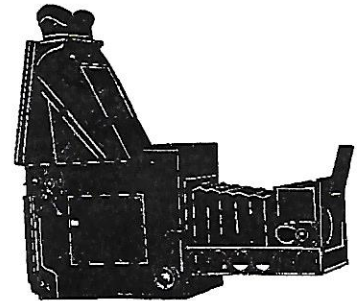


GRAFLEX HISTORIC QUARTERLY



VOLUME 6 ISSUE 4

FOURTH QUARTER 2001

FEATURES

Graflex Twin lens cameras.	1
Dating Graflex cameras .	.5
Fixing Graflex Shutters	6
Quiz.....	7
Classifieds	8

Graflex Twin Lens Cameras
by J.C. Welch

TLRs, as they are more often referred to, are an odd chapter in Graflex history, being partly responsible for the company's demise. After the Second World War, as the quality of film began to improve, many professionals, the mainstay of Graflex's customer base, began to switch to twin lens reflexes. The cameras used less expensive rollfilm, were much lighter, and for handheld use were more accurate. The amateur market reflected this change also, and sheetfilm camera use began its gradual decline. Eventually of course rollfilm and 35mm pro use took over almost completely, and Graflex closed its doors. During the 1950s it did make an attempt to enter the TLR market with the Graflex 22, but they didn't pursue the smaller format cameras enough to forstall the inevitable.

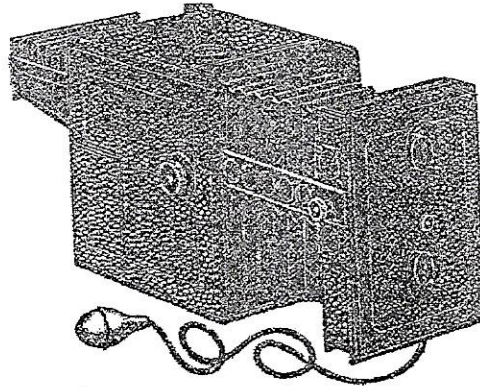
However, the article is not about this later attempt, but covers two of the rarest cameras ever made by the company. Both were in fact made by Folmer & Schwing before its acquisition by Kodak and eventual journey into Speed Graphic fame. Rolleiflex's famous beginning into rollfilm TLRs in 1929 was still far away.

Basically, the twin lens camera was not complex; it consisted of two identical lenses, one mounted over the other and sending the image via a mirror upwards onto a viewing screen, while the lower lens projected directly onto the film or plate. Both lenses would be focussed simultaneously, providing a pretty accurate viewing screen image of what was actually being captured on film. An additional advantage was that the user could see just what he was photographing at the instant of exposure. They first appeared before the turn of the century, most commonly using 4x5 plates, the image currency of the time. Since this made them pretty big and heavy, few were made by any company. Any of these early twin lens models are beyond rare today.

A reader kindly sent in two copies of listings of early F&S twins lens cameras. One was called the "Graphic Twin Lens Special," and we have found it mentioned in the 1904 catalog [but not the 1906, so it evidently did not survive the transition]. Apparently it is one of an unusual type that does not feature reflex [upright image] viewing. However the catalog "accidentally" fails to mention that, stating instead that the viewing hood can be used to check focus. The same catalog entry blithly goes on to talk about hand-holding the camera, although doing so while viewing an inverted image was not likely to be easy. Furthermore, at \$75 and up, this was not a moderately priced camera for its day. Fitted with Zeiss Protar at \$155, it was in fact among the highest priced devices available. This type of viewing setup is very uncommon in the history of photographica, appearing most notably sixty-odd years later with the also-heavy Koni-Omegaflex, intended primarily for studio use. That model also offered

**LAST ISSUE
PLEASE RENEW!**

The Graphic Twin Lens Special



The Graphic Twin Lens Special is designed for use as a hand camera, in which the image, seen through a twin lens, may be focused and kept in view up to and during exposure.

Its working parts are arranged with special reference to convenience in operating when held in the hand.

