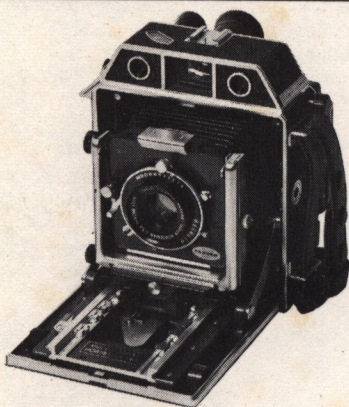


MODERN PHOTOGRAPHY®

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modern tests
newest cameras, lenses & important accessories

2 1/4 X 3 1/4 HORSEMAN 980 TECHNICAL CAMERA



MANUFACTURER'S SPECIFICATIONS: Horseman Technical camera for 2 1/4 x 3 1/4 sheet film, 220 and 120 roll film. **FEATURES:** Interchangeable lens boards, interchangeable lens cams, rising, swinging and tilting front, swinging and tilting back, drop bed, built-in coupled rangefinder, multiframe viewfinder, swing-away infinity stops for each lens, adjustable leather strap handle, accessory shoe, dual tripod sockets. **PRICE:** With 105mm f/3.5 Professional Horseman lens and cam, \$399.50.

This camera has been on the Japanese market for some years and, intermittently on the U.S. market. Many importers have tried to market it in this country because of its outstanding features, but met with little success due to its extremely high price. But now that has all changed. Calumet, a Chicago-based company that produces stainless steel laboratory equipment as well as the Calumet view camera, has taken on the importation of the Horseman—and with a distinct advantage. Calumet sells directly to the consumer. And so it sells for less. There are no dealers and distributors to increase costs. And so the Horseman now enters the American market with its latest model, the 980, carrying a list price of \$399.50 . . . fully 50 percent less than its previous price. That makes it a special kind of value well worth the serious consideration of anyone needing the Horseman's unique capabilities.

The camera is basically a 2 1/4 x 3 1/4 press camera with swings and tilts on both front and rear, a coupled rangefinder, interchangeable lenses and cams plus a multiple field viewfinder that automatically corrects for parallax. It's all these things, plus many elegant refinements, that make the total more than the sum of its parts.

Let's take a close look. Basically, we're talking about a camera that measures about 5 1/4 x 3 1/2 x 7 in. and weighs 4 lb. 15 oz. Construction is aluminium casting covered with black leather or fine hammered metal gray finish. Pull down a slide lock on the camera bed and the bed drops and fastens in the down position. Squeeze two locks on the camera standard and pull out, and the camera is ready for use. There's a heavy multiple snap adjusting strap on the left side of the camera.

The rangefinder and viewfinder eyepieces, which extend backward in nice rubber eyecup ending tubes, are separate. The rangefinder is located at the right top of the body. It gives a life-size image of the central picture area, slightly green overall with the moving image yellowish in tone for good separation. Image movement is lateral, and the action is clean and positive. The rangefinder covers all distances from 3.3 ft. to infinity. A very legible manual footage dial atop the camera in a good-sized window covers the same distances and shifts correctly as lenses and cams are shifted. Right next to the rangefinder window is the viewfinder where image size is considerably smaller so all lens areas can be seen. It is marked with yellow frame lines for 90, 105, 150, and 180mm lenses. The entire finder is automatically parallax compensated and moves vertically as the camera is focused. It wasn't so easy to use though. The frame lines were somewhat crowded, the outer ones are partially blocked on the bottom edge by a view of the camera bellows, and you had to look for the frame you were using pretty carefully. Of course, if you were using the 180mm lens or the 90mm lens, then it was easy, since these are the outermost and innermost fields.

The widest lens provided for this camera measures 65mm. The makers don't provide a frame line for this lens (or the 75mm either) and recommend you use the full frame of the viewfinder instead. This will show you 85 percent of the 65mm lens area but 100 percent of the 75mm lens area. The framelines for the other lenses show 90 percent of the lenses' actual coverage.

