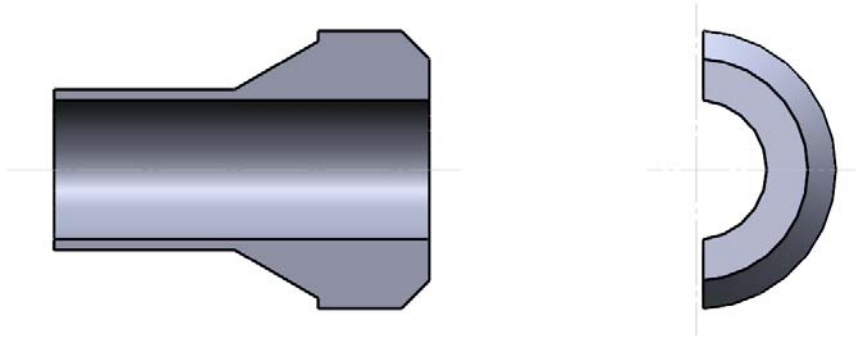
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## Specialty Tools Reference Guide



**Spanner Wrench, 1/4" pin, 2" to 4-3/4" range**

**P/N TD93DW93**



**Bearing Extraction Tool**

**P/N TD93DW84**

# WARRANTY

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WARRANTY: Raytheon UTD warrants that the products sold hereunder will be free from defects in material and workmanship for a period of ninety (90) days from the date of receipt at the FOB point and that the Products will conform to the Raytheon UTD's applicable specifications. If any unit requires repair during this period due to defective material and/or workmanship or failure to adhere to such specifications, Raytheon UTD shall, solely at its option, repair the defective unit free of charge or provide a replacement in exchange for the defective unit, provided that: (a) proof of purchase and written notice of the nonconformance are received by Raytheon UTD within the warranty period, (b) the unit(s) are returned, transportation prepaid, in protected shipping containers in accordance with the Raytheon UTD's shipping instructions. Raytheon UTD shall be solely responsible for all return shipping, handling and repair/replacement costs, provided Raytheon UTD determines, in its judgment, that there is a valid warranty claim. All defective units which have been replaced by Raytheon UTD shall become Raytheon UTD's property. If Raytheon UTD determines that there is not a valid warranty claim for the unit(s), then the owner of the product will have the option of paying for the repairs or have it returned without repair and pay for the applicable shipping and handling costs.

This warranty shall not apply to defects resulting from:

- Improper or inadequate maintenance. Unauthorized modification or misuse of the unit.
- Operation outside the unit's environmental specifications.
- Unauthorized repair or examination.
- Improper site preparation and maintenance.
- Mishandling, neglect, misuse, or abuse of the unit. Improper testing of the units.

THIS WARRANTY EXTENDS TO THE ORIGINAL OWNER ONLY. EXCEPT AS OTHERWISE SET FORTH ABOVE, ALL OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXCLUDED.