



INSTRUCTION MANUAL

502006/505611

Microscope Boom Clamp Stand

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ABOUT THIS MANUAL

The following symbols are used in this guide:



This symbol indicates a CAUTION. Cautions warn against actions that can cause damage to equipment. Please read these carefully.



This symbol indicates a WARNING. Warnings alert you to actions that can cause personal injury or pose a physical threat. Please read these carefully.

NOTES and TIPS contain helpful information.



Fig. 1—The articulating arm boom stand is shown with a 502009 focus mount and a PZMIII stereo microscope head (both sold separately).

INTRODUCTION

This manual shows how to setup the articulating arm microscope stand with the heavy boom stand (**502006**), which can be used with a **PZMIII** microscope head. The PZMIII requires the **502009** 76mm focus mount. The setup of the **505611** articulating arm stand is identical. The **505611** uses the **505610** focus mount that is designed for use with the Enhanced Reality Macroscope. The focus mounts are sold separately.

PARTS LIST

After unpacking, verify that there is no visible damage to the unit. Verify that all items are included:

- (1) Heavy base
- (1) Middle horizontal bar
- (1) Adjustable forearm

- (1) Vertical post with supports and anchoring screw
- (2) Hex keys
- (2) Clutch handles
- (2) Adjustment screws
- (2) Ring washers (white)
- (1) Instruction Manual

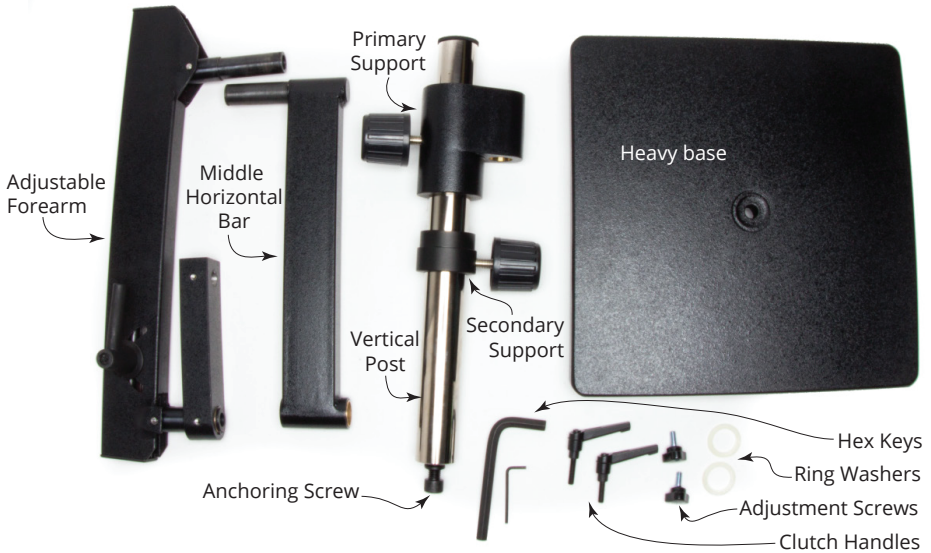


Fig. 2—The pieces for the articulating arm stand are shown here.

Unpacking

Upon receipt of this instrument, make a thorough inspection of the contents and check for possible damage. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed damage should be reported at once to the carrier and an inspection requested. Please read the section entitled “Claims and Returns” on page 11 of this manual. Please contact WPI Customer Service if any parts are missing at 941.371.1003 or customerservice@wpiinc.com.

Returns: Do not return any goods to WPI without obtaining prior approval (RMA # required) and instructions from WPI’s Returns Department. Goods returned (unauthorized) by collect freight may be refused. If a return shipment is necessary, use the original container, if possible. If the original container is not available, use a suitable substitute that is rigid and of adequate size. Wrap the instrument in paper or plastic surrounded with at least 100mm (four inches) of shock absorbing material. For further details, please read the section entitled “Claims and Returns” on page 11 of this manual.

ASSEMBLY INSTRUCTIONS

Setting Up the Articulating Arm

1. Disassemble the vertical post. Remove the anchoring screw from the bottom of the post. Loosen the securing knobs and slide the supports off the post. Unscrew the cap from the top of the post. (Fig. 3)



Fig. 3—Disassemble the vertical post.

