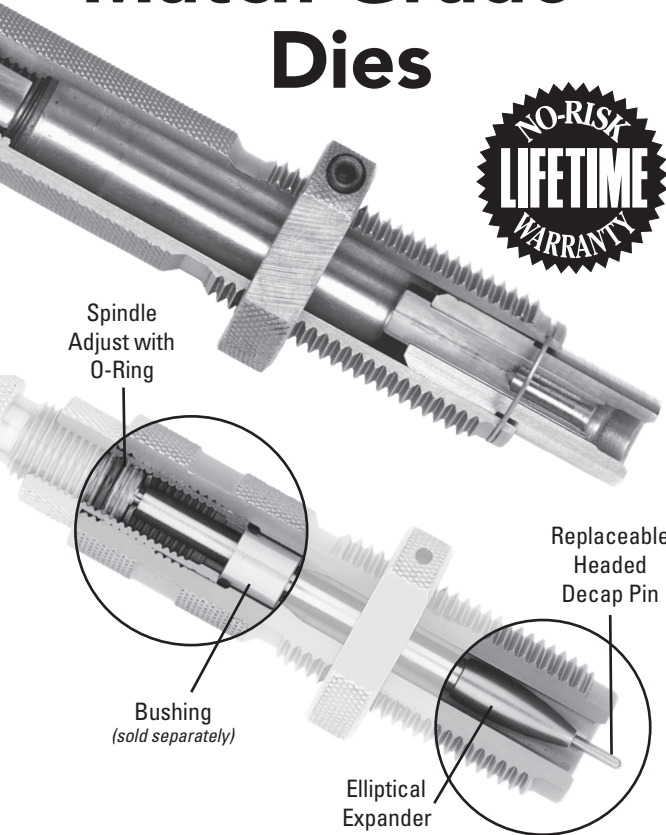




Hornady
Accurate. Deadly. Dependable.

Match Grade™ Dies



BEFORE USING DIES

Before using the dies, disassemble and carefully clean the inside surface of the sizing and seating dies. A rust preventive oil is applied at the factory to protect the dies during shipping and **must be removed before reloading**. Any commercial solvent or cleaner (like our ONE SHOT® Gun Cleaner and Lube) will suffice.

Inspect all cartridge cases and discard those with cracks, splits and other visible defects. Cases must be cleaned prior to reloading to avoid damaging the die. The Lock-N-Load® Sonic Cleaner or M-1 Case Tumbler are recommended. Cases can also be wiped with a soft cloth to remove grit and other foreign matter that may scratch the die. Before sizing, lubricate the cases with one of the case lubes available from Hornady® (ONE SHOT® Case Lube or UNIQUE Case Lube, a hard paste). No matter the method of lubrication, all rifle cases must be lubricated. We don't recommend the use of oil-type lubes as they may contaminate the powder inside the case.

Little or no lube on rifle cases will result in a stuck case. Over-lubrication will cause dents in the shoulder, damaging appearance. If you get a case stuck in a die, we can remove the case without damaging the die and return it to you. Please call our customer service department for assistance at 800-338-3220.

ADJUSTING THE FULL LENGTH SIZE DIE

Remove the die cap (3) and spindle assembly (7-12). The die ships with a decap pin retainer (12) threaded on the spindle. If you wish to use the included elliptical expander (13), replace the decap pin retainer with it now (see die parts list).

NOTE: Using the elliptical expander could affect the neck tension you determined.

Insert the neck bushing (4) of choice with the size marking on the bushing up or visible in the top of the die. Thread the die cap/spindle assembly back into the die.

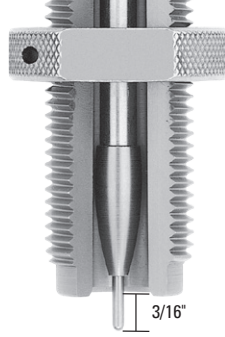
NOTE: The die cap is designed to allow the bushing room to float so it can self-center on the case neck.

If you are depriming the cases during the Full Length sizing operation, assure that the decap pin (11) is protruding below the bottom of the die 1/8" to 3/16" by adjusting the spindle retainer (7) and tightening the lock ring (1). See photo above.

With the proper shell holder inserted and the press ram raised to the top of its stroke, thread the die into the press until it contacts the shell holder. Set and tighten the Sur-Loc™ Lock Ring (6).

NOTE: Hornady® Match Grade™ Dies are designed to size a case to fit a SAAMI min spec chamber. Firearm action types and chamber dimensions differ causing variations in headspace. You may need to adjust the die up or down to match the headspace on your rifle. The use of a Lock-N-Load® Headspace Comparator (No. HK66) can help with this.

NOTE: Hornady® Match Grade™ Dies come with an easily replaceable headed decap pin. If during use or adjustment, the pin breaks, an extra decap pin has been provided. Remove the spindle assembly, unthread the expander/retainer, remove the decap pin head, and replace with the new decap pin.



