

## User Instructions for the Ultra™ Micrometer Seater Die

Issue 8

### 1.0 GENERAL INFORMATION

The Ultra™ Micrometer Seater Die is a non-crimping-style seater die (except for the 30-30) that 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. Complete die nomenclature is given in Figure 2 on the back page.

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

### 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:

- Primer** (manufacturer, type, lot)
- Case** (manufacturer, overall length, neck wall thickness, number of times fired, comments)
- Powder** (type, manufacturer, lot, charge)
- Bullet** (manufacturer, type, weight, lot)
- Cartridge** (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 may be required. See Section 6.0.

### 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.

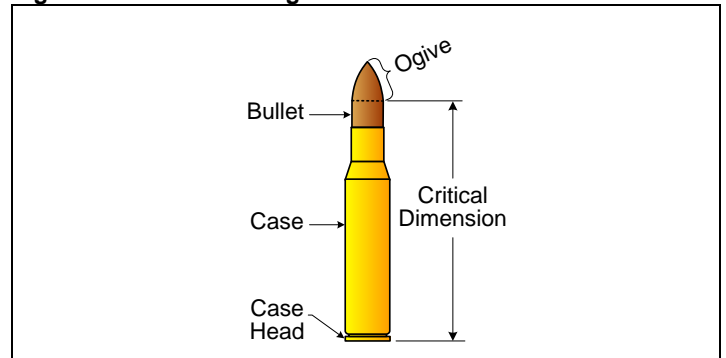
#### 3.32 Fine-tune the Die

##### NOTICE

Because the Die holds the bullet, case and Bullet Seating Stem 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, experiment as to the best position to seat the bullet off the lands of the rifling. 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 the Datum Dial (DD1010) to measure this dimension.

Figure 1. Critical Cartridge Dimension



#### 3.33 Set Seating Depth Style

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 their highest points, screw the die in the press until the bottom of the sliding Die Chamber touches the shell holder.
  - C. Continue screwing the die clockwise until you have fully compressed the sliding Die Chamber. Next, back it off at least one full turn because the Die Chamber should never be fully compressed when seating bullets.
  - 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 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 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.

#### 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.

**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 CUSTOM MACHINING SERVICES

##### 6.1 Custom-Fitted Bullet Seating Stem (J-30 ULTRA)

May be required in rare instances due to the many types of bullets on the market.

##### 6.2 Custom sliding Die Chamber (P-30)

If available, Forster can use the reamer that was used to cut the manufacturer's rifle to make a customized Seater Die.

A complete list of services, including prices and lead times, is available on our website. Go to [forsterproducts.com](http://forsterproducts.com), then click **Resources | Custom Machining**.

#### 7.0 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 **Replacement Parts**.

For best prices, contact your Forster distributor. Experienced distributors are an integral part of the shooting sports. Please make frequent use of their knowledge and support them. If your distributor cannot supply you, please contact us by email, fax or phone.

**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	10-40 thread	243 and smaller
	Q-30LG	1/4-40 thread	257 and larger
Micro Body	MODL-30SM	10-40 thread	243 and smaller
	MODL-30LG	1/4-40 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 excluded from the warranty are those that, by nature of their function, are subject to normal wear (such as springs, pins, etc.) or that have been altered, abused, or neglected. 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.