

FORSTER PRODUCTS

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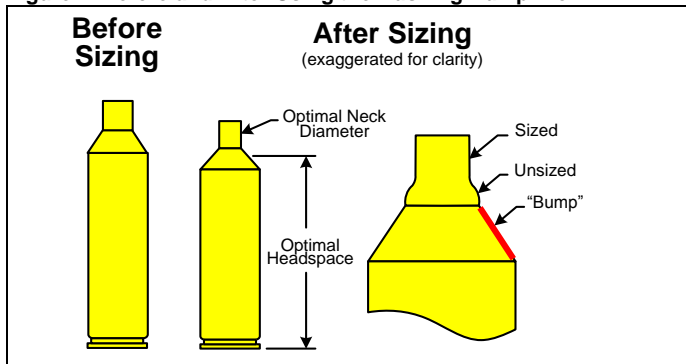
User Instructions for the Bushing Bump Neck Sizing Die

Issue 7

1.0 GENERAL INFORMATION

The Bushing Bump Neck Sizing Die brings you an advanced precision level by allowing you to precisely control the amount of neck sizing tension in your reloaded cartridge brass. This die improves accuracy and prolongs case life because the neck is sized down as little as necessary while still "bumping" the shoulder of the case to maintain overall case concentricity. (See Fig. 1.)

Figure 1. Before and After Using the Bushing Bump Die



Over 90 interchangeable bushings are available in 0.001" increments to allow the user to customize the amount of neck sizing to adjust for case neck wall thickness. Forster neck bushings are machined to a superior interior finish for "smooth as silk" neck sizing.

Note: See Section 5.0 for other sizing options. Complete die nomenclature is given in Fig. 2 on the back page.

2.0 SAFETY INFORMATION

- Always wear safety glasses.
- Keep complete, chronological records of all reloads. This data is useful for future load development. Label each batch of cartridges with:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Date loaded | <input checked="" type="checkbox"/> Powder type and weight |
| <input checked="" type="checkbox"/> Primer type | <input checked="" type="checkbox"/> Bullet type and weight |
| <input checked="" type="checkbox"/> Case type | |

- **Do not use on military brass with crimped primers.** Use a specially designed (decapping only) sizing die.
- The half-inch yellow square tab is an anti-rust agent. Keep this tab with the die.

3.0 PREPARATION

3.1 Prepare the Cases

1. Inspect all cases. Dispose of those that are split or separated.
2. Clean cases.
3. If the case neck walls vary in thickness, turn the outside neck to a consistent thickness using a **Forster Outside Neck Turner** (HOT1010 or HOT100).

4. Chamfer sharp corners of trimmed cases with a **Forster Deburring Tool**.
5. Lightly lubricate the case neck and shoulder with **Forster High Pressure Lube**. Do not over lubricate, as this may create pressure dents during sizing.
6. If an optional Expander Ball (E-10) is being used (see Section 6.0), apply a thin coat of dry lubricant to the inside of the case necks by pushing the cases down over the brushes of a **Forster Case Graphiter**.

3.2 Prepare the Die

Clean inside die surfaces using a cloth patch saturated with gun-cleaning solvent.

3.3 Select the Neck Bushing

For best accuracy, use the least amount of bullet tension needed. New brass will generally work well with the bushing selection procedure outlined below; however, after brass has been fired more than four times, it work hardens and may require smaller bushings to attain the same initial bullet grip.

NOTICE

Cartridges must have the correct clearance between the neck outside diameter and the neck inside diameter of the rifle chamber. This clearance is necessary for the bullet to be released properly during ignition.

1. Select a case that has been fired in the rifle in which the reloaded cartridges will be used.
2. Determine the correct neck bushing size by using one of the following two methods to obtain the case neck measurement (all measurements are in inches):

- Bushing Selection Algorithm

$$[(\text{case neck wall thickness} \times 2) + \text{bullet diameter}] - 0.002" = \text{correct bushing size (number on bushing)}$$

OR

- Micrometer or Dial Caliper: Measure the outside neck diameter of several loaded cartridges. Ideally, this measurement should not vary more than 0.001". Use the smallest diameter in the formula below:
$$\text{cartridge case outside neck diameter} - 0.002" = \text{correct bushing size (number on bushing)}$$

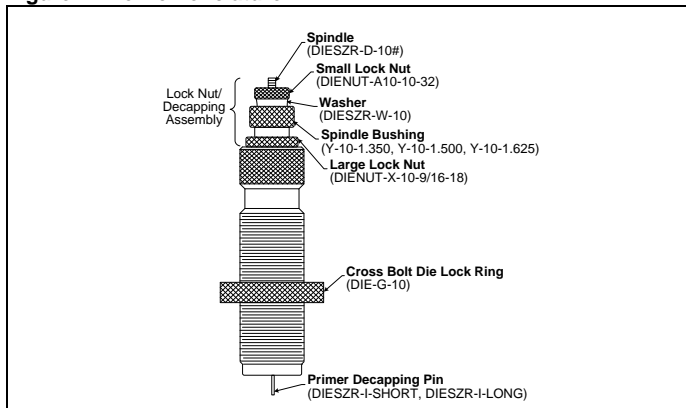
NOTICE

- For increased bullet grip/greater press fit, subtract 0.003" instead of 0.002" in the formulas above.
- If using moly-coated bullets, the neck bushing may need to be up to 0.003" smaller to maintain adequate bullet tension.

