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## Lee Precision 900304

# Lee Precision Breech Lock Challenger Kit

Model: 900304

User Instruction Manual

## INTRODUCTION

The Lee Precision Breech Lock Challenger Kit provides a comprehensive solution for reloading ammunition. This kit is designed for both beginners and experienced reloaders, offering precision and efficiency for various reloading tasks. It includes all the necessary tools for powder handling, case preparation, and priming, ensuring a streamlined reloading process.



Figure 1: Overview of the Lee Precision Breech Lock Challenger Kit components, including the press, powder measure, scale, and various case preparation tools.

## Kit Contents:

- Lee Breech Lock Challenger Press
- Lee Breech Lock Quick Change Bushing (1 included)
- Lee Perfect Powder Measure
- Lee Safety Scale
- Powder Funnel
- Case Cutter and Lock Stud
- Chamfer Tool
- Primer Pocket Cleaning Tool (small and large)
- Lee Premium Sizing Lube
- Set of 11 Auto-Prime Shell Holders

## SETUP

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### 1. Mounting the Breech Lock Challenger Press

The Lee Breech Lock Challenger Press requires secure mounting to a sturdy workbench or reloading bench. The press does not come with mounting hardware. You will need three 1/4" (or maximum 5/16") bolts of appropriate length for your mounting surface.

1. Position the press on your workbench in a location that allows for comfortable operation and clearance for the handle.
2. Mark the three mounting holes on the bench surface.
3. Drill pilot holes through the workbench at the marked locations.
4. Secure the press using appropriate bolts, washers, and nuts. Ensure the press is firmly attached and does not wobble during operation.





Figure 2: The Lee Breech Lock Challenger Press, ready for mounting to a workbench. Note the handle and the breech lock mechanism.

## 2. Assembling the Perfect Powder Measure

The Lee Perfect Powder Measure can be mounted to a separate stand or directly to your reloading press (with an adapter, not included in this kit for press mounting). For standalone use, it typically mounts to a wooden base.



Figure 3: The Lee Perfect Powder Measure, showing the clear powder hopper and the adjustable metering mechanism.

1. Attach the powder measure body to its stand or mounting bracket using the provided screws.
2. Insert the clear powder hopper into the top of the measure body.
3. Ensure the metering assembly is correctly seated and moves freely.

## OPERATING INSTRUCTIONS

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### 1. Using the Breech Lock Challenger Press

The Breech Lock Challenger Press is a single-stage press ideal for precise operations. The Breech Lock quick-

change bushing allows for rapid die changes without recalibrating.

1. Screw a die into the Breech Lock quick-change bushing.
2. Insert the bushing with the die into the press's top opening and twist to lock it in place.
3. Place a case into the shell holder on the ram.
4. Operate the press handle to perform the desired reloading operation (e.g., sizing, decapping, bullet seating).



Figure 4: Detail of the press handle and linkage, which provides leverage for reloading operations.

## 2. Measuring Powder with the Perfect Powder Measure

The Perfect Powder Measure provides consistent powder charges. It is designed to handle various powder types efficiently.

1. Fill the hopper with your chosen gunpowder.
2. Adjust the metering screw to the desired powder charge weight. Refer to your reloading manual for specific

charge data.

3. Cycle the measure handle to dispense a charge into a case or pan.
4. Verify the charge weight with the Lee Safety Scale.

### 3. Using the Lee Safety Scale

The Lee Safety Scale is a sensitive and accurate beam scale for verifying powder charges.



Figure 5: The Lee Safety Scale, used for precise measurement of powder charges.

1. Place the scale on a level, stable surface away from drafts.
2. Zero the scale by adjusting the counterweights until the beam is balanced.
3. Place the powder pan on the scale.
4. Carefully add powder to the pan until the desired weight is achieved, indicated by the balanced beam.

### 4. Case Preparation Tools

Proper case preparation is crucial for safe and accurate reloading. This kit includes tools for trimming, chamfering, and cleaning primer pockets.



