



# Screw Kits and Accessories

- Convenient adapter washers for using 8-32 screws in 1/4-20 tapped holes
- Double-ended setscrews so you'll never have to fish a setscrew out with a pair of pliers
- Well-stocked screw kits

## Adapter Washers

Model 9921

Unlike other commonly found thread adapters, these stainless-steel adapter washers turn 1/4-20 (M6) tapped holes into 8-32 (M4) tapped holes so you can secure anything that uses an 8-32 screw (setscrew or socket head) to that "other" side of the post. The washer's outer diameter is the same dimension as a 1/4-20 (M6) screw head and the inner diameter is tapped for an 8-32 (M4) screw. (Sold in packages of 25.)



Our screw set comes with a variety of sizes to meet all your mounting needs.

## Double-Ended Setscrews

Model 9923

A New Focus™ original! These setscrews have Allen hex-key adjustments on both sides so you'll never inadvertently end up with a post or mirror mount with only the "wrong" side of the setscrew showing. You'll never have to grab a pair of pliers and ruin the threads of these screws. (Sold in packages of 10.)



## Screw Kits

Models 9111 and 9112

These screw kits offer a convenient assortment of screw types commonly found in your lab, including different length 1/4-20 (Model 9111) and 8-32 (Model 9112) stainless-steel screws.

Included in Model 9111 (over 1,000 pieces total)	Lengths
1/4-20 Socket Head Screws	3/8", 5/8", 3/4" 1", 1 1/4", 1 1/2", 2"
1/4-20 Set Screws	1/2", 3/4"
8-32 Set Screws	5/8"
1/4-20 Nuts and Washers	-NA-

Included in Model 9112 (over 750 pieces total)	Lengths
8-32 Socket Head Screws	1/4", 3/8", 1/2", 3/4" 1", 1 1/4", 1 1/2"
Nuts and Washers	-NA-

Style	8-32 Adapter Washers	8-32 Double-Ended Setscrew	1/4-20 Screw Kit	8-32 Screw Kit
Metric Versions	Compatible	Add M to Model #	-NA-	-NA-
Model #	9921	9923	9111	9112
Price*	\$7.50/Package of 25	\$18/Package of 10	\$170	\$118

\*For international prices add 10%.

# Micrometers & Nudgers

- *Nudgers for precise relocation of mounts*
- *High-resolution micrometers*
- *Compatible with our translation stages*

## Nudgers

### Model 9315

Finely position your setup with this ball-tipped pusher, or use it for precise relocation of your components. It offers 1/4-80 precision over a 1/2" range. Three nudgers and a flat surface can be used to relocate a mount precisely. The 3/4" slot is compatible with 1/4-20 or M6 cap screws.



**Model 9315**

## High-Resolution Micrometers

### Model 9351

Our high-resolution calibrated micrometer-style adjustment screws have 1/4-100 threads to give you finer resolution than conventional micrometers (typically 40-pitch threads). Easy-to-read rulings are marked in 0.0001" increments. The micrometer screw sets are designed for bonding into 0.344"-diameter holes. They are also available on most of our standard mirror mounts.

NOTE: Not for use with translation stages. See micrometers below.



**Model 9351**

## Micrometers

### Models 9352-9356

These high-quality micrometers are clearly marked for 0.01-mm accuracy and are ideal for use with our translation stages (pages 244-259). Micrometers are matched to specific stages to ensure full useable travel range of the stage. Micrometers have 1/4" to 1" of travel.



**Model 9353**



**Model 9352**

### Models 9354, 9355, and 9356



3D Models available at [www.newfocus.com](http://www.newfocus.com)

Style	Nudger	13-mm Micrometer	25-mm Micrometer	High-Resolution Micrometer	6.5-mm Micrometer	13-mm Micrometer	25-mm Micrometer
Travel	0.50" (12.7 mm)	>0.50" (13 mm)	>1.0" (25.4 mm)	0.25" (6.4 mm)	>0.25" (6.5 mm)	>0.50" (13 mm)	>1.0" (25.4 mm)
Resolution	-NA-	0.0004" (10 μm)	0.0004" (10 μm)	0.00004" (1 μm)	0.0004" (10 μm)	0.0004" (10 μm)	0.0004" (10 μm)
Compatible With	All Mounts, Stages	Models 9065, 9066 Stages	Models 9064, 9067 Stages	Most Mounts	Model 9061 Stages	Model 9062 Stages	Model 9063 Stages
<b>Model #</b>	<b>9315</b>	<b>9352</b>	<b>9353</b>	<b>9351</b>	<b>9354</b>	<b>9355</b>	<b>9356</b>
Price*	\$45	\$79	\$79	\$89	\$79	\$79	\$79

**Related Products:** Motorized Actuators (page 160) ■ Translation Stages (pages 244-259)

\*For international prices add 10%.



