**Warning:** Failure to follow these instructions could lead to improper installation, performance problems, and possible injury.

# Mounting the forcible entry device

1. Fasten the forcible entry device against a permanent masonry or steel mounting stand.

   The stand must be capable of withstanding significant horizontal forces exerted from the 10-pound (4.54-kilogram) sledgehammer used to compress the forcible entry device.
2. Position the base of the stand against a secure wall to prevent it from shifting during use.
3. Counter balance the stand (for example, one or more 40 imperial gallon barrels filled with water) to prevent it from tipping.
4. Use six 3″ × 5/8″ high-quality fastening bolts to attach the forcible entry device to the stand. The fastening bolts' diameter must match the diameter of the mounting holes of the forcible entry device.

   **Important:** Do not hammer the bolts into position. This could damage the bolt threads.
5. Slide the bolts through the mounting holes until they extend completely through the stand.
6. Secure the bolts using lock washers and high-quality nuts.
7. Position the center of the forcible entry device's hitting surface (rubber pad portion) 36 inches (91.4 centimeters) above the floor.
8. Center and securely attach the wooden footplate to the front of the stand with two 4″ C-clamps (see figure A).

   The wooden footplate simulates the base of a wall or door.

**Figure A**

The forcible entry device, home-made stand, barrel, wooden footplate, and sledge hammer set up and ready for use.

The forcible entry device mounted using the stock stand available through CPAT Distribution, Inc.

The forcible entry device is in the process of being calibrated.

**Figure B**

## Preparing the forcible entry device for use

If you haven't used the forcible entry device in several weeks, or if it's been recently moved to a new location, we recommend that you calibrate it. See "Calibrating the forcible entry device" on page 3 for more details.

After you've mounted the forcible entry device, prepare it for use.

**1** Fully extend the hitting surface away from the mounted part of the forcible entry device.

**Note:** If you cannot extend the hitting surface, release the brake by turning the hand wheel ¼ to ½ turn clockwise.

The forcible entry device is fully extended when the hitting surface reaches the stops.

**2** Engage the brake (designed to restrict compression) on the restriction blade by rotating the hand wheel counter-clockwise.

The brake is completely engaged when you can freely rotate the hand wheel counter-clockwise. Free counter-clockwise rotation ensures that the brake is under full compression by all eight springs.

**Important:** The hand wheel must rotate freely otherwise the brake will not be fully engaged against the restriction blade. In such a situation, it'll take less force to compress the forcible entry device.

## Using the forcible entry device

The forcible entry device is designed to be struck with the head of a 10-pound sledgehammer on the rubber pad hitting surface. As the hitting surface is struck, the forcible entry device compresses.

The amount of force required to compress the forcible entry device depends on the amount of tension in each of the eight springs attached to the brake mechanism.

By increasing the spring tension, the force required to compress the forcible entry device increases.

Full compression is achieved when the hitting surface engages a switch mounted on the stationary portion of the forcible entry device. The switch is wired to a battery-operated light and buzzer.

# Resetting the forcible entry device

After the light and buzzer are triggered, use the hand wheel to reset the forcible entry device.

1. Turn the hand wheel ¼ to ½ turn clockwise to release the brake pressure on the restriction blade.
2. Pull the forcible entry device by hand back into the starting position.
3. Once the hitting surface is fully extended to the stops, turn the hand wheel counter-clockwise until it is tension-free.

   Loosening the hand wheel returns the brakes to their original position thus allowing the springs to apply pressure on the restriction blade.

# Calibrating the forcible entry device

## To measure pressure

1. Make sure that the forcible entry device is in the full reset position and that the hand wheel is loosened.
2. Attach the two arms of the hydraulic calibrator (Figure C) to the two calibration bolts located on the upper and lower surface of the forcible entry device. See Figure B on page 2.
3. Slide the locking pins to the closed position to secure the hydraulic calibrator to the forcible entry device.

Close-up of the hydraulic calibrator.

**Figure C**

4 Use a slow and smooth pumping action to gradually build pressure against the hitting surface.

**Note:** Make sure that the piston's rectangular foot makes contact squarely with the center of the hitting surface.

5 Watch the pressure gauge while pumping and record the pressure when the hitting surface first moves.

The forcible entry device must be calibrated to 850 PSI.

6 Continue pumping until the hitting surface triggers the compression buzzer.

**Important:** The pressure required to move the hitting surface must be consistent through the full range of motion.

7 To release the pressure, turn the hydraulic calibrator's relief valve counter-clockwise.

The hydraulic calibrator piston returns to the start position.

8 Reset the forcible entry device. See "Resetting the Forcible entry device" on page 3.

### To increase spring tension

If the target surface moves at **less** than 850 PSI, tighten the four nuts equally to add more tension to the braking mechanism's eight springs.

**Note:** Hold each bolt head stationary with a wrench or socket while making adjustments to the nut.

1 Tighten each of the four nuts in ½ turn clockwise increments.

2 Check the calibration pressure.

3 Repeat steps 1 and 2 until the pressure is calibrated to 850 PSI.

### To reduce spring tension

If the target surface moves at **more** than 850 PSI, loosen the four nuts equally to remove tension in the braking mechanism's eight springs.

**Note:** Hold each bolt head stationary with a wrench or socket while making adjustments to the nut.

1 Loosen each of the four nuts in ½ turn counter clockwise increments.

2 Check the calibration pressure.

3 Repeat steps 1 and 2 until the pressure is calibrated to 850 PSI.

## Inconsistent pressure

If the pressure to move the hitting surface is inconsistent (plus or minus 25 PSI) over the full range of motion, thoroughly clean the four guide rails. For more details, see "Maintenance schedule" on page 5.

**Note:** We've found the setup and calibration of the forcible entry device to be very consistent in a high-volume testing environment. However, sporadic use or transport of the

forcible entry device to a new testing location may warrant more frequent inspection, cleaning, and calibration to guarantee consistent results.

# Maintenance schedule

## Day to day

**1** At the start of each testing day, inspect, lightly clean, and calibrate (if necessary) the forcible entry device to guarantee consistent results.

a) Inspect the forcible entry device before and after each use for dust and other debris.

b) Use a dry towel to remove dust and greasy residue from the forcible entry device.

## Monthly

Depending on the volume of use, thoroughly clean the forcible entry device's braking mechanism approximately once a month.

**1** Remove the four nuts and bolts that secure the eight springs to the restriction blade.

**Note:** Remember the order of the parts.

**2** Slide the restriction pads out of position.

The restriction pads provide resistance against the restriction blade.

**3** Clean all nuts, bolts, springs, and washers with a dry towel, and then look for wear or other defects. Replace parts as necessary.

**4** Apply a light application of low-viscosity grease (if needed) to the four guide rails to ensure friction-free movement.

**5** Remove dust and other residue from the restriction pads with a commercially available brake parts cleaning solvent (for example, Brākleen Brake Parts Cleaner).

**Tip:** Let the newly cleaned restriction pads dry overnight to allow all traces of cleaning solvent to evaporate before reassembly and calibration.

# Appendix A: Specifications for Forcible entry Device Stand and Foot Plate