One feature that makes this camera so useful is the well-thought-out lens-and-cam system. The lenses are conveniently interchangeable and the cams are easily installed

and couple automatically. Here's how that works. Just lift a catch at the top of the lens board and the lens may be removed. Let's say you are switching from a 90mm lens to a 105mm lens. Snap in the 105mm lens. Now rack out the focusing track, loosen a small lock nut holding in the 90mm cam located under the focusing track and remove the cam. Slip in the 105mm cam and lock the nut firmly. The 105mm cam is color-coded orange.

Fold down the 90mm infinity stops (color-coded green to match the 90mm cam) and flip down the 105mm stops which are color-coded orange to match the color coding on the cam. Now the 105mm lens is in focus to the film plane at infinity and will track with the rangefinder throughout the focusing range.

The camera has 10 1/2 in. of bellows draw, which means triple extension with the 90mm lens and over 2 1/2 times with the standard 105mm lens. More than enough. One interesting note. The camera has left- and right-hand focusing. A tight, positive lever lock secures the track. But why left- and right-hand focusing on a camera that has a left-hand strap? You can't focus with your left hand if you are using it to hold the camera or can you? Well, the Horseman has a unique electrical grip that locks to lugs on the

65mm f/7 Super Horseman No. 904955

Aperture	Center Sharpness	Edge Sharpness
7	Excellent	Acceptable
8	Excellent	Acceptable
11	Excellent	Acceptable
16	Excellent	Acceptable
22	Very Good	Good
32	Acceptable	Good
45	Acceptable	Acceptable

right hand of the camera body (\$48). It's a battery case that supplies current to a solenoid that fits a quick release mount on the lens. Slip the battery case on the camera, slip in the solenoid and you can now release the shutter electrically while using a right-hand grip and left-hand focusing.

It does two things. It provides a near vibration-free release while allowing right-handed operation. An extension cord is also provided for remote release, and it adds only 10 oz. to the overall weight.

One nice point: The lugs that hold the electrical grip are the same as those that hold the hand strap, so by moving the hand strap to the right side you get left-handed operation. It then becomes difficult to release the

75mm f/5.6 Professional Horseman No. 1280751		
Aperture	Center Sharpness	Edge Sharpness
5.6	Excellent	Acceptable
8	Excellent	Very Good
11	Excellent	Excellent
16	Excellent	Excellent
22	Very Good	Very Good
32	Good	Good

shutter, since it requires right-handed release, but Horseman has thought this through too. There's a cable release (with the same quick release feature as the electrical grip) that fits either the top right or top left of the camera body on a beautifully made dovetail mount. It provides a body release, left- or right-handed as the user prefers. Very neat. The Horseman has many of the swings, tilts and shifts of a view camera, giving it dual press/view capability. The front standard is U-shaped. Loosen a knurled knob at the top left of the front standard and the lens can be tilted 10° forward and 15° backward. A spring clip to the right of the front standard (not easy to get to) releases the standard, allowing a 15° swing in either direction. A setscrew locks the lateral movement, which is about 14mm in each side of center. A 28mm rise is rack and pinion controlled very smoothly and locks by a setscrew.

Four large knobs lock and unlock the back. Unlock and you can pull the back rearward 23mm and get a 10° tilt and an 11° swing, easily locking the back in place in any intermediate position.

What do all these movements add up to? Well, in extensive trial use with a wide variety of architectural and commercial subjects, the Horseman was able to correct all perspective and depth problems except those requiring the most extreme movements. In other words, the Horseman will not replace a view camera such as the Calumet 4 x 5, but it will serve more than adequately in solving many problems, much of the time.

Since the back movements are un pivoted, it takes some experience and skill to make corrections quickly, although anyone who can use an 8 x 10 view will find the Horseman

90mm f/5.6 Super Horseman No. 955311		
Aperture	Center Sharpness	Edge Sharpness
5.6	Excellent	Very Good
8	Excellent	Good
11	Excellent	Good
16	Excellent	Excellent
22	Excellent	Excellent
32	Very Good	Very Good
45	Good	Good

a pushover. All the movements are precise, smooth and almost jewel-like in action. The fine fit, finish and overall workmanship are evident once one uses the swings and tilts. The back, of course, must be returned to a position against the body frame if you expect focusing accuracy using the rangefinder.