# Screw Sets

- Now in 100-TPI versions
- Proprietary manufacturing process
- Superior long-term stability

These precision screw sets (including the 1/4-80 versions used in our optic mounts) allow you to build your own mounts or positioners. Our proprietary assembly process uses very tight tolerances and allows us to use very little grease. We limit the amount of grease because over time, and as the temperature varies, large amounts of grease can cause the threads to migrate, leading to hysteresis as well as long-term creep. The result of our proprietary process is actuators that have very smooth, wobble-free move-

ment, high precision, and exceptional long-term and thermal stability.

We offer a variety of options: braked or unbraked brass bushings, ball or blunt tips, and knob or Allen-key adjustments. To achieve the best performance with the unbraked screw sets, we recommend bonding them into your mount rather than press-fitting them in. (See below.)

Contact us for information on custom configurations and volume pricing.



Model 9321



Model 9301-K



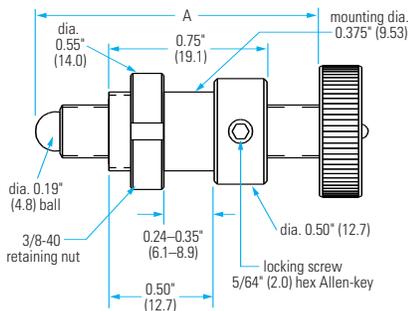
Model 9361 Model 9302-K



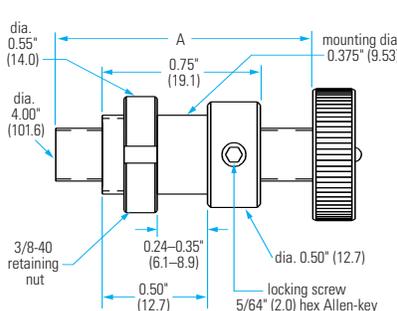
Model 9314, 9379



Model 9314-K, 9379-K



**Model 930X, 936X**  
Braked Body/Ball Tip



**Model 9321**  
Braked Body/Blunt Tip

Note: For latest drawings see [www.newfocus.com](http://www.newfocus.com)

## Product Tutorial

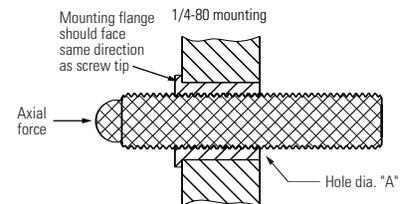
### Installation of New Focus™ Precision Screws and Nuts

New Focus precision nuts are designed for easy installation in your equipment. Following these guidelines will ensure easy installation and the best results.

We recommend using an adhesive when mounting the nut in a slip-fit hole. Do not press-fit the nut or it may distort.

It is important to mount the nut such that any axial force is taken up by the mounting flange. Axial force should not be carried by the adhesive.

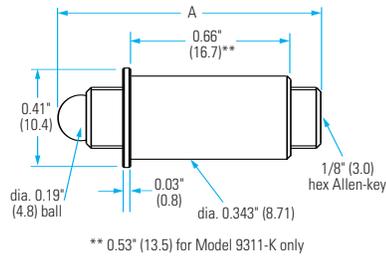
We recommend using Loctite® Product 609 anaerobic retaining adhesive. It is essential that both surfaces be completely free of grease for proper curing of the adhesive.