Figure 6: The Lee Case Conditioning Kit, which includes tools for trimming case length, chamfering case mouths, and cleaning primer pockets.

- **Cutter and Lock Stud:** Used to trim cases to the correct length. The lock stud holds the case while the cutter trims it.
- **Chamfer Tool:** Chamfers the inside and outside of the case mouth, making bullet seating easier and preventing damage to the bullet.
- **Primer Pocket Cleaning Tool:** Cleans residue from the primer pocket, ensuring proper primer seating.

## 5. Priming with Auto-Prime Shell Holders

The kit includes a set of 11 Auto-Prime Shell Holders, designed for use with a hand priming tool (not included in this kit, but compatible with the shell holders).



Figure 7: A hand priming tool (similar to what the included shell holders are used with) shown in operation, used for seating primers off-press.

To prime cases:

1. Select the correct Auto-Prime Shell Holder for your cartridge.
2. Insert the shell holder into your compatible hand priming tool.
3. Place a primer into the priming tool's tray.
4. Insert a prepared case into the shell holder and operate the tool to seat the primer.

## 6. Using the Powder Funnel and Sizing Lube

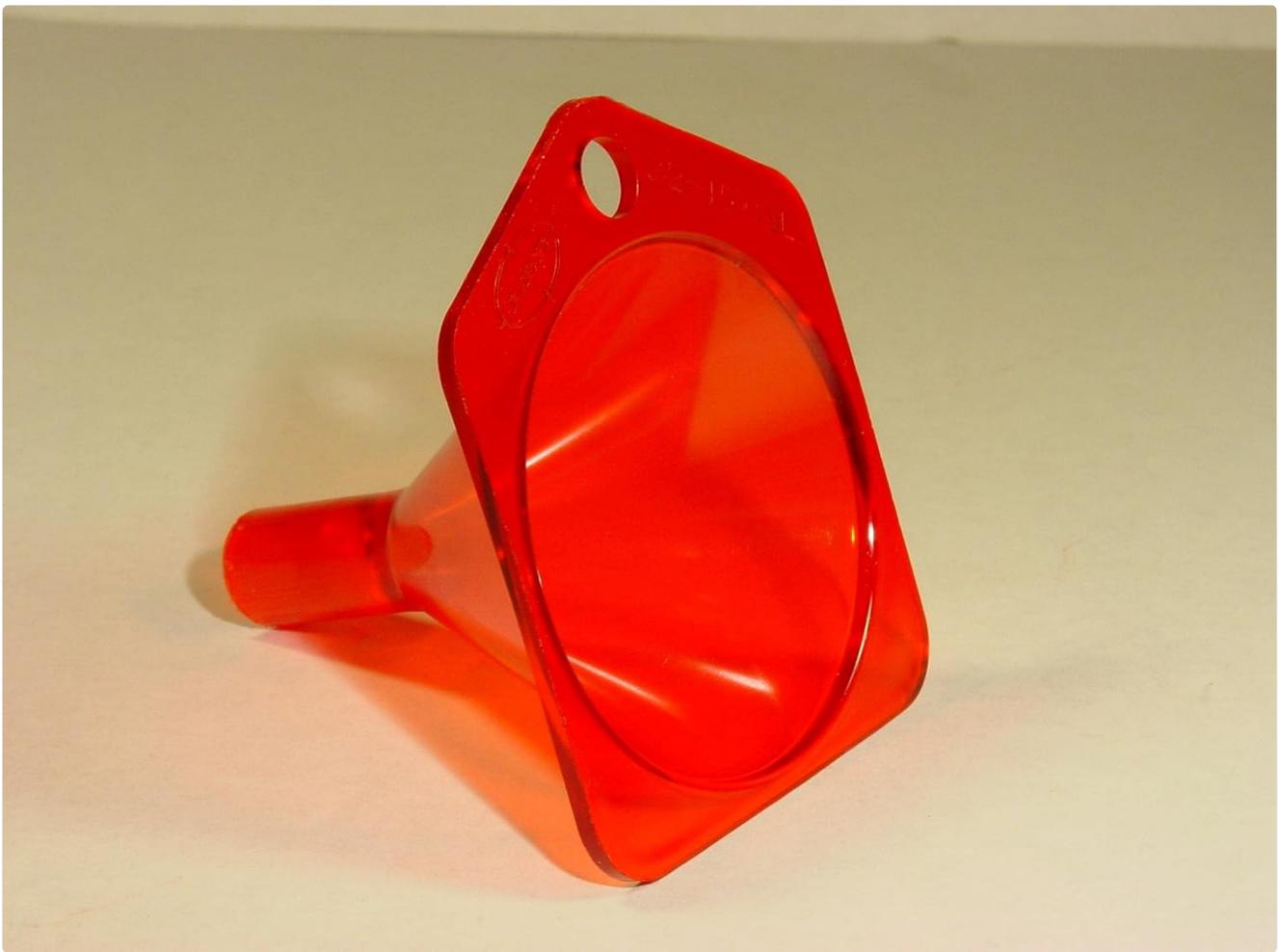


Figure 8: A red plastic powder funnel, essential for safely transferring powder into cases.

- **Powder Funnel:** Use the included powder funnel to safely and cleanly transfer measured powder charges from the scale pan or powder measure directly into the case.
- **Premium Sizing Lube:** Apply a thin, even coat of Lee Premium Sizing Lube to cases before sizing. This prevents cases from sticking in the sizing die and reduces friction, extending die life. It is a non-stick, water-soluble wax-based lubricant.



Figure 9: Lee Resizing Lubricant, used to prevent cases from sticking during the sizing process.

## MAINTENANCE

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Regular maintenance ensures the longevity and optimal performance of your Lee Precision equipment.

- **Cleaning the Press:** Periodically wipe down the press with a clean cloth to remove dust, powder residue, and lubricant buildup. Ensure the ram and linkage points are clean and lightly lubricated if necessary.