When held as shown in the cut, the weight of the camera is balanced upon the left hand and the instrument is steadied against the forehead while the right hand is left free for focusing and releasing the shutter.

This camera closes very compactly and is provided with telescopic front and collapsible focusing eye shield, rising front, long draw of bellows, rack and pinion focusing device, removable lens board and spring actuated focusing screen for time work.

It is constructed of the finest, selected kiln dried mahogany, lock jointed and reinforced with crosswise panels of the wood.

It is covered with the best quality black grained leather, the exposed parts being finished in ebony and the metal oxidized.

The telescopic front is racked out on two heavy brass side arms extending full length of the camera, and running between strong metal guides. This construction allows extreme draw of bellows and great rigidity.

Perforations in the side arms reduce weight without loss of strength.

The rack and pinion focusing adjustment is operated by a large milled head button.

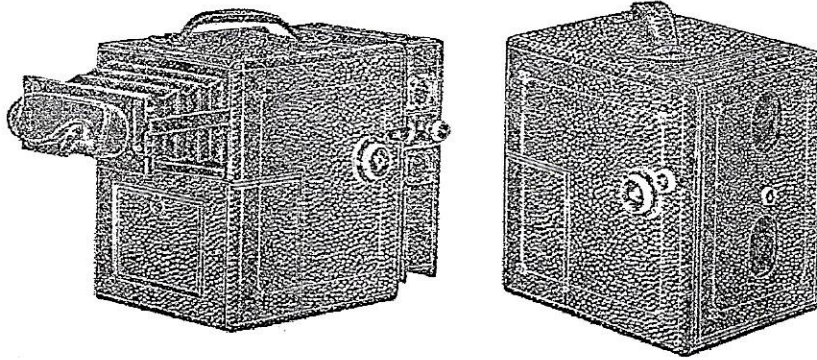
Rising and falling front is operated by rack and pinion with spring tension which holds the front in position without binding screws.

The front of camera is hinged at top with piano hinge extending its full width and may be opened to change or clean lenses. If opened at right angles to front and held in position by side arm, it serves as a lens shield.

Metal covers, protecting both lenses, are geared together inside the front and operated from the outside by a single, milled head button.

The focusing hood is collapsible and is provided with an eye shield, fitting the face and excluding all light. When extended, it is supported upon two brass side arms, running between metal guides. It is braced against the focusing panel and is extremely rigid.

The Graphic Twin Lens Special



A spring actuated, ground glass focusing screen is provided for time exposures and for verifying focus of twin lens.

A large, spring actuated panel affords full view of the focusing screen.

A door in side of camera gives access to rear compartment in which is sufficient space to carry either three Double Plate Holders, a Magazine Plate Holder or a Cartridge Roll Holder.

Two tripod plates are set into this camera.

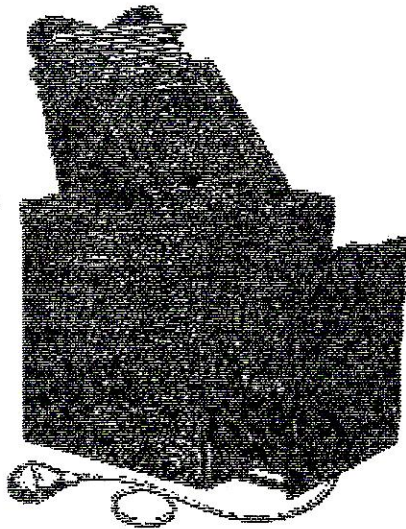
Outside dimensions of camera when closed are $9 \times 7 \times 9\frac{1}{4}$ inches, and weight is $6\frac{1}{4}$ pounds. Made in 4×5 size only.