Dimensions	6-80 or 6-100	1/4-80 or 1/4-100
Hole Diameter ("A" in mech. dwg.)	0.201" ±0.001" (5.1 ±0.03 mm)	0.345" ±0.001" (8.8 ±0.03 mm)

## Removable Knobs

Style	Removable Knobs
Model #	9361
Price†*	\$10/Set of 3



**Model 931X-K, 937X-K**  
Unbraked Body/Ball Tip

## 1/4-80 Screw Sets

Body Style	Braked	Braked	Braked	Braked	Braked	Braked
Tip Style	Ball	Ball	Ball	Ball	Ball	Blunt
Threads per inch	80	80	80	80	80	80
Travel	0.50" (12.7 mm)	0.75" (19.0 mm)	1.00" (25.4 mm)	1.50" (38.1 mm)	2.00" (50.8 mm)	0.38" (9.6 mm)
Screw Length on Knob Versions ("A" in mech. dwg.)	1.33" (33.7 mm)	1.58" (40.1 mm)	1.83" (46.5 mm)	2.38" (60.5 mm)	2.83" (71.9 mm)	1.25" (31.8 mm)
Screw Length on Allen-Key Versions ("A" in mech. dwg.)	1.36" (34.5 mm)	1.61" (40.9 mm)	1.86" (47.2 mm)	2.41" (61.2 mm)	2.86" (72.6 mm)	-NA-
Allen-Key Versions	Add -K to Model #	Removable knob included				
Model #	9301	9304	9302	9305	9303	9321
Price†*	\$27	\$27	\$27	\$31	\$31	\$27

Body Style	Unbraked						
Tip Style	Ball						
Threads per inch	80	80	80	80	80	80	80
Travel	0.38" (9.6 mm)	0.38" (9.6 mm)	0.50" (12.7 mm)	0.75" (19.0 mm)	1.00" (25.4 mm)	1.50" (38.1 mm)	2.00" (50.8 mm)
Screw Length on Knob Versions ("A" in mech. dwg.)	0.96" (24.4 mm)	1.14" (28.9 mm)	1.33" (33.7 mm)	1.58" (40.1 mm)	1.83" (46.5 mm)	2.18" (55.4 mm)	2.83" (71.9 mm)
Screw Length on Allen-Key Versions ("A" in mech. dwg.)	0.86" (21.8 mm)	0.99" (25.1 mm)	1.36" (34.5 mm)	1.61" (40.9 mm)	1.86" (47.2 mm)	2.21" (56.1 mm)	2.86" (72.6 mm)
Allen-Key Versions	Add -K to Model #						
Model #	9311	9312	9313	9317	9314	9318	9316
Price†*	\$21	\$21	\$21	\$21	\$21	\$23	\$23

## 1/4-100 Screw Sets

Body Style	Braked	Braked	Braked	Braked	Unbraked	Unbraked	Unbraked	Unbraked
Tip Style	Ball	Ball	Ball	Ball	Ball	Ball	Ball	Ball
Threads per inch	100	100	100	100	100	100	100	100
Travel	0.38" (9.6 mm)	0.50" (12.7 mm)	0.75" (19.0 mm)	1.00" (25.4 mm)	0.38" (9.6 mm)	0.50" (12.7 mm)	0.75" (19.0 mm)	1.00" (25.4 mm)
Screw Length ("A" in mech. dwg.)	1.28" (32.5 mm)	1.41" (35.8 mm)	1.66" (42.9 mm)	1.91" (48.5 mm)	1.12" (28.4 mm)	1.24" (31.5 mm)	1.49" (37.8 mm)	1.74" (44.2 mm)
Screw Length on Allen-Key Versions ("A" in mech. dwg.)	-NA-	-NA-	-NA-	-NA-	1.15" (29.2 mm)	1.27" (32.3 mm)	1.52" (38.6 mm)	1.77" (44.9 mm)
Allen-Key Versions	-NA-	-NA-	-NA-	-NA-	Add -K to Model #			
Model #	9366	9367	9368	9369	9376	9377	9378	9379
Price†*	\$31	\$31	\$31	\$31	\$25	\$25	\$25	\$25

† OEM pricing available.

Related Products: Picomotor™ Actuators (page 160)

\*For international prices add 10%.

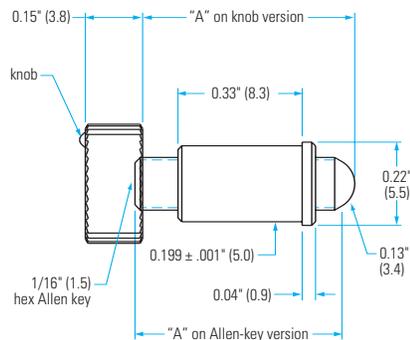


# Tiny Screw Sets

- Now available in 6-100 and 6-80 versions
- Manufactured to the tightest tolerances
- Ideal for use in your miniature mounts and stages



A variety of our Tiny screw sets are shown here with a 1/4-80 Model 9313 for size comparison.



