

Set up and operation of industrial camera cradle



Description

The Questar Industrial Camera Cradle is a rugged and stable mount designed to support both a Questar microscope or telescope, and a camera. The cradle is designed to be both flexible in the placement of the instrument on the base plate, and in the adjustment of the camera support. This allows use with a variety of cameras with different back focal distances, and facilitates the insertion of accessories between the instrument and the camera. The cradle base plate is drilled and tapped on 1» centers to provide mounting via 1/4-20 bolts from underneath or from the top into a threaded base or optical table. With the optional tripod balancing mount, the unit can be attached to a tripod or similar base with a 1/4-20 or 3/8-16 mounting bolt.

Set up

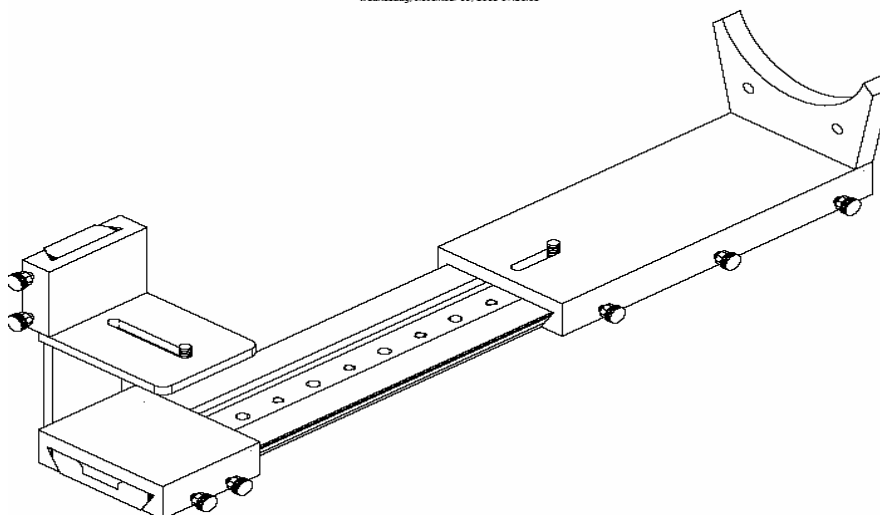
The Camera Cradle is comprised of three sections. The front of the cradle is considered to be the end on which the scope is mounted, consisting of parts A,H & I, as shown in Figure 1. The rear supports the camera, which consists of parts D, E, F, G, & J.

Attaching equipment

Cradle to Fixture

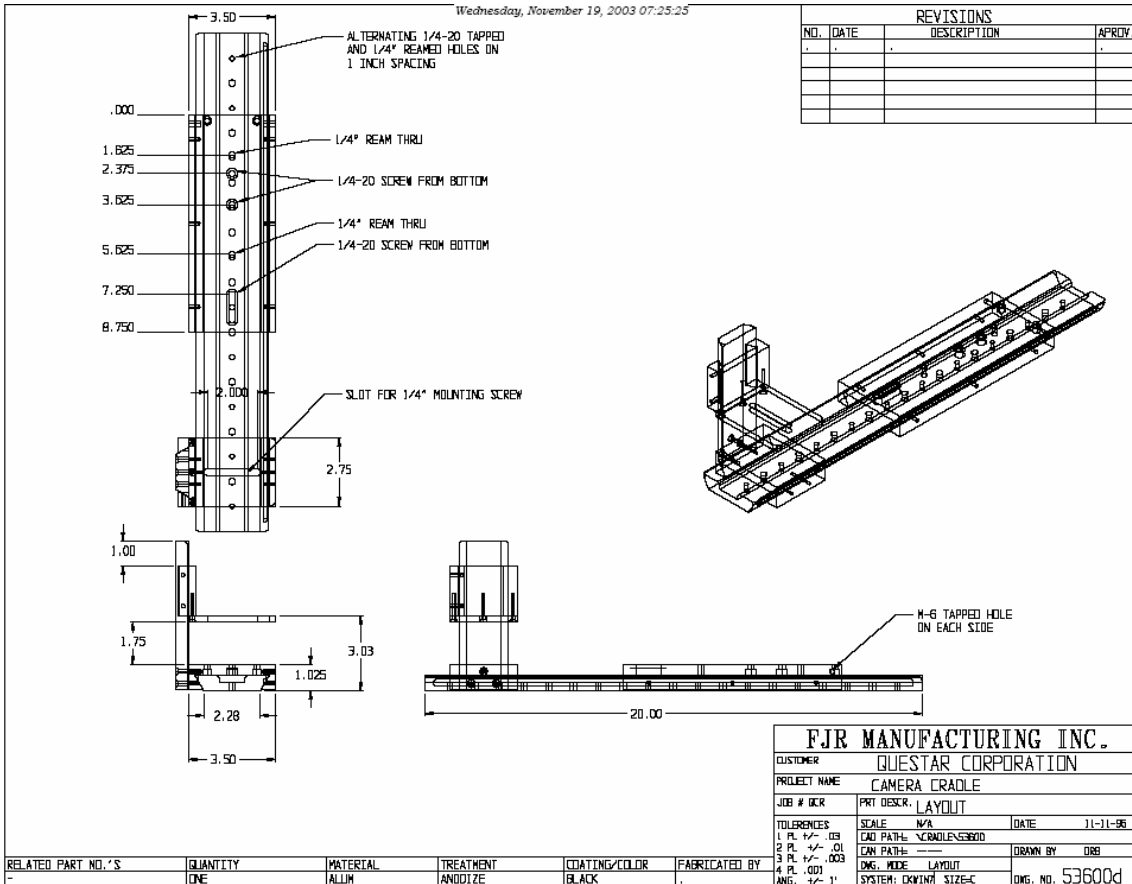
Mount the cradle on the Questar Floor Stand Flat Head or Tilt Head, Translation Stage, or your fixturing. This is accomplished with standard 1/4» hardware. The flexibility of mounting holes will accommodate your situation (see Figure 2 for mounting hole specifications). It may help to slide the instrument forward to provide clearance for the mounting holes in the cradle base.