2. Set the heavy base up on one edge (Fig. 4). This will require two people, because the base is heavy. Have one person position the vertical post in the recessed circle in the center of the base. The post will be perpendicular to the base. Let a second person insert the anchoring screw into the hole through the bottom of the base so that it fits back into the vertical post. Insert the large hex key into the center of the anchoring screw and rotate the hex key clockwise to tighten the anchoring screw (Fig. 5). Then, carefully set the base flat on the table so that the vertical post is standing upright (Fig. 6).

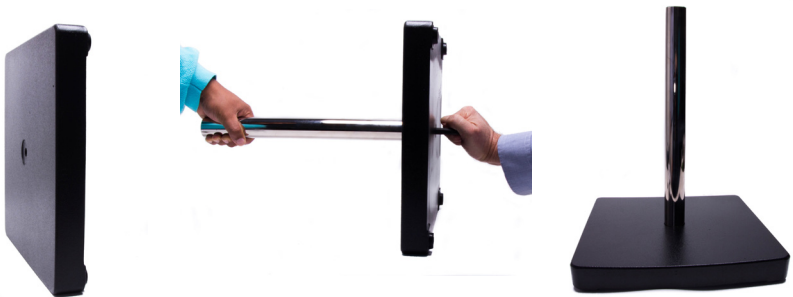


Fig. 4—(Left) Set the base on one edge.

Fig. 5—(Center) Anchor the post on the base.

Fig. 6—(Right) The base is assembled and positioned with the vertical post upright.

3. Slide the supports back onto the vertical post and tighten their securing knobs (Fig. 7).
 - The secondary support goes on first with the wider side down. This is the safety support. Adjust it so that if the primary support fails, the microscope will not be damaged.
 - The larger primary support slides on with the smaller end toward the bottom.

Then, screw the cap back into the top of the post (Fig. 8).

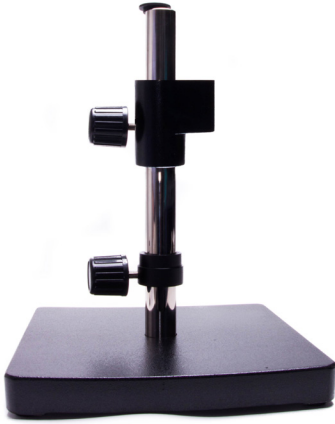


Fig. 7—(Left) Reassemble the supports on the vertical post and secure them by twisting the knobs clockwise.

Fig. 8—(Right) Reinstall the cap in the top of the post and screw it clockwise to tighten it.

4. Place a ring washer on the post of the middle horizontal bar, and insert the post into the hole of the upper support on the vertical post (Fig. 9).



Fig. 9—Insert the post of the middle horizontal bar into the vertical post support.

NOTE: If the upper support is installed upside down, it will still support the microscope but you will not be able to install the ring washer.

5. Remove the set screw from the vertical post upper support. The set screw is located on the side opposite the securing knob. Insert the small hex key and rotate it counter clockwise to remove the screw (Fig. 10). Then, line up the screw end on a clutch handle and thread it into the screw hole. Rotate it clockwise to tighten it (Fig. 12). This handle is used to secure the middle horizontal bar.



Fig. 10—(Left) The hex key is positioned inside the recessed set screw. Rotate it counterclockwise to remove the set screw.

Fig. 11—(Right) Once removed from the stand, you can see the set screw on the end of the hex key.

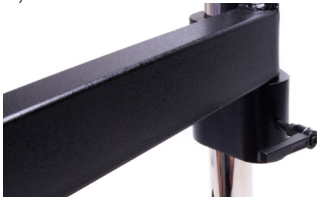


Fig. 12—Install a clutch handle where you removed the set screw.

6. Install a white washer ring on the post of the adjustable forearm and slide the post into the hole on the end of the middle horizontal bar (Fig. 13).

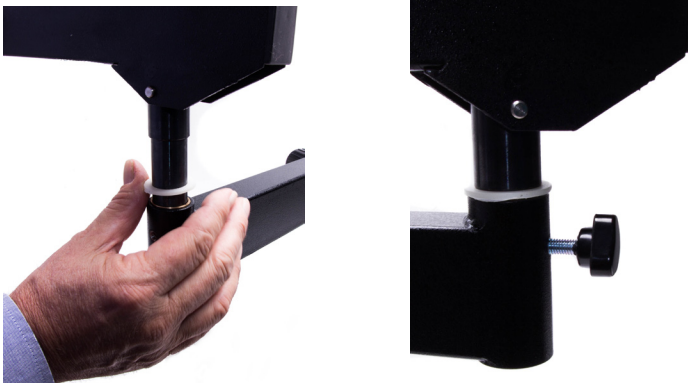


Fig. 13—(Left) Slide the post of the adjustable forearm into the hole on the middle horizontal bar.