As tested, the back supplied was a Graphic type spring back with a Kodak Ektalite field lens having a plain ground center and cross-hair markings. Lift a catch at the back and a four-sided hood pops up. Depress two lever arms and the entire back slides out, allowing the insertion of roll film holders or a ground-glass panel (nonspring-loaded) for focusing.

The roll film holders (\$75 each) are available in three models: 8 exposures on 120 (2¼ x 3¼ in.), 10 exposures on 120 (2¼ x 2¾ in.) and 20 exposures on 220, which also produced 2¼ x 2¾-in. images. The backs are quite nicely made, incorporate reverse film curl (for film flatness) and are lever actuated. The holders can be reversed so the wind levers are on top of the camera or on the bottom. The lever looks best at top but in actual use you'll want it on the bottom, where it doesn't interfere with noses or finders. About 1½ strokes are needed to advance the

150mm f/5.6 Super Horseman No. 925498		
Aperture	Center Sharpness	Edge Sharpness
5.6	Very Good	Acceptable
8	Excellent	Acceptable
11	Very Good	Acceptable
16	Very Good	Good
22	Good	Very Good
32	Acceptable	Good
45	Acceptable	Good

film a full frame. This was a problem at first, since there was a tendency to give it one full stroke. A few film overlaps and we were cured of that habit. The roll film holders have frame counters that are easy to read and a dark slide that is marked with a red index. Pull the slide out to the index and it's clear of the image aperture. This means you pull it out partway, not all the way, saving fumbling with replacement. A good idea. Makers of sheet film holders, please take note.

The Horseman roll film holder is as good as any we have ever tested, and as a result, MODERN's editors often preferred using the Horseman as a roll film camera rather than a sheet film camera. The Horseman is the first camera we have ever tested that offers two ranges of lenses of two different qualities: Professional lenses and Super lenses all made by Toyko Kogaku, makers of Topcor

180mm f/5.6 Horseman P.T. No. 814467		
Aperture	Center Sharpness	Edge Sharpness
5.6	Very Good	Acceptable
8	Very Good	Good
11	Excellent	Good
16	Excellent	Good
22	Very Good	Good
32	Good	Good
45	Acceptable	Acceptable

lens for the Topcor cameras. The Professional line consists of three lenses: the six-element 75mm f/5.6 wide angle (\$130), the

four-element 105mm f/3.5 normal (\$90) and the four-element 180mm f/5.6 telephoto (\$145), all mounted in Seiko MXV shutters with speeds from 1 sec. to 1/500 plus B and press opener. A rangefinder cam comes with each lens.

The Horseman Super lenses represent the top-of-the-line sophisticated designs that produce a higher degree of resolution and brilliance. The Super line has four lenses: a six-element 65mm f/7 (\$145), a six-element f/5.6 (\$115), a six-element 105mm f/4.5 (\$215) and a four-element f/5.6 (\$127). The Super lenses also are mounted in Seiko shutters.

In actual performance, the Horseman produced sharp images that made top quality 11 x 14 prints easily. Handling was fast and smooth. Alignment between each lens, its cam and infinity stop to the rangefinder was excellent. Traditionally, cams must be cut to fit the individual lens. In test we found that arbitrarily substituting one 105mm cam for another still resulted in proper alignment.

Among the many accessories for the Horseman, perhaps the most interesting is the Optical Exposure Meter (\$110), a full averaging CdS meter system which slips into the Horseman (or almost any other 2¼ x 3¼ press camera) just like a cut film holder. It has three light level metering scales reading in shutter speeds down to 2 sec. at any aperture with a film having an ASA rating of 400.

The Horseman photographic system is indeed a welcome addition to the small professionally able press camera field. We're right glad to have it back.—THE END