Graphic Twin Lens Special, fitted with Graphic Rapid Rectilinear Lenses and Graphic Automatic Shutter.....	\$82.00
Extra Plate Holders.....	1.15
Graphic Magazine Plate Holder.....	12.00
Cartridge Roll Holder, empty.....	6.50
Sole Leather Carrying Case.....	6.00
* Graphic Twin Lens Special, no Lens or Shutter.....	65.00
Graphic Twin Lens Special, fitted with No. 2, Series III, Goerz Double Anastigmat Lens, Sector Shutter and Matched Focussing Finder Lens	150.00
Graphic Twin Lens Special, fitted with No. 7, Series VIIa, Zeiss Convertible Lens, Diaphragm Shutter, and Matched Focussing Finder Lens	170.00

* The Graphic Twin Lens Special Camera will only be furnished without lenses when the intending purchaser has lenses which are to be used with the camera, and in such cases we require that the lens be sent to us to insure proper fitting.

Twin Lens Telescopic Graphic.

The Twin Lens Telescopic Graphic is practically a double camera, having two lenses of exactly the same focus placed one above the other; the upper lens forming the image upon the ground glass the exact size that it will appear upon the plate or film. The lower lens, to which the shutter is fitted, makes the impression upon the plate or film exactly the same size as seen upon the ground glass, reflected through the upper lens.



The focusing Lucid, which may be tilted at any angle, has eye shields, and obstructs all light, and enables operator to focus very sharply.

The Twin Lens Graphic Camera has rack and pinion focusing device. The front may be racked out quite a distance in order to use long focus lenses.

When not in use, the front racks in, making a very compact camera.

The front is hinged, and may be opened in order to change diaphragms, clean or change lenses.

Two holes are cut in front, which enables operator to photograph without opening the door. Sliding covers are attached to this door, which close the openings when camera is not in use.

The compartment in back is large enough to carry three double plate holders, Graphic magazine plate holder, or cartridge roll holder.

Spring-actuated panel is fitted in back, in order to show register of roll holder or Graphic magazine plate holder.

We have reduced the cost of Twin Lens Telescopic Graphic greatly, when Zeiss or other high-grade lenses are used, by matching a cheaper focusing lens exactly to the high-grade lens.

Outside dimensions of 4 x 4 Twin Lens Telescopic Graphic, when closed, are 7½ x 8½ x 6½, and it weighs 1½ pounds.

PRICE.

	\$ x R.
Twin Lens Telescopic Graphic, fitted with Graphic angle rectilinear lens and Graphic shutter,	\$71.00
Extra plate holders,	1.00
Graphic magazine plate holder,	2.00
Cartridge roll holder, empty,	1.00
Roll holder carrying case,	1.00
Twin Lens Telescopic Graphic, no lenses or shutter,	55.00
Twin Lens Telescopic Graphic, fitted with Series II, No. 3 gelatin lens and double rapid shutter (No. 3 lens),	136.00
Twin Lens Telescopic Graphic, fitted with Series III, double double anastigmat lens and double shutter (No. 1 lens),	140.00
Twin Lens Telescopic Graphic fitted with Series VIIA, Zeiss or Carl Zeiss lens and diaphragm shutter (No. 7 lens),	155.00

catalog entry for Twin Lens Telescopic Graphic [year unknown]

a reflex attachment for field use, unlike the F&S, plus easily interchangeable lens sets and film magazines.

An earlier model offered by F&S was the "Twin Lens Telescopic Graphic," which apparently came with reflex viewer and hood. It must have been even heavier, and the catalog entry touts that the price "has been reduced" to \$75 with basic Graphic rapid rectilinear lenses. This and the later model both used regular leaf shutters behind the lower lens; TLRs with focal plane shutters were uncommon in camera history.

Any reader with either of these models is encouraged to write to the Quarterly and comment on it - firsthand knowledge of either of the earliest twin lens Graflexes is scarce and neither the editor nor publisher has ever seen one.

DATING GRAFLEX-MADE CAMERAS by Tim Holden

Determining the year a given camera was made has always been a problem with Graflexes. The following notes were made by Tim to help with this determination. Another big help is of course the serial number. Several lists of serial number/year combinations exist, with varying accuracy, but a large master list is in preparation, and may be published or made available by GHQ.

