

# FORSTER PRODUCTS

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## User Instructions for the Ultra™ Micrometer Seater Die

Issue 4

### 1.0 GENERAL INFORMATION

The Ultra™ Micrometer Seater Die holds the bullet and case in perfect alignment while the bullet is press-fit seated. A handy micrometer adjusts the bullet seating depth to 0.001" or even finer increments

A close-fitting, sliding Die Chamber (P-30) holds the bullet and case for their entire length, as well as holding the bullet, case and Bullet Seating Stem (J-30 ULTRA) in a common axis, during bullet seating to ensure match-grade alignment.

The sliding Die Chamber has a concentric bullet channel that is just slightly larger (per side) than the bullet diameter. This tight fit ensures straight line (co-axial) seating.

The Bullet Seating Stem contacts the bullet ogive as far away from the bullet's tip as possible. A custom-fitted Bullet Seating Stem may be required due to the many types of bullets on the market. This service is available from Forster on a custom order basis.

Note: Complete die nomenclature is given in Figure 2 on the back page.

### 2.0 SAFETY INFORMATION

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

- |                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <b>Primer</b> (manufacturer, type, lot)  |
| <input checked="" type="checkbox"/> | <b>Case</b> (manufacturer, overall length, neck wall thickness, number of times fired, comments) |
| <input checked="" type="checkbox"/> | <b>Powder</b> (type, manufacturer, lot, charge)  |
| <input checked="" type="checkbox"/> | <b>Bullet</b> (manufacturer, type, weight, lot)  |
| <input checked="" type="checkbox"/> | <b>Cartridge</b> (overall length, comments)  |

- Brass from oversize or otherwise out-of-tolerance chambers that has not been full-length sized may not fit in this die. A custom sliding Die Chamber (P-30) may be required. This service is available from Forster on a custom order basis. (Note: If available, Forster can use the reamer that was used to cut the manufacturer's rifle to make a customized seater die.)
- The half-inch yellow square tab is an anti-rust agent. Keep this tab with the dies.

### 3.0 PREPARATION

- 3.1 Have a 7/64 short arm hex key (Allen wrench) available.

#### 3.2 Prepare the cases

Inconsistent or extremely light bullet tension can be a root cause of bullet seating variation. Ensure your cases are properly prepared for accurate bullet seating:

- If the case neck walls vary in thickness, turn the outside neck to a consistent thickness using a **Forster Outside Neck Turner** (part numbers OT1010 or HOT100).

- If the cases need sizing, use a **Forster Bench-Rest® Full Length Sizing Die, Bushing Bump Sizing Die or a Bench Rest® Neck Sizing Die** to properly size the cases.
- As cases are repeatedly fired, neck walls can become work hardened (and hence less ductile). When this occurs, brass has a tendency to spring back more and not hold the shape of the sizing die. Annealing the case necks can extend their useful life and greatly enhance accurate loading. (For more information on case annealing, see Chapter 4 of Designing and Forming Custom Cartridges for Rifles and Handguns by Dr. Ken Howell.)

### 3.3 Prepare the Die as Follows:

#### 3.31 Clean the Die

Clean the inside of P-30 die surfaces using a cloth patch saturated with gun-cleaning solvent.

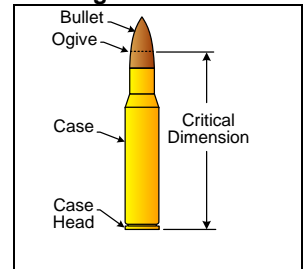
#### 3.32 Fine Tune the Die

##### NOTICE

Because the die holds the bullet, case and Bullet Seating Stem (J-30 ULTRA) in perfect alignment for straight line seating, even minor variations (0.005") in bullet seating depth may cause significant changes in accuracy.

To increase accuracy, position the bullet as close to the rifling as possible. The overall length measured from the case head to the tip of the bullet is not as critical as the distance from the case head to the ogive (point at which the bullet contacts the lands of the rifling) as shown in Figure. 1. Use a C.O.L. gauge to measure this dimension. Refer to Table 1 for seating depth adjustment information.