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Instrument to Cradle

Remove the front section from the cradle base by loosening the three thumb screws (H) approximately three turns, and slide it forward off the cradle base (this allows the screws to clear the rail stops). Position the instrument on the front section and align the 1/4-20 tapped hole in the instrument over the slotted hole. Using a 1/4-20 x 3/8» SHCS (I) and a 3/16 allen wrench, attach the instrument securely. Reposition the front section onto the cradle and tighten the thumb screws.



Camera to Cradle

Loosen the thumb screws for the Camera Support to allow for movement of the platform. Select the arrangement of swivel coupling, extension tube, and camera adaptor to suit your application and camera. Consult your microscope or telescope operation manual for assistance in making this decision.

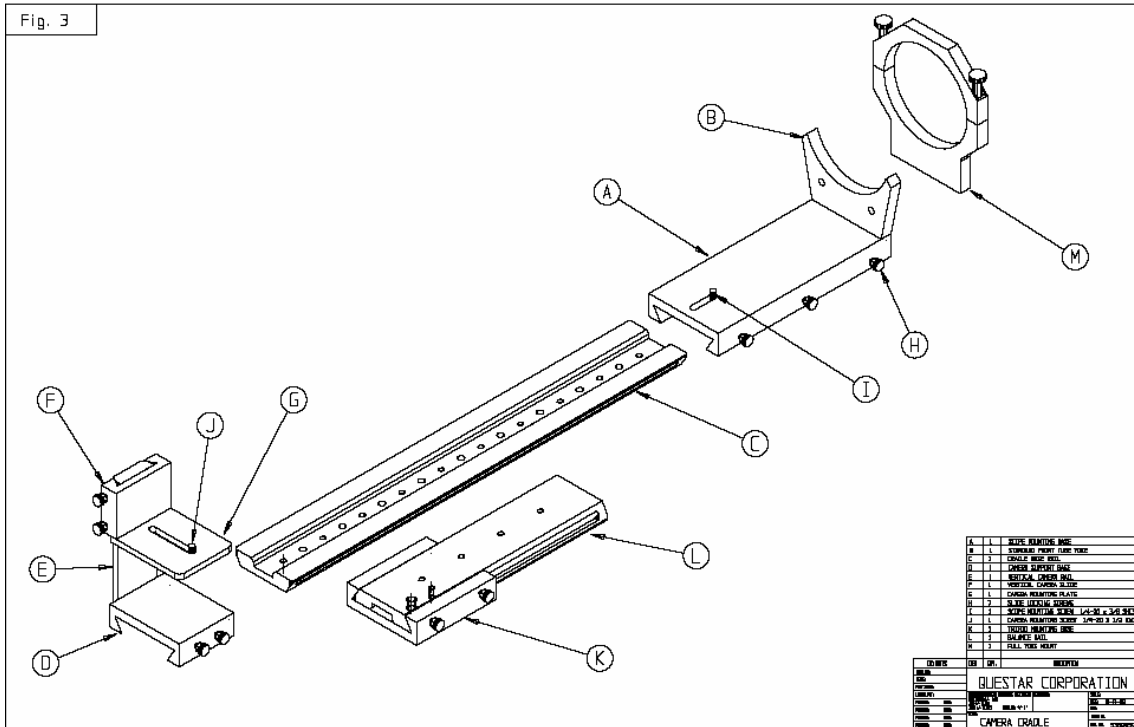
Lower the support platform to the bottom and support the camera by hand to interface with the camera adapter. Mount the camera to the extension tubes or swivel, and slightly raise camera and platform upward. The threaded couplings should turn freely. If there is binding, the platform is too high or too low.

