CRD-87 Camera Rotation Device

Thank you for choosing the Really Right Stuff® CRD-87 camera rotation device. The CRD-87 camera rotation device provides quick, secure, high precision rotational positioning around the lens axis for virtually all camera bodies. It can also be used for centering the nodal point of the lens over the rotation point for multiple-image panoramas. Though primarily designed for in-studio use, the CRD-87 is compact and also suitable for field use.

Background

To realize the full benefits of the Really Right Stuff (RRS) CRD-87, a solid understanding of its unique design and features is needed. Please read on.

The CRD-87 will work with all tripod/camera stand heads, but is best mated with geared pan tilt heads or video fluid heads. These work well because they independently control pitch, roll, and yaw. “Pitch” concerns the angle the camera lens is pointing: above, below, or directly at the horizon. “Roll” concerns the angle of the horizon relative to the bottom/top edge of the viewfinder/image. “Yaw” concerns the image movement caused by rotating the camera about using the tripod/camera stand head panning base.

The beauty of the CRD-87 is that it assumes full control of rolling the camera precisely about the axis of the lens. The tripod/camera stand head should be used for controlling pitch and yaw; best composition control is achieved when these movements can be controlled independently. A ballhead is not the ideal tripod/camera stand head companion for the CRD-87 because pitch, roll, and yaw movement cannot be controlled independently or precisely.
Assembly & Use

1. The MPR-192 (#4) is the base of the CRD-87. Ideally, this should be mounted in an RRS-compatible quick release clamp so that the long side of the MPR-192 rail runs parallel to the lens axis and the bubble level faces up. The RRS-compatible quick release clamp should be rigidly fixed to the top of the tripod/camera stand head. Conversely, the MPR-192 can also be rigidly fixed to the top of the tripod/camera stand head using four or more of the threaded M3 screw sockets (requires custom machining of the tripod/camera stand head). Adjust the tripod/camera stand head so the top of the MPR-192 rail is more or less parallel to the ground/floor. Tighten or lock all Pitch/Roll/Yaw adjustment knobs/levers on your tripod/camera stand head.

2. Attach the Main Rotation Ring (#1) onto the top dovetail of the MPR-192 using the quick release clamp on the bottom of the Main Mount (#1.4). The Vertical Rail (#1.2) should be vertical and perpendicular to the MPR-192. Tighten the Ring Lock Knob (#1.1). The fore/aft position of the Ring on the MPR-192 will be adjusted after the camera is mounted. Check to be sure the VR Safety Stop Screw (#1.3) is in place on the Vertical Rail.

3. Attach the CRD Rail (#3) to the Vertical Rail on the Main Rotation Ring using the quick release clamp on the end of the CRD Rail. Please note that the CRD Rail can be mounted with the CRD Rail Clamp Lock Knob (#3.1) facing either to right or the left of the Vertical Rail depending on the height of the camera body. Bigger cameras work best with the knob facing to the right. Roughly position the CRD Rail on the Vertical Rail with the top of the clamp aligning with the laser-engraved scale on the Vertical Rail as follows:
   a. for short bodied cameras – 65 with knob on left;
   b. for tall-bodied cameras or cameras with vertical grips – 88 with knob on right.
   This is merely a starting point. Critical vertical position of the CRD Rail will be adjusted after the camera is mounted.

4. Attach the FAS-Clamp (#2) to the CRD Rail using the clamp on the bottom of the FAS-Clamp. The FAS-Clamp should be oriented so the Top Clamp Lever faces away from the Main Rotation Ring. The fore/aft position will be adjusted after the camera is mounted, but as a starting point, shift the FAS-Clamp close to the end of the CRD Rail away from the Ring.

5. Check to see if all locking knobs are tightened securely.

6. Rotate the FAS-Clamp Top Clamp Lever (#2.1) to the fully open position and top-load the camera equipped with an RRS-compatible quick release plate. The camera lens should point through the Ring. Adjust the camera side-to-side within the FAS-Clamp Top Clamp so that the lens mount of the camera is centered side-to-side within the Main Rotation Ring and close the Top Clamp Lever. Some RRS quick release plates come with a lens center mark engraved on the back of the plate. Such a mark is easily aligned with the laser-engraved center index mark on the FAS-Clamp and eliminates any need for additional side-to-side adjustment. Be sure the quick release plate is firmly seated in the FAS Clamp.

7. Holding the camera/CRD Rail assembly in one hand, loosen the CRD Rail Clamp Lock Knob (#3.1) with the other hand and raise or lower the CRD Rail to vertically center the camera lens in the Ring. Take note of where the CRD Rail aligns with the Vertical Rail numerical scale for future reference.

8. Fore/Aft alignment of the Ring on the MPR-Rail and of the FAS-Clamp on the CRD Rail can vary depending on need and personal preference. If positioning of the lens nodal point at the center yaw axis is not critical, then simply adjust to maximize access to the camera and lens (check to make sure the Ring does not vignette the image) and center the weight over the tripod/camera stand head. If centering the lens nodal point is critical (as for stitched panorama images), then please refer to the numerous tutorials on the subject either from RRS or on the Web.

9. With the camera mounted in the CRD-87 and lens centered...