Fig. 14—(Right) Install the adjustment screw in the joint where the two arms meet.

7. Twist an adjustment screw (clockwise) into the screw hole in the joint of the middle horizontal bar where the adjustable forearm connects to it (Fig. 14). This screw may be tightened to fix the position of the forearm.

- Twist the other adjustment screw (clockwise) into the screw hole in the front of the adjustable forearm to control the horizontal rotation of the small horizontal bar on the adjustable forearm (Fig. 15). This screw may be tightened to fix the position of the small horizontal bar.



Fig. 15—Install an adjustment screw in the small horizontal bar.

- Line up the clutch handle with the screw hole at the end of the small horizontal bar. Rotate it clockwise to screw it into place, but do not screw it in all the way (Fig. 16). This handle secures the focus mount.

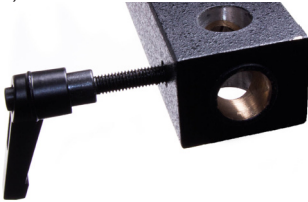


Fig. 16—Install the clutch handle on the end of the small horizontal bar.

Installing a Focus Mount

A focus mount (not included) may be installed on the articulating arm in one of three positions. The small horizontal bar has a vertical hole and a horizontal hole in the end of it for attaching the focus mount.

NOTE: The **502009** focus mount in the images that follow is normally used with the **PZMIII** style microscope heads. The **505610** focus mount is used with the Enhanced Reality Macroscope. It attaches to the articulating arm the same way the **502009** does.

- Remove the screw cap from the end of the mounting post on the focus mount by rotating the cap counterclockwise.



Fig. 17—(Left) The 502009 focus mount has a screw cap in the end of the mounting post.

Fig. 18—(Right) Remove the screw cap from this mounting post.

2. Position the focus mount on the small horizontal bar in one of three ways.
 - Install the mounting bar through the vertical mounting hole of the small horizontal bar from the top (Fig. 19).
 - Install the mounting bar through the vertical mounting hole of the small horizontal bar from the bottom (Fig. 20).
 - Slide the mounting bar into the horizontal mounting hole in the end of the small horizontal bar (Fig. 21).

Once the focus mount is in position, screw the clutch all the way in to securely hold the focus mount in place.



Fig. 19—(Left) The focus mount is installed in the vertical mounting hole from the top.

Fig. 20—(Center) The focus mount is installed in the vertical mounting hole from the bottom.

Fig. 21—(Right) The focus mount is installed in the horizontal mounting hole in the end of the small horizontal bar.

3. Reinstall the focus mount screw cap in the end of the 502009 focus mount mounting post.

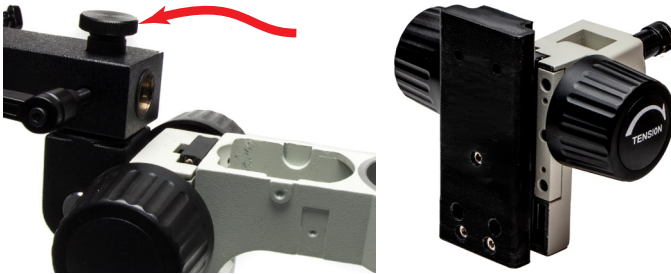


Fig. 22—(Left) Reinstall the focus mount screw cap.

Fig. 23—(Right) The 505610 focus mount for the Enhanced Reality Macroscope mounts the same way as the 502009.