The camera is attached to the camera mounting plate using the 1/4-20 knob (J). Camera adjustment is achieved by loosening the appropriate thumb screws for linear horizontal or vertical movement. The vertical slide (F) may be inverted if you need a higher camera position. Left to right movement is achieved by sliding the camera over the slotted hole.

In many situations, it is not necessary to use the knob to attach the camera. Leaving it out permits easy changes of Barlows, positive lenses, etc. If the assembly is to be used with a very critical measurement application, or as a dedicated assembly, we recommend hard mounting the camera to the platform.

Comment: Discretion must be used here as the extension tubes should not bear a significant load (as with the use of heavy cameras, or in a position other than horizontal).

Both the instrument mounting base (A), and the vertical camera slide (F) have tapped holes on both sides to allow optional positioning of thumb screws.

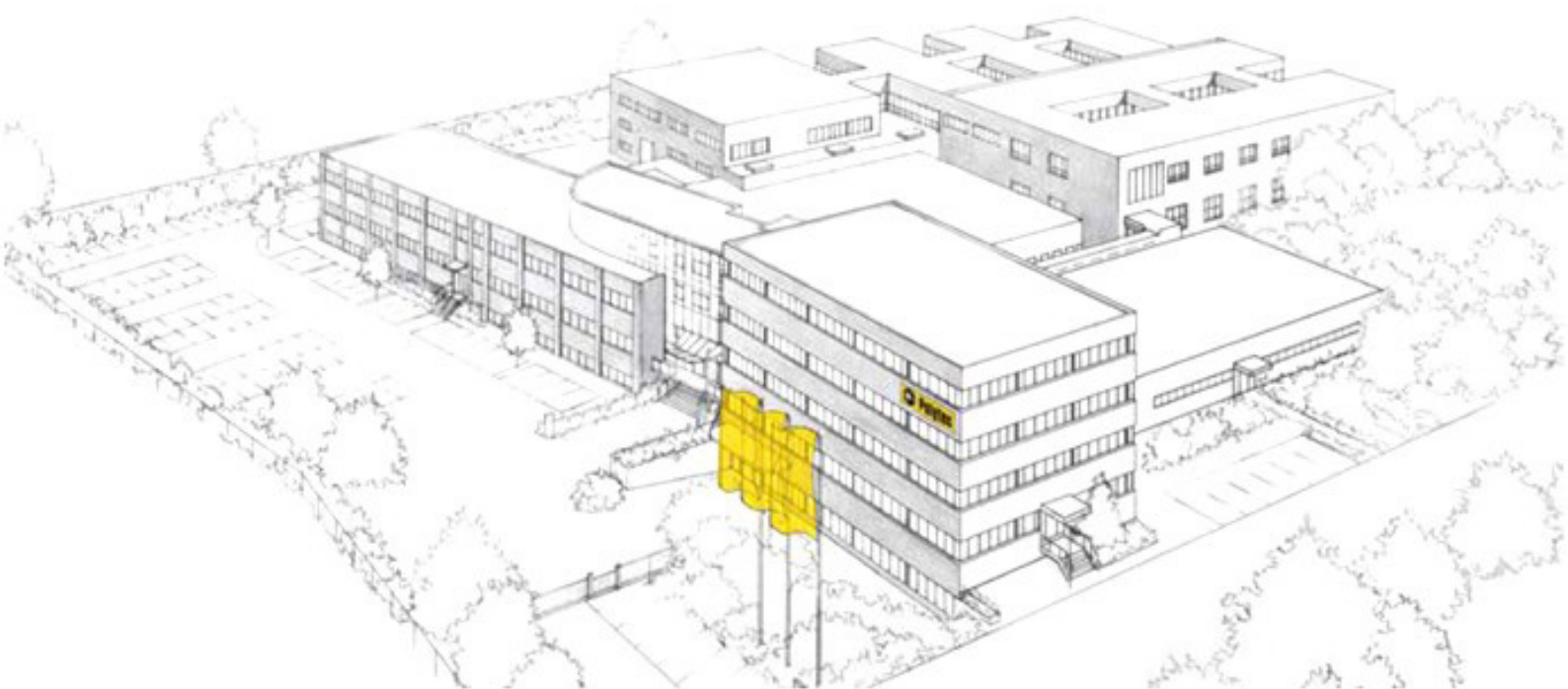


Options

Questar can provide you with alternative camera platforms for specialized applications or cameras. A periscope is available to mount at the front of the camera cradle to provide an extended reach and right angle view with the microscopes. This provides access in many otherwise unreachable situations.

There are two optional accessories available for the Camera Cradle, as shown in Figure 3.

1. A full yoke mount (M) and a half yoke (B) for holding the lens. They are recommended for critical measurement applications, or with the use of the periscope.
2. The balance platform (K, L) allows balancing of the cradle and attachment to a tripod head with 3/8-16 or 1/4-20 mount. This is especially useful with tripod applications.



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