



Redding Reloading Equipment Cortland, NY 13045

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Rifle and Handgun Die Sets Instructions

Congratulations! You have just purchased some of the finest dies available. These Redding Dies should provide you with years of service and satisfaction as long as they are properly cared for. Please take a few minutes to thoroughly read through the following instructions to get to know your new dies.

Die Preparation

All Redding Dies are protected in storage and shipment by a rust preventative oil which *must* be removed before use.

- Remove the internal parts and clean the inside of the dies with bore solvent and a brass bristle brush and wipe thoroughly with a clean patch.
- Apply a thin coat of case lube to the interior of the Full Length Sizing Die (FL) with a cotton swab.
- Replace the decapping assembly in the sizing die (s) and the seat plug in the Bullet Seating Die (ST).
- Adjust the decapping assembly(s) so that 3/16" of the decapping pin projects from the bottom of the sizing die (s)

Note: If the decapping pin projects too far, the decapping rod may be damaged when the size button impacts the case interior.

Case Preparation

Please ensure that fired cases are clean and properly lubricated, this is very important. At a minimum, fired cases should be wiped with a clean cloth and the neck ID brushed with a nylon or brass bristle brush. Each case should be thoroughly inspected for any splits or other defects. If a case has defects, it should be discarded.

Lubrication

The simplest method of case lubrication is to use your fingers to apply a light, even coating of Redding Imperial Sizing Die Wax (Part #07600) or Redding Imperial Bio – Green Case Lube (Part #07300). Apply lube heaviest at the base of the case. When lubricating several areas at a time, roll the cases across the Redding Case Lube Pad (#12010) after applying Imperial Bio – Green Case Lube to the pad. Cases could become stuck if not enough



lube is used. However, too much lube can cause dented case shoulders. Lube is not necessary when using Titanium Carbide Sizing Dies.

Important Tip

To loosen a die body lock ring, back the set screw out 1 turn and strike the lock ring against a wood block, the underside of your loading bench or other non-marring surface. The impact will dislodge the bismuth shot under the set screw and allow the lock ring to rotate freely.

Die Sets for Bottlenecking Cases

Full Length Sizing

To size cases so they will freely chamber in any firearm, the Full Length Sizing Die must make firm contact with the shellholder during case sizing.

To properly adjust your Full Length Sizing Die, follow the procedure below:

1. Insert the proper shellholder into your reloading press ram and raise the ram to its highest position.
2. Screw the Full Length Sizing Die into your reloading press until it firmly contacts the shellholder.
3. Tighten the die body lock ring against a press frame and using the hex key supplied, tighten the lock ring set screw if desired.
4. With the die correctly adjusted, you should be able to feel the shellholder contact the bottom of the die when sizing a case. If fired primers are not ejected during case sizing, adjust the decapping assembly 1/2 turn lower and repeat.

Note: If the decapping pin projects too far, the decapping rod may be damaged when the size button impacts the case interior.

Custom Shoulder Location

Redding Full Length Sizing Dies are designed to position the shoulder to fit minimum chamber dimensions appropriate to the specific cartridge. However, most chambers are longer to the datum line than the accepted minimums and may be as much as minimum $+0.010''$, which is within SAAMI or other accepted standards. To maximize case life and the accuracy of your reloads, we recommend that you customize the sizing of your cases to your firearm's chamber. To bring a higher level of precision to your reloading, use Redding Competition Shellholders to minimize case to chamber headspace and simplify full length die adjustment. Redding Competition Shellholders are deeper than regular shellholders in $.002''$ increments ($+0.002''$ thru $+0.010''$), and thereby increase case length to the datum line. This method provides precise case to chamber fit (headspace) adjustments with a simple shellholder change. The sets contain five shellholders packaged in a plastic storage case and are available for all popular cartridges.

Neck Sizing (A Neck Die is included with Deluxe Die Sets)

Under normal circumstances, a Neck Die (NK) is adjusted to contact the shellholder so it will size the full length of the case neck. The die is designed to closely align and support the case but will not size the body or move the shoulder position. Before neck sizing cases, apply a small amount of case lube to the case neck or use

Imperial Application Media (Part #07900) to apply dry neck lube. Decapping rod assembly adjustment is the same as for full length sizing. *Alternative adjustment* – neck die may be adjusted to only size part of the case neck. Some reloaders feel this helps align the cartridge better in the chamber. Back the Neck Sizing Die away from the shellholder 1 to 3 turns for partial neck sizing. Readjust the decapping rod as necessary. (See note under Die Preparation).

Bullet Seating

Redding Bullet Seating Dies have a crimping ring that can be used to apply a roll crimp to the case mouth when using bullets that have a cannelure or crimping groove. (Do not attempt to roll crimp bullets without a cannelure or crimping groove. Damage to the case and bullet may occur.)

- With the ram in its uppermost position, screw the bullet seating die into your press until it touches the shellholder. If no crimp is desired, back the seating die 1 turn away from the shellholder.
- Tighten the die body lock ring and adjust bullet seating depth with the seat plug.
- To seat and crimp bullets in one operation, adjust the die for no crimp as described above and seat bullets so the case mouth is at the top of the cannelure or crimping groove.
- Back the seat plug away from the bullet at least two turns and screw the die body into your reloading press in small increments until the case mouth is rolled into the cannelure or crimping groove.
- Deformed or bulged case mouths are an indication of too much crimp.
- Tighten the die body lock ring and adjust the seat plug so it firmly contacts the bullet and tighten its lock ring.



Your die is now adjusted to seat and crimp bullets in the same operation.

