



Thank you for your purchase of a ARCA-SWISS MONOBALL® tripod head. Our many years of experience manufacturing and refining tripod head design have resulted in a precision instrument engineered to complement your photography with a minimum amount of care. The heart of all Monoball® B1 and B2 models is a patented aspherical ball. Combined with a patented axial clamping design these unique features work together to prevent unexpected and unwanted movements as you lock the head into position, to progressively cushion as you tilt the camera and to provide you with the highest load capacity of any ballhead. Users can adjust the friction settings for different weights of camera and lens combinations. Except for the B1e model, 360° panning is standard on all models. An additional feature of the Monoball® B2 is the segregated bi-axial tilt controls making the Monoball® B2 ideal for working with medium and large format view cameras, with heavy telephoto lenses, or in all situations where you need separated controls to precisely position the camera. Your Monoball® needs only minimal maintenance to keep it functioning properly and **never needs lubrication**.

### **The Multifunction Knob**

There are three parts of the multifunction knob to become familiar with: The large multifunction knob (1) controls the movement of the ball and the tension on the ball, the thumbscrew (2) which controls friction on the ball, and the reference scale (3).

With the multifunction knob facing you, turn the knob clockwise to increase the tension on the ball and to lock the ball into the desired position. To loosen the ball simply turn the knob counter clockwise. (IMPORTANT: Do not force the multifunction knob beyond the minimum friction setting. This can cause the multifunction knob to "lockup." (See "*Attention!*" Note).

Note: It is not necessary to tighten the multifunction knob entirely to lock the ball. No more than one or possibly two complete turns will lock the ball safely depending on the camera & lens weight and balance.

### **ATTENTION!**

DO NOT FORCE THE MULTIFUNCTION KNOB TO TURN BEYOND ITS STOPPING POINT! THIS WILL LEAD TO A CONDITION COMMONLY KNOWN AS "LOCK UP" OF THE MULTIFUNCTION KNOB (KNOB IS LOCKED BUT HEAD IS LOOSE). TO CORRECT

THIS PROBLEM: INCREASE TENSION ON BALL BY ROTATING MULTIFUNCTION KNOB CLOCKWISE. RELEASE FRICTION BY TURNING THUMBSCREW COUNTER CLOCKWISE, NOW RELEASE TENSION ON THE BALL BY ROTATING THE MULTIFUNCTION KNOB COUNTER CLOCKWISE. ALSO SEE TROUBLE SOLVING APPENDIX.

### **Adjusting the amount of friction**

A signature element of the ARCA-SWISS Monoball® design is the ability to adjust the degree of friction on the ball giving you more precise control of the movements of the camera or to compensate for various cameras and lens combinations. The patented aspheric design of the ball increases drag on the ball to progressively slow inadvertent tilts to prevent or minimise possible damage to your camera or lens.

With the head tightened, mount the lightest combination of camera and lens you will regularly use. Turn the small thumbscrew (located on the multifunction knob) by rotating it counter clockwise till it stops. Now turn the multifunction knob counter clockwise until you reach the desired minimum degree of friction. This can range from completely free or to as little or as much drag as you desire. Turn the thumb screw clockwise until it stops. You have now set your minimal friction limit for this camera and lens combination. The multifunction knob will now not turn beyond this minimal friction limit. If in the future you wish mount a heavier combination you will need to increase the tension on the ball (by turning the multifunction knob clockwise according to the weight of the camera and lens combination and re-adjust the minimum desired friction "set" by turning the friction thumbscrew clockwise.

*IMPORTANT:* To **lower** your minimal friction limit **turn the multifunction knob clockwise** and then **turn the friction screw counter clockwise** until the multifunction knob and ball move freely enough for you to adjust your new minimal friction limit.

Never force the multifunction knob to turn beyond the set minimal friction point. Attempting to do so will cause the multifunction knob to lock up. (See the "Attention!" Note.)

### **The Reference Scale**

If you use more than one combination of camera and lens you may wish to use the rotating reference scale as a reminder of your settings.

With your regular lightest camera & lens combination mounted and the Monoball® set to the desired minimum tension, rotate the scale on the multifunction knob so the zero lines up with the reference mark on the head. Now if you attach a heavier combination you adjust to the desired tension and read the reference number. If you often use many different cameras & lens combinations you do not have to calibrate the tension each time: just use the reference numbers you have pre-determined.

### **Panning**

All ARCA-SWISS Monoballs® (with the exception of the B1e model) rotate 360° on their base(5). To lock the head use the panorama locking knob (4). To prevent accidental loss, this screw is not removable.

#### *IMPORTANT:*

Some tripod manufacturers use screws on the mounting platform to fix the head to the tripod. If this is the case with your tripod do not use force in tightening these screws. Over tightening these screws will impair smooth panning! If you are having problems with your panning check to see if this is the cause.

### **Monoball® B2**

The bi-axial tilt mechanism of the Monoball® B2 consists of two concentric balls. This design allows you to control fore-and-aft tilt separately from lateral tilt. The multifunction knob controls the outer ball as described above. The small knob (6) above the Multifunction knob controls movement of the inner ball, and turning the knurled collar (7) adjusts friction for the inner ball. It may be necessary to loosen and move the small ball slightly before turning the ring to vary the friction.

### **Quick Release Clamp:**

The Monoball® B1 is available with a quick release clamp(8). This clamp is standard on the Monoball® B2. The ARCA-SWISS quick release design allows for swift and secure camera or lens changes. ARCA-SWISS supplies a range of camera plates for all important manufacturers of small, medium, and large format cameras. ARCA-SWISS medium and large format cameras attach directly to the Monoball® clamp.

**Warning:** Some manufacturer's plates do not meet our specifications and may not lock your equipment securely in the ARCA-SWISS Quick

Release clamp. Please test all camera and lens plates made by manufacturers other than ARCA-SWISS to ensure compatibility.

### **Maintenance**

Your Monoball® needs no lubrication and will serve you trouble-free under normal conditions for many years. Nevertheless your Monoball is a precision instrument and you must treat your Monoball accordingly.

If the monoball is not moving smoothly, clean the ball with a soft cloth and alcohol. However: Make sure that sand or dirt never enters the housing. **Never use any lubricants as lubricants will damage your Monoball®.**

### **Trouble-Solving**

- 1.) Trouble: The Multifunction knob or thumbscrew is locked.  
Solution: Always tighten the multifunction knob first by turning it clockwise and only then loosen the thumbscrew.
  
- 2.) Trouble: Ball is "frozen" in place.  
Solution: Increase tension on ball by rotating multifunction knob clockwise. Release friction by turning thumbscrew counter clockwise, now release tension on the ball by rotating the multifunction knob counter clockwise
  
- 4.) Trouble: Panning is not working smoothly  
Solution: Check to see if the tripod's locking screws in the tripod platform are over tightened. If so reduce pressure on panning base by loosening these screws

**This ARCA-SWISS product is covered by U.S. Patent #5,249,766 and many others.**