OPERATING INSTRUCTIONS

The small horizontal bar is always parallel to the table surface. The small horizontal arm is permanently linked with the adjustable forearm, and the two are raised and lowered together. Within the adjustable forearm is an internal tension spring to prevent drift. The unit has three pivot points of rotation, and all have a manual clutch allowing you to lock in the position:

- Between the small horizontal bar and the adjustable forearm
- Between the adjustable forearm and the middle horizontal bar
- Between the middle horizontal bar and the boom stand

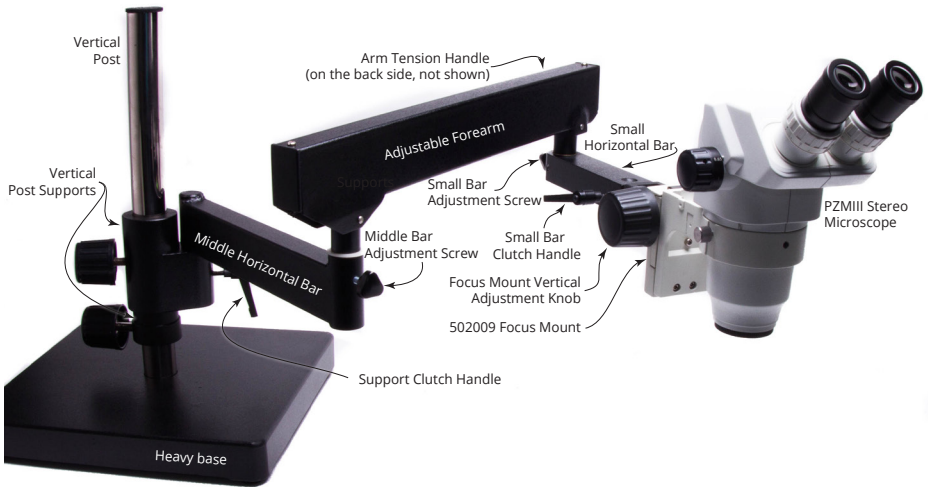


Fig. 24—The assembled articulating arm is shown with a 502009 Focus Mount and a PZMIII Stereo Microscope head.

1. Adjust the horizontal rotation by positioning the middle horizontal bar. Tighten the support clutch handle to lock in the position. Adjust the working position of the microscope by rotating the adjustable forearm. Tighten the middle bar adjustment screw to prevent the adjustable forearm from rotating.
2. Loosen the arm tension handle (Fig. 25) by turning it counter clockwise. The arm tension handle is located on the end of the adjustable forearm. Then, position the adjustable forearm vertically (up or down) and turn the handle clockwise to fix the position of the adjustable forearm.

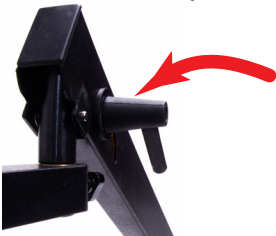
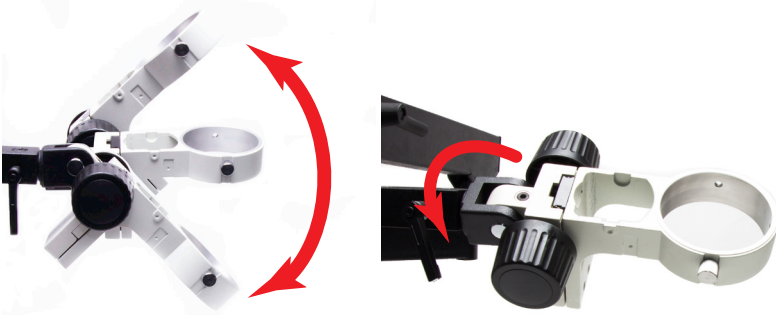


Fig. 25—The arm tension handle is located on the end of the adjustable forearm.

3. Rotate the small horizontal bar as desired and tighten the small bar adjustment screw by turning it clockwise. This prevents the bar from moving out of position.
4. The focus mount is jointed, allowing the microscope head to pivot (Fig. 26) and rotate (Fig. 27) giving you an infinite number of positions.



*Fig. 26—Pivot the focus mount into the desired position. The 502009 focus mount is shown.
Fig. 27—Rotate the focus mount into the desired position.*

5. To adjust the tension on the focus mount support, use the hex key supplied with the 502009 focus mount. Insert the hex key into the adjustment screw near the articulating arm. Rotate the hex key counter clockwise to loosen the tension or clockwise to apply more tension. This tension prevents the focus mount from sliding once the microscope head is installed.



Fig. 28—Adjust the tension on the focus mount hinge using the hex key provided with the 502009 focus mount.