Models 934X-K, 937X-K, 934X, 937X



## 6-80 Screw Sets

Body Style	Unbraked						
Tip Style	Ball						
Threads per inch	80	80	80	80	80	80	80
Travel	0.08" (2.0 mm)	0.20" (5.1 mm)	0.38" (9.6 mm)	0.50" (12.7 mm)	0.75" (19.0 mm)	1.00" (25.4 mm)	1.13" (28.7 mm)
Screw Length ("A" in mech. dwg.)	0.43" (10.9 mm)	0.55" (14.0 mm)	0.73" (18.5 mm)	0.86" (21.8 mm)	1.10" (27.9 mm)	1.36" (34.5 mm)	1.49" (37.8 mm)
Screw Length on Allen-Key Versions ("A" in mech. dwg.)	0.45" (11.4 mm)	0.57" (14.5 mm)	0.75" (19.1 mm)	0.88" (22.4 mm)	1.12" (28.4 mm)	1.38" (35.1 mm)	1.51" (38.4 mm)
Allen-Key Versions	Add -K to Model #						
<b>Model #</b>	<b>9341</b>	<b>9342</b>	<b>9345</b>	<b>9344</b>	<b>9343</b>	<b>9346</b>	<b>9347</b>
Price*†	\$21	\$21	\$21	\$21	\$25	\$25	\$25

† OEM pricing available.

Related Products: Tiny Picomotor™ Actuators (page 162)

\*For international prices add 10%.

If you need to build miniature mounts or positioners, we offer a variety of Tiny 6-80 and 6-100 screw and nut sets—screw travel lengths are available from 0.1" to greater than 1.00". We use these same screw sets in our Pint-sized mounts, so you know you're getting the best quality. Built with the same proprietary process as our 1/4-80 screw sets, these screws feature tight tolerances and no excess grease, resulting in actuators with very smooth movement, high precision, and exceptional long-term and thermal

stability. These screws are available with knob or Allen-key adjustments.

To achieve optimum performance, we recommend bonding rather than press-fitting the nut into your mount. (See Product Tutorial on page 280.)

Contact us for information on custom configurations and volume pricing.

## Removable Knobs

Style	Tiny Knobs
<b>Model #</b>	<b>9365</b>
Price*†	\$10/Set of 3

## 6-100 Screw Sets

Body Style	Unbraked	Unbraked	Unbraked	Unbraked	Unbraked
Tip Style	Ball	Ball	Ball	Ball	Ball
Threads per inch	100	100	100	100	100
Travel	0.38" (9.6 mm)	0.45" (11.4 mm)	0.58" (14.7 mm)	0.88" (22.4 mm)	1.00" (25.4 mm)
Screw Length ("A" in mech. dwg.)	0.72" (18.3 mm)	0.79" (20.1 mm)	0.92" (23.4 mm)	1.22" (31.0 mm)	1.34" (34.0 mm)
Screw Length on Allen-Key Versions ("A" in mech. dwg.)	0.74" (18.8 mm)	0.81" (20.6 mm)	0.94" (23.9 mm)	1.24" (31.5 mm)	1.36" (34.5 mm)
Allen-Key Versions	Add -K to Model #				
<b>Model #</b>	<b>9371</b>	<b>9372</b>	<b>9373</b>	<b>9374</b>	<b>9375</b>
Price*†	\$25	\$25	\$25	\$25	\$25

# Hex Driver Set

- *Simply Better™*—full set of high-quality ball-end hex drivers
- *Phillips and slotted screwdrivers included*
- *Reconfigurable mounting stand*



For your convenience, we're now offering these hex-driver sets—complete with all your favorite photonics sizes. You'll love the soft grip and sturdy feel! We've also included standard slotted and Phillips-head screwdrivers. The mounting stand includes extra holes convenient for Allen keys.



Model 9390

Style	Hex Driver Set
Inch Sizes Include	0.05, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, slotted, Phillips
Metric Sizes Include	1.5, 2.0, 2.5, 3.0, 4.0, 5.0, slotted, Phillips
Metric Version	Add M to Model #
<b>Model #</b>	<b>9390</b>
Price*	\$115

\*For international prices add 10%.



Model 9390M