- **Powder Measure:** After each use, empty any remaining powder from the hopper and clean the measure to prevent powder buildup, which can affect charge consistency. Use a soft brush or cloth. Do not use solvents that may damage plastic components.
- **Safety Scale:** Keep the scale clean and free of dust or powder. Store it in a protective manner to prevent damage to the delicate beam.
- **Dies and Tools:** Clean dies after use to remove lubricant and residue. Store all tools in a dry place to prevent rust.

## TROUBLESHOOTING

This section addresses common issues encountered during reloading with the Lee Precision Breech Lock Challenger Kit.

- **Stuck Cases in Sizing Die:**

- Ensure cases are properly lubricated with Lee Premium Sizing Lube before sizing.
- Apply a thin, even coat. Too much lube can cause dents, too little can cause sticking.

- **Inconsistent Powder Charges:**

- Verify the powder measure is clean and free of residue.
- Ensure consistent operation of the powder measure handle.
- Check the Lee Safety Scale for proper calibration and ensure it's on a stable surface away from drafts.

- **Primers Not Seating Correctly:**

- Ensure primer pockets are clean using the primer pocket cleaning tool.
- Verify the correct size primer (small or large) is being used for the case.
- Check that the shell holder is correctly seated in the priming tool.

## SPECIFICATIONS

Feature	Detail
Brand Name	Lee Precision
Model Name	90030
Part Number	900304
Item Weight	0.5 Kilograms (Press only)
Package Weight	4.49 Kilograms (Total Kit)
Item Dimensions (LxWxH)	5.83 x 16.57 x 1.06 inches (Individual component, likely press)
Item Package Dimensions (LxWxH)	14.21 x 13.58 x 6.65 inches
Color	Red
Material	Other (Various metals and plastics)
Sport Type	Hunting
Included Components	Lee Precision 90030: Breech Lock Challenger Kit

## WARRANTY & SUPPORT

For warranty information and product support, please contact the manufacturer directly.

- **Manufacturer:** Lee Precision, Inc.
- **Warranty Description:** Contact Manufacturer

- Refer to the official Lee Precision website or product packaging for the most current contact information and warranty details.

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