ACCESSORIES

504123 Post extension bar for microscope stands (502004, 502005, 502006)

SPECIFICATIONS

Stand type	Flexible arm
Stabilization.....	Internal tension spring
Vertical post height	384 mm
Maximum vertical post extended length.....	254 mm
Vertical post diameter	37.2 mm
Cross adapter type.....	Dual hole adapter
Total arm length.....	800 mm
Length of middle horizontal bar	330 mm (13")
Length of adjustable horizontal bar.....	450 mm (17.72")
Length of short horizontal bar	170 mm (6.7")
Maximum opening angle in vertical direction	500 mm (19.7")
Mounting hole on the end of the horizontal arm.....	15.875 mm (0.625") End adapter
Horizontal rotation angle.....	360° Rotatable
Maximum revolution radius.....	31.89" (810 mm)
Minimum revolution radius.....	13" (330 mm)
Horizontal arm maximum load	11.34 kg (25 lbs.)
Horizontal arm travel mode in horizontal direction	Manual
Horizontal arm travel mode in Z direction.....	Manual
Base type.....	Heavy duty base
Base shape.....	Rectangle
Base dimensions.....	330 x 330 x 38 mm
Mount adapter size of stand	Ø 22.2 mm
Surface treatment	Electroplating black
Material.....	Metal
Color	Black
Weight	43.8 kg (96.56 lbs.)
Dimensions	500 x 330 x 422 mm (19.7 x 13 x 16.6")

Extension Bar

Extension bar length.....	280mm
Extension bar diameter	37.2 mm
Single/double end threaded post	Single end threaded
Surface treatment	Polished chrome
Material.....	Metal
Color	Silver
Net weight	2.31 kg (5.09 lbs.)

WARRANTY

WPI (World Precision Instruments) warrants to the original purchaser that this equipment, including its components and parts, shall be free from defects in material and workmanship for a period of one year* from the date of receipt. WPI's obligation under this warranty shall be limited to repair or replacement, at WPI's option, of the equipment or defective components or parts upon receipt thereof f.o.b. WPI, Sarasota, Florida U.S.A. Return of a repaired instrument shall be f.o.b. Sarasota.

The above warranty is contingent upon normal usage and does not cover products which have been modified without WPI's approval or which have been subjected to unusual physical or electrical stress or on which the original identification marks have been removed or altered. The above warranty will not apply if adjustment, repair or parts replacement is required because of accident, neglect, misuse, failure of electric power, air conditioning, humidity control, or causes other than normal and ordinary usage.

To the extent that any of its equipment is furnished by a manufacturer other than WPI, the foregoing warranty shall be applicable only to the extent of the warranty furnished by such other manufacturer. This warranty will not apply to appearance terms, such as knobs, handles, dials or the like.

WPI makes no warranty of any kind, express or implied or statutory, including without limitation any warranties of merchantability and/or fitness for a particular purpose. WPI shall not be liable for any damages, whether direct, indirect, special or consequential arising from a failure of this product to operate in the manner desired by the user. WPI shall not be liable for any damage to data or property that may be caused directly or indirectly by use of this product.

Claims and Returns

Inspect all shipments upon receipt. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed loss or damage should be reported at once to the carrier and an inspection requested. All claims for shortage or damage must be made within ten (10) days after receipt of shipment. Claims for lost shipments must be made within thirty (30) days of receipt of invoice or other notification of shipment. Please save damaged or pilfered cartons until claim is settled. In some instances, photographic documentation may be required. Some items are time-sensitive; WPI assumes no extended warranty or any liability for use beyond the date specified on the container

Do not return any goods to us without obtaining prior approval and instructions from our Returns Department. Goods returned (unauthorized) by collect freight may be refused. Goods accepted for restocking will be exchanged or credited to your WPI account. Goods returned which were ordered by customers in error are subject to a 25% restocking charge. Equipment which was built as a special order cannot be returned.

Repairs

Contact our Customer Service Department for assistance in the repair of apparatus. Do not return goods until instructions have been received. Returned items must be securely packed to prevent further damage in transit. The Customer is responsible for paying shipping expenses, including adequate insurance on all items returned for repairs. Identification of the item(s) by model number, name, as well as complete description of the difficulties experienced should be written on the repair purchase order and on a tag attached to the item.

** Electrodes, batteries and other consumable parts are warranted for 30 days only from the date on which the customer receives these items.*



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