There appears to have been no 1905 catalog. This was time of transition from the Folmer and Schwing Manufacturing Co. New York city to the Folmer and Schwing Co. of Rochester, NY, later Folmer and Schwing Division, EK Co. There appears to be no existing record of serial numbers used in New York City. Serial number identification of cameras made in Rochester was not dated until about 1921.

Revolving Back Auto Graflex - 1909 Front lens box replaced with open front lens support, drop bed, longer "double extension" bellows 1912 Front hinged top door. No eye cup on hood 1916 - Recessed top front edge of camera body. Top door hinged at rear.

The Stereo Graflex - 1906 Renamed "The Stereo Auto Graflex". 1913 Raised shutter plate

The Auto Graflex - 1912 Front hinged top door and folding hood, no eye cup. Replaced original bellows type hood.

3A Graflex - back of base no longer "notched out" Catalog illustration only. 1915 - Autographic feature added.

IA Graflex - 1915 Autographic feature added. 1917 - New short hood replaced tall hood with lazy tong support.

Revolving Back Home Portrait Graflex. 1912 - raised shutter plate. 1916 - 6x6 lensboard dropped, 5x5 lensboard remained but put at front of lens support.

All models: The shutter and tension plates at the right rear of the camera body, top and bottom respectively, were originally flush with the camera body. This required extensive routing out the body to accommodate the gears and other parts for controlling the shutter. By 1921, all Graflex cameras were fitted with plates which extended about 1/4" from the side of the camera.

Speed Graphics -

1924: 4x5 size, shape changed, shorter and thicker. Referred to as "Special".

1930: Shape changed, 4x4 lensboard, handle on the side. 4x5 1934: 3x4 model reintroduced, with standard focal plane shutter (24 speeds). 5x7 model reintroduced. Changed shape, 4x4 lensboard, etc.

1939: 2x3 size introduced. New design of front and shutter. Limited focal plane flash bulb sync. Note: for a short time in late 1938 until mid-1939 a 2x3 Revolving Back Speed Graphic was supplied.

1940: The Anniversary 3x4 and 4x5 models appeared.

1947: The Pacemaker models were introduced, Crown (no focal plane shutter) and Speed

1955: The Graphic Rangefinder was supplied on 4x5 models, only

1956. The Electrified front shutter release through rangefinder batteries with full sync Graphex shutter, 4x5.

1956-57 C-904 Crown 45 especially priced with Kalart rangefinder, 135mm Schneider Xenar f/4.7 in #0 Copal 1958-73. Same outfit with Graphic rangefinder, a variety of lenses (135mm).

1963: Advent of the Graflex 1000 shutter fitted to Super Graphic and 4x5 Pacemakers. The new name of the camera so fitted appeared only on the top lensboard slidelock of the specific camera. the lens and shutter combination was only one of several available regardless of the lensboard slide lock, which could be changed easily:

Super Graphic - Super Speed Graphic

Speed Graphic - Graphic 1000

Crown Graphic - Speed Graphic 1000

R.B. Super D Graflex 3x4 only:

1941. Revised R.B. Series D with chrome finished metal parts, Automatic Diaphragm Control parts, limited flash bulb sync.

1949. Post WWII model, simpler focal plane shutter, better flash sync, Spline shaft ADC . 3x4, 4x5

Century Graphic 23,

1949-1954 Camera supplied with black bellows

1954 - 1963 Camera supplied with red bellows.

Fixing Graflex SLR shutters by J.C. Welch

When William Folmer and his workers got the multiple-slit focal plane shutter curtain into production, they knew they had a good thing going. Unlike temperamental variable-slit curtains, their version would prove to be the most reliable, long lasting FP shutter ever created. They jealously guarded the patent on it, even putting companies out of business who tried to copy it. Today, many modern cameras use the vastly improved variable-slit type successfully, but many of the old, even pre-WWI Graflexes can be put into service again.