3.4 Insert Bushing and Adjust Lock Nut/Decapping Assembly

1. Loosen the Large Lock Nut (DIENUT-X-10-9/16-18) and remove the Lock Nut/Decapping Assembly from the die.
2. Insert the correct neck bushing, chamfered side down, in the top of the die.
3. With the Large Lock Nut loosened, screw the Lock Nut/Decapping Assembly back in to the die until contact is made with the neck bushing.
4. Turn the Spindle Bushing (Y-10-1.350, Y-10-1.500, Y-10-1.625) approximately 1/8 turn counterclockwise. This action allows a slight amount of bushing float.
5. While holding the Spindle Bushing in its position, tighten the Large Lock Nut against the top of the die. The Spindle Bushing is now properly adjusted to maintain this bushing float.
6. Ensure the Small Lock Nut (DIENUT-A10-10-32) and the Washer (DIESZR-W-10) are tight against the Spindle Bushing to prevent the Spindle (DIESZR-D-10#) from moving.
7. The Bushing Bump Neck Sizing Die is now ready to size your cases.

Figure 2. Die Nomenclature



4.0 CASE SIZING PROCEDURE

1. Install the die into any standard 7/8-14 thread reloading press or **Forster's Co-Ax® Reloading Press** so that it makes contact with the shell holder when the ram is at its uppermost position.
2. Tighten the Cross Bolt Die Lock Ring (DIE-G-10) with a #2 Phillips screwdriver.
3. Insert a case into the reloading press.
4. Size the case by actuating the reloading press. (Ensure the die makes complete contact with the shell holder.)
5. Remove the sized case from the die.

Check case length and trim to length, if necessary. The case is now ready for priming and powder charge.

5.0 OTHER APPLICATIONS

5.1 Partial Neck Resizing (See Fig. 3.)

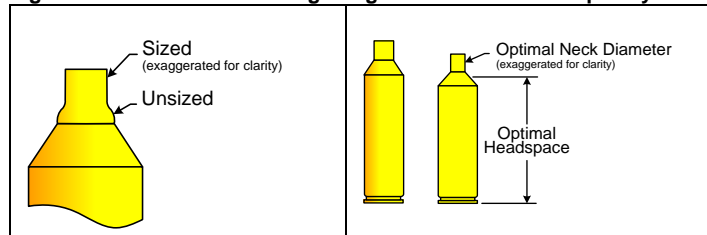
The Bushing Bump Neck Sizing Die may easily be adjusted to resize only a portion of the neck length. The partially-sized neck allows the unsized section to better align the cartridge in the rifle chamber. This action places the bullet close to the lands of the rifling with equal pressure at top and bottom.

1. Loosen the Large Lock Nut.
2. Turn the Spindle Bushing counterclockwise to the desired point. (The greater the turn, the smaller the sized area on the case neck.)
3. Tighten the Large Lock Nut.

5.2 Shoulder Bump Only (See Fig. 4.)

By removing the neck bushing, the Bushing Bump Neck Sizing Die may be used to bump the shoulder without changing the case neck diameter. This action maintains proper headspace in any chamber, custom or factory.

Figure 3. Partial Neck Resizing Figure 4. Shoulder Bump Only



5.3 Case Neck Forming

When using neck bushings to form "wildcat" calibers, squeeze the cartridge necks down using 0.010" increments. Neck reaming and/or outside neck turning are usually required after/ or during neck forming conversions. Always proceed with extreme caution when developing loads for converted wildcat calibers.

6.0 EXPANDER BALL (E-10) OPTION FOR NECK EXPANSION

Although the Bushing Bump Neck Sizing Die is designed for prepared cartridges that normally do not require a Forster Expander Ball, it may be ordered separately (See Section 8.0) and installed on the Spindle. This step may be desirable when using commercial brass "as is" or to correct damaged case mouths ejected from semi-automatic rifles. For more information, see "User Instructions for the Bench Rest® Full Length Sizing Die" found at our PDF Library under RESOURCES on our Web site.

Note: Forster can manufacture special size neck reamers to your specifications.

7.0 AFTER USE

Oil the die with a good quality gun oil before storing die until the next use.

8.0 ORDERING INFORMATION

Table 1. Replacement Parts

Order Number	Description
DIENUT-A10-10-32	Small Lock Nut
DIESZR-D-10#	Spindle
DIESZR-I-SHORT	Primer Decapping Pin (0.75")
DIESZR-I-LONG	Primer Decapping Pin (1.00")
DIE-G-10	Cross Bolt Die Lock Ring
DIESZR-W-10	Washer
DIENUT-X-10-9/16-18	Large Lock Nut
Y-10-1.350	Spindle Bushing (1.350")
Y-10-1.500	Spindle Bushing (1.500")
Y-10-1.625	Spindle Bushing (1.625")

Complete Product

The Bushing Bump Neck Sizing Die may be ordered separately or in a kit with three pre-selected bushings. Bushings come in 0.001" increments and also may be ordered separately. See our Web site for more information.

Expander Ball (E-10)

Expander Balls are available in a wide variety of calibers. Call for details.

Forster Products manufactures a broad line of precision gunsmithing and reloading products. For best prices, contact one of our Forster Products Dealers. Their experience is an integral part of the shooting sports. To find your closest Dealer, please go to our Web site. If your Dealer cannot supply you, contact us at 815-493-6360 or forsterproducts.com.

WARRANTY

All Forster Products are warranted against defects in materials and workmanship for the life of the product. Parts which, by nature of their function, are subject to normal wear (such as springs, pins, etc.) and parts which have been altered, abused or neglected, are excluded from the warranty. If the product is deemed defective by workmanship or materials, it will be repaired, reconditioned or replaced (at Forster's option). This warranty supersedes all other warranties for Forster Products whether written or oral.

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