ADJUSTING THE SEATING DIE

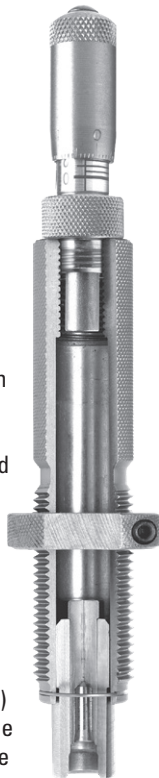
Hornady® Match Grade™ Die Sets feature bullet seating dies with a floating in-line sleeve designed to minimize bullet run-out (misalignment caused by a canted bullet). The cartridge neck and bullet are aligned in the floating sleeve prior to seating the bullet for in-line, precise bullet seating. These seating dies are also assembled with a Lock-N-Load® MicroJust seating micrometer (No. 044090), that allows you to precisely set bullet seating depth in .001 increments. In addition, Match Grade™ Die Sets ship with two seating stems, a standard stem, and an ELD Match seating stem, which is machined to fit the ELD Match bullet as well as some other long ogive bullets.

These universal seating dies are manufactured by caliber (.224, .243, .308, .358, etc.) and not by specific cartridge (222 Remington, 240 Weatherby Magnum, 30-30 Winchester, 35 Whelen, etc.).

Prior to seating, choose which seating stem (15, 19) you wish to use and make sure it is positioned in the alignment sleeve (16) (see die parts list). Also, make sure the cases are chamfered before seating.

When properly adjusted, the Hornady® seating die may appear as though it's not threaded far enough into the press (they are adjusted for long or short cases). Don't be alarmed: as few as three threads need be screwed into the press for precise and accurate reloading.

NOTE: As with all seating dies, when seating lubricated lead bullets, lubricant will build-up within the die causing variations in seating. Clean and inspect as needed.



SEATING WITHOUT A CRIMP

Insert a sized case into the shell holder and raise the press ram. Back-out the MicroJust Seating Micrometer (17). If it is set too low to start, you may run out of adjustment. It can even be removed to set the die for crimping.

Thread the seating die over the case and into the press until resistance is felt. At that point, the crimp ring has come in contact with the mouth of the case.

Back the die out of the press 3/4 to 1 turn to prevent the case from being crimped — set and tighten the Sur-Loc™ Lock Ring (6).

Raise the handle and return the ram to its starting position.

Insert a bullet in the case mouth - raise the ram to the top of the stroke guiding the cartridge and bullet into the alignment sleeve (16). If removed, replace the MicroJust Seating Micrometer and adjust it down until resistance is felt. This resistance is the seating stem (15) starting to seat the bullet. Upon completion of the stroke, the bullet should be barely seated in the case.

Adjust the MicroJust Seating Micrometer down in determined increments, each time operating the handle and measuring the cartridge until the bullet is seated to the desired length. At the completion of each stroke, inspect the cartridge for the correct overall length.

Raise the handle and remove the cartridge. Try another case with a bullet. If the desired seating depth is attained, you can begin seating. If not, make the needed minor adjustments.

SEATING WITH A CRIMP

To begin, refer to the procedure for *SEATING WITHOUT A CRIMP*. Follow the procedure throughout, however, **DO NOT TIGHTEN THE SUR-LOC™ LOCK RING.**

Once you reach the preferred seating depth for the bullet, back out the MicroJust Seating Micrometer a few turns.

Raise the ram, with the cartridge, to the top of the stroke.

Thread the seater die body (14) into the press until it meets resistance (**again, at that point, the mouth of the case has met resistance with the crimper**).

NOTE: A bullet with a cannelure is required to crimp with this style of seating die.

Thread the seater die body (14) into the press in small increments (one-sixteenth turns) each time operating the handle. At the completion of each stroke, inspect the cartridge and continue the process until desired crimp is achieved.

Once you've reached the desired crimp (with the cartridge still in the die), tighten the Sur-Loc™ Lock Ring. Then, while holding down the handle, thread the MicroJust Seating Micrometer downward until it contacts the bullet.

NOTE: On presses with a cam-over action, back-out the MicroJust Seating Micrometer 1/8 to 1/4 of a turn to allow for cam-over.

Raise the handle and remove the cartridge. Try another case with a bullet. If the desired seating depth and crimp are attained, then you can begin seating and crimping in one operation. If not, make the needed minor adjustments.

NOTE: For uniform crimps, cases must all be trimmed to a uniform length.

BUSHING SELECTION

Hornady® Match Grade™ Bushing Dies allow the use of interchangeable neck bushings (*sold separately*). This allows versatility with neck size based on your preferences for neck tension. The bushing size will depend on your brass neck thickness and can be determined several different ways.

One way is to measure the outside diameter of the neck of a loaded round. Subtract .002 to .003 (or your preferred neck tension +.001) from the neck diameter to determine bushing size. This allows brass spring back and a neck tension of .001 to .002.

Example: Loaded neck diameter is .334 - .002 = .332 neck bushing.