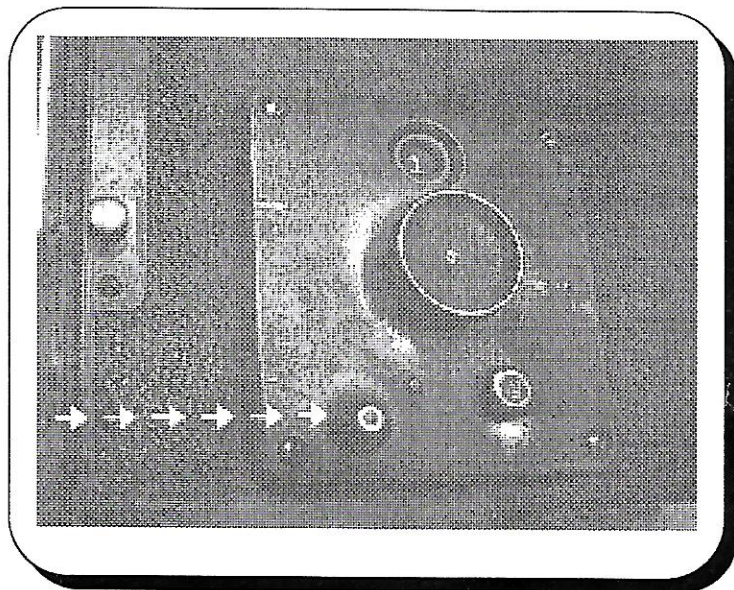
Previous articles in various publications have addressed fixing Graflex shutters, but judging by the number of inquiries I get, it's worth elaborating once again.

First, if the one-piece, sometimes very long curtain is broken [usually torn near one of the brass-lined slits], be advised that replacement curtains are not on a dealer's shelf somewhere. They have to be made up, and although the material is available, the do-it-yourselfer is not likely to be able to create and line the slits properly. If you leave off the metal liners, the slit edges will catch and fray. There are a few repairmen who can rebuild a shutter, but be prepared for the cost to exceed several cameras easily.

If the long curtain has just come unglued on one end, it's a bit of a job to open everything up and re-attach it, but feasible to do at home by an experienced tinkerer.

If the curtain is working, sort of - but slow - it may be able to be fixed without a lot of trouble. First feel the fabric carefully with freshly cleaned fingers. If it is dry and getting crinkly, put your camera on a shelf and enjoy it as a collectable; the shutter will soon break in use.

