Operating Instructions

Fine Art Craftsmanship

Markins Q-Ball

Patented and patent pending

Markins®

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Thank you and congratulate for purchasing Markins Q-Ball.
Your new gear is created with ultra-precision craftsmanship.
We hope it will be a joy to use, and serve you well in your pursuit of photographic excellence for years to come.

All specifications and physical appearance are subject to be changed without notice.

1) Ball locking knob : Fasten or unfasten the ball with friction control
2) Torque limit dial : Set the minimum friction
3) Panning lock knob : Lock or free the panning disk
4) Quick shoe clamp : Load or unload the plate
5) Plate stopper : Prevent the plate from slipping

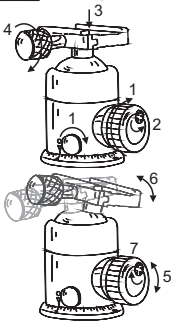
Using the Ball Locking Knob

Friction of Q-Ball is controlled by the ball locking knob. If the ideal friction is achieved, a load stays exactly where you set it while the load can be tilted or rotated with ease. You can obtain this ideal tension for the load by adjusting the ball locking knob. The torque limit dial is to limit the working range of the ball locking knob.

General Guidance

* Always lock the panning lock knob except for the panoramic photos.
* Keep the quick shoe clamp knob in upward position for vertical frame.
* Once get used to the ball locking knob and you are using many gears, fully unscrew the torque limit dial and controlling your gear only with the ball locking knob could be more comfortable.

Adjusting Torque Limit Dial

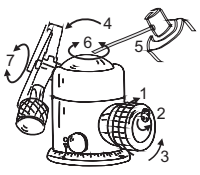


1) Lock the ball and panning disk
2) Unscrew (CCW) the torque limit dial
3) Mount the camera or lens on the quick shoe
4) Fasten the quick shoe knob
5) By slowly loosening the ball locking knob
6) Find the desirable[(a)] friction level of loaded gear
7) Screw in the torque limit dial to set the position

[(a)] The friction level that the loaded gear stays exactly where you set it while the loaded gear can be tilted or rotated with ease.

Cleaning and maintenance

The Markins Q-Ball is manufactured with high precision parts. Clean your unit if it is contaminated by foreign materials such as dirt, sand, salty water, lubricant, etc., to ensure smooth and trouble-free operation. Follow the cleaning instructions carefully.



1) Fasten (CW) the ball locking knob
2) Unscrew (CCW) the torque limit dial if it is set
3) Free the ball by unfasten (CCW) the ball locking knob and remove any visible foreign materials from the surface of the ball
4) Lower the quick shoe
5) Apply about 3 drops of WD-40® to the ball
6) Rotate the ball to spread the solution on the whole surface of the ball
7) Rotate the ball several times and clean the surface with clean, lint-free cotton cloth

The thin film of WD-40® left on the surface does not degrade the performance of the ball head.
Before going out to the field in cold weather, cleaning can enhance trouble-free operation and prevent from getting moisture and freezing.

Notes

1) Do not force the ball locking knob to its CCW limit. It can be locked if the torque limit dial is in use. If locked, unscrew the torque limit dial with a screw driver, and hold the ball locking knob tight and apply some impulsive torsional force to unlock it.
2) Ensure that the quick shoe clamp is tightened when the unit is transported over a significant time span. (Prevent missing knob)
3) Clean and dry after using at sea or salty site.
4) Dry after using the unit when it gets moisture or submerged in water.
5) Do not subject the unit to dust, dirt or sand.
6) Use only alcohol or WD-40® for cleaning. Do not use any kind of solvent such as benzene or thinner, etc.
7) Do not apply any kind of lubricant to the ball.

* Keep out of reach of children.
* Be careful not to harm others while carrying.
* Do not force the ball locking knob to its CCW limit while the ball is in loosened condition. Doing so might damage the internal parts.

The Markins products are designed and engineered by the up-to-date technologies in precision machining. The Q-Ball's progressive ball locking mechanism is capable of handling both small 135 format cameras and large view cameras with ease. So it is not necessary to over-fasten the ball locking knob when normal light gears are in use. However, additional tightening after the ball is fastened will not affect the durability of the parts or unit.

MODEL		COLOR	
DEALER			
DATE			
Lot No.			