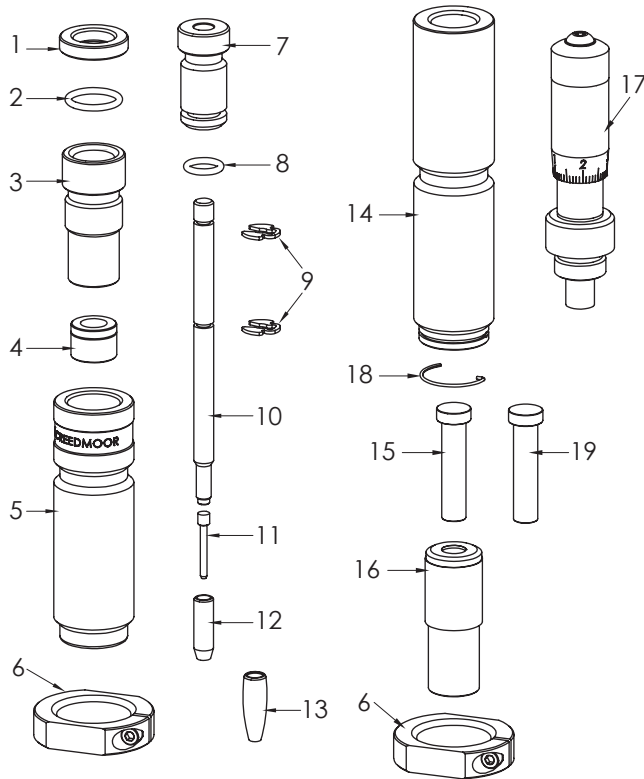
Another way to determine brass neck thickness is to use the Hornady® Neck Wall Thickness Gauge (No. 041223) or a ball micrometer to measure the neck thickness of a case. Take that measurement, multiply by two, add bullet diameter and subtract .002 (or your preferred neck tension +.001).

Example: Neck thickness is .013 x 2 = .026 + .308 bullet = .334 - .002 = .332 neck bushing.

It is recommended to have neck bushings a size above and below the target bushing size. Brass may spring back more or less depending on unforeseen factors.

For available bushings refer to our website at hornady.com.

EXPLODED VIEW



PARTS LIST

Key	Description	Part No.
1	Lock Ring	392764
2	O-Ring	398029
3	Die Cap	*
4	Neck Bushing (sold separately)	*
5	Match Grade Die Body	*
6	Sure-Loc Lock Ring	044000
7	Large Spindle Retainer	396615
	Small Spindle Retainer	396616
8	O-Ring	396470
9	Large E-Clip (2)	396622
	Small E-Clip (2)	396621
10	Match Spindle	*
11	Headed Decap Pin**	390222
12	Decap Pin Retainer	396303
13	Elliptical Expander	*
14	Seating Die Body	*
15	Seating Stem	*
16	Alignment Sleeve	*
17	MicroJust Seating Micrometer	044090
18	Retaining Ring	396430
19	ELD Match/A-Max Seating Stem	*

*Caliber specific part numbers are assigned to these items.
 **2 sizes available (standard, PPC)

ACCESSORIES

ELD-X Seating Stems

Profiled to match ELD-X bullets, these seating stems offer precise alignment without harming the bullet. Available in a variety of calibers. **Visit hornady.com for details.**

Deluxe Die Wrench

The Deluxe Die Wrench is the ultimate 4-in-1 reloading tool for your Lock-N-Load® press. This tool holds the shell plate and keeps it from rotating while you change plates and tighten the main press screw. It also adjusts the tightness of the spindle lock and the Sur-Loc™ Lock Rings, and can tighten or loosen the die flats. **No. 396495.**

Lock-N-Load® Die and Conversion Bushings

These bushings let you take advantage of Lock-N-Load® technology on other reloading press brands. The Lock-N-Load® Conversion Kit includes three die bushings and one conversion bushing.

Press Conversion Bushing **No. 044095**
Die Bushings (2-pk.) **No. 044094**
Die Bushings (3-pk.) **No. 044093**
Die Bushings (10-pk.) **No. 044096**
Conversion Kit **No. 044099**



WARRANTY

All Hornady® reloading tools and accessories are warranted against material defects and workmanship.

Hornady® electronic components are covered by a one-year warranty from the date of purchase.

This warranty is void if the product (1) has been damaged by accident or unreasonable use, neglect, improper service or other causes not arising out of defects in material or workmanship; or (2) has been altered or repairs have been made or attempted by other than authorized factory personnel; (3) is used commercially; or (4) has been altered or defaced in any way.

This warranty supersedes all other warranties for Hornady® products either written or oral. No other warranty is expressed or implied.

PRODUCT REGISTRATION AND SERVICE

You must register your product to obtain Warranty Service. Complete the registration form at **hornady.com/warranties**.



TO RECEIVE WARRANTY SERVICE

To report a warranty claim, call Hornady® at 800-338-3220 to request a return authorization number. Returns will not be accepted without prior return authorization by Hornady®.

POST-WARRANTY SERVICE INFORMATION

For issues concerning service after the Limited Warranty expires, contact Hornady® at 800-338-3220.

PRODUCT SERIAL NUMBER AND REFERENCE INFORMATION

You must register your product in order to obtain warranty service. In the event you should need service for your product, please note the following information:

Serial Number _____

Date Purchased _____

Retailer _____

Hornady Manufacturing Co.

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Hornady.com/contact