**Figure 1. Critical Cartridge Dimension**



**Table 1. Seating Depth Adjustment Information**

Bullet Seating Stem (J-30) Adjustment	Bullet Movement	
	17-243 Caliber Seater Dies	257-375 Caliber Seater Dies
1/8 turn	0.004"	0.0045"
1/4 turn	0.008"	0.009"
1/2 turn	0.016"	0.018"

#### 3.33 Set Seating Depth Style (See Fig. 2)

The Micro Head (Q-30SM, Q-30LG) is adjustable in 0.001" increments:

- For coarse bullet seating depth: Loosen the Lock Nut (A-10M, K-30SM) and move the Bullet Seating Stem (J-30 ULTRA).
- For fine bullet seating depth: Tighten the Lock Nut and simply turn the Micro Head.

**4.0 BULLET SEATING PROCEDURE**

1. Create a prototype dummy round using the following procedure:
  - A. Ensure the Micro Body (MODL-30SM, MODL-30LG) is securely threaded to the Sleeve (O-30).
  - B. With the press ram and shell holder at its highest point, screw the die in the press until the bottom of the sliding die chamber (P-30) touches the shell holder.
  - C. Continue screwing the die until you have compressed the sliding Die Chamber (P-30) two full turns (0.125") to six full turns (0.50").
  - D. Tighten the Cross Bolt Die Lock Ring (DIE-G-10) by using a 7/64 short arm hex key on the Die Lock Ring Screw (6-32 X 1/2 ").
  - E. Loosen the Lock Nut and adjust the Bullet Seating Stem (J-30 ULTRA) up or down until the approximate seating depth is obtained. Tighten the Lock Nut against the Micro Body.
  - F. Seat the bullet by inserting it in the resized, primed, charged case mouth and slowly running it up in the Ultra™ Die.
  - G. Check the cartridge for proper length. Turn the micrometer setting to fine-adjust to the desired bullet seating depth. The micro head will adjust in 0.001" increments for very precise bullet depth alterations. Each full revolution of the Micro Head equals 0.025".
2. The die is now ready to reliably seat bullets to consistently accurate depths. Create live rounds following steps A through G.

**Table 2. Optimal Bullet Depth Setting Information**

Bullet Manufacturer	Bullet Caliber	Bullet Style	Bullet Weight	Micrometer Setting

**5.0 AFTER USE**

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

**6.0 REPLACEMENT PARTS**

Every product component is available individually. A complete list of component order numbers and prices is available on our website. Go to [forsterproducts.com](http://forsterproducts.com), then click on **Components/Parts Price List**.

We recommend using our Resellers when ordering our products. Their experience and knowledge will help you select the best products that meet your specific requirements. In addition, they usually offer the best prices and convenient delivery options. To find a Reseller, go to [forsterproducts.com](http://forsterproducts.com), then click on **Locate a Reseller**. If your Reseller cannot supply you, please contact Forster Products directly.

**NOTICE**

To ensure the die will hold the proper setting so that it may be reused without readjustment, tighten the Cross Bolt Die Lock Ring. Use a table like that shown in Table 2 to keep track of optimal bullet depth settings for future loading.

**Figure 2. Die Nomenclature**

Name	Number	Size	Used With
Lock Nut	A-10M	10-40 thread	243 and smaller
	K-30M	1/4-40 thread	257 and larger
Micro Head	Q-30SM	1/4-40 thread	243 and smaller
	Q-30LG	10-40 thread	257 and larger
Micro Body	MODL-30SM	1/4-40 thread	243 and smaller
	MODL-30LG	10-40 thread	257 and larger
Sleeve	O-30-SH	2.375" length	caliber-specific
	O-30-M1	2.625" length	
	O-30-M2	2.875" length	
	O-30-L	3.125" length	

**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 either repaired, reconditioned or replaced (at Forster Product's option). This warranty supersedes all other warranties for Forster Products whether written or oral.