Tip

Cases should be trimmed to a uniform length and chamfered prior to bullet seating if this has not been done previously. Chamfering case mouths is a very important step to ensure proper bullet seating and good accuracy.

Die Sets for Straight Wall Cases

Resizing and Decapping- Heat Treated Steel (FL) Dies

- Insert the proper shellholder into your reloading press ram and raise the ram to its highest position.
- Screw the Full Length Sizing Die into your reloading press until it touches the shellholder.
- Tighten the die body lock ring against the press frame and using the supplied hex key, tighten the lock ring set screw.

- If fired primers are not ejected during case sizing, adjust the decapping rod assembly ½ turn lower and repeat. Cases must always be lubricated when using a heat-treated steel sizing die.

Note: If the decapping pin projects too far, the decapping rod may be damaged when the size button impacts the case interior.

Resizing & Decapping – Titanium Carbide (TIC) Dies

Insert the proper shellholder into your reloading press ram and raise the ram to its highest position. Screw the die into your reloading press until it makes light contact with the shellholder and tighten the die body lock ring against the press frame. * If fired primers are not ejected during case sizing, adjust the decapping rod assembly ½ turn lower and repeat. No case lube is necessary when using a titanium carbide sizing die, however, occasional lube will diminish stress on the brass cartridge case during the resizing process.

Note: If the decapping pin projects too far, the decapping rod may be damaged when the size button impacts the case interior.

*This adjustment works best for most cases. However, you may find that adjusting the die away from the shellholder slightly may produce better appearing sized cases.

Expanding

The second die used is the Neck Expanding Die (EXP).

- Adjust the die body to lightly contact the shellholder and tighten the die body lock ring.
- Adjust the expander plug to produce a slight flare in the case mouth to allow bullet seating without shaving. (Excessive flaring will reduce case life by causing premature case mouth splitting.)

Bullet Seating

Redding Bullet Seating Dies (ST) have a built-in crimping function that can be used to apply a roll or taper crimp to the case mouth. Straight wall cases for rifle and revolver cartridges use a roll crimp and pistol cases that headspace off the case mouth use a taper crimp. (The 30 Carbine rifle cartridge also uses a taper crimp.)

Roll Crimp

To seat and crimp bullets in one operation:

- Adjust the seating die 1 turn away from the shellholder and seat a bullet so the case mouth is at the top of the cannelure or crimping groove.
- Back the seat plug away from the bullet several turns and screw the die body into your reloading press until the case mouth is rolled into the cannelure or crimping groove. (Deformed or bulged case mouths are an indication of too much crimp.)
- Tighten the die body lock ring and adjust the seat plug so it firmly contacts the bullet and tighten its lock ring.

Do not attempt to roll crimp bullets without a cannelure or crimping groove.

Your die is now adjusted to seat and crimp bullets in the same operation

Taper Crimp

To seat and crimp bullets in one operation:

- Start with the seating die 1-2 turns away from the shellholder.
- Next, seat a bullet so the cartridge overall length found in your loading data is achieved.
- Back the seating plug off several turns and screw the die body into the press until the case mouth is pressed tightly against the bullet and no trace of the case mouth expanding and flaring remains.
- Tighten the die body lock ring and adjust the seat plug so it firmly contacts the bullet and tighten its lock ring

Your die is now adjusted to seat and crimp bullets in the same operation.

Tip

More precise reloads can be created if you seat crimp in separate operations. Seat bullets to the correct depth in all your cases with the die adjusted for no crimp as described above. Next, remove the seat plug and readjust the die to crimp the case mouths into the bullets. Purchasing a dedicated Redding Crimping Die will save you time by not spending your time readjusting your seating die.

Note: A uniform trim length creates a more uniform crimp.

Pro (Progressive) Series Die Sets

Pro Series Die Sets are designed for progressive type reloading presses that expand and flare the case mouth at the powder dispensing station. Since there is no need for an expanding die, a crimping die has been substituted. The Seating Die is designed for bullet seating only and has no crimping feature. It may be adjusted to contact the shellholder. Bullet seating depth is adjusted with the seat plug. See enclosure for crimp die instructions.

Profile Crimp Die

Designed for revolver and straight wall rifle cartridges, a Profile Crimp Die applies a combined taper and roll crimp. This combination provides a tighter, more uniform crimp that has been shown to improve the accuracy of reloads. (See the Redding website for part numbers)

Taper Crimp Die

For cartridges commonly used in semiautomatic firearms, Redding offers dedicated Taper Crimp Dies. A taper crimp can be applied to any type of bullet and helps prevent the bullet from moving and improves feeding. (See the Redding website for part numbers)

Stuck Case Removal Kit

A case may become stuck in the full length sizing die when too little or the use of incorrect lubrication occurs. The Redding Stuck Case Removal Kit (Part #22000) will remove the stuck case without damaging the die.

Carbide Size Button Kits

An optional carbide size button is available from 20 thru 375 caliber Redding Sizing Dies. The carbide size button makes inside neck sizing smoother and easier without lubrication. (See the Redding website for part numbers)

If you have any questions regarding the above procedures, please do not hesitate to contact our tech support members.

Email: techline@redding-reloading.com

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Lifetime Warranty Disclaimer:

All Redding Reloading Equipment has been carefully inspected prior to shipment and is fully warranted to be free from defects in materials and workmanship for life.

Any product or parts which prove to be defective will be replaced or repaired without charge if returned prepaid to the factory.

Note: We reserve the right to decline responsibility where misuse or careless handling is evident or where repairs or modifications have been made or attempted by others.