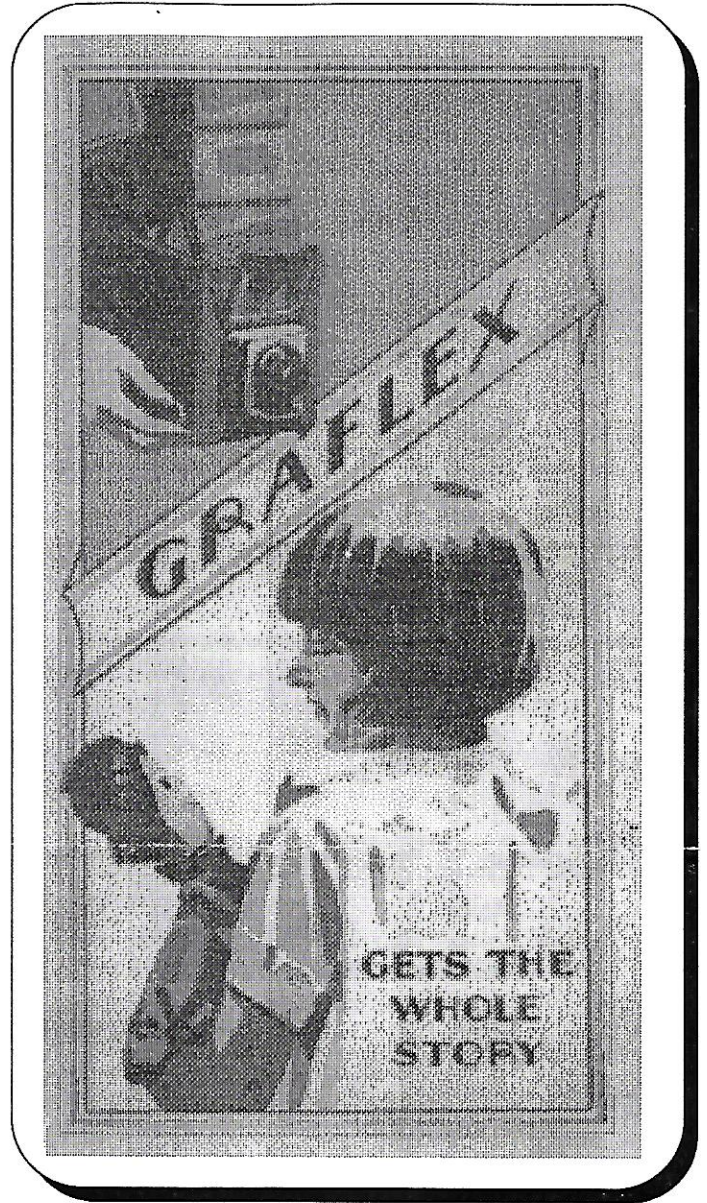
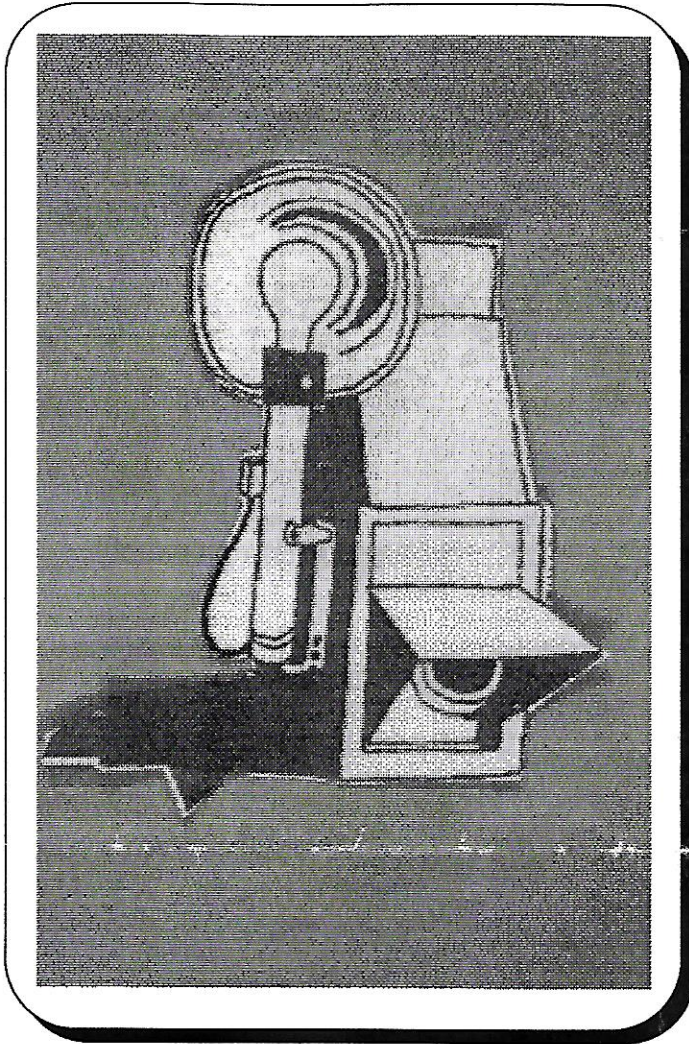
If the material is soft and flexible, the job is to increase the overall tension so that - if you set the tension at "1," and the aperture at "T" - the shutter when tripped will open all the way, then close all the way when tripped again. This is not hard to do [directions follow]. However, since springs age, you will find that it is near impossible to get the final speeds to match those on the camera's speed plate. If you have access to a shutter tester, they can be charted and the camera used successfully. This is true of most old shutters, focal plane or leaf; and it is common to see a user of fine old lenses have a corrected speed list in his hand or mounted on the lensboard. Sometimes, on a Graflex with adjusted tension, you'll have usable speeds, but within any given aperture, say 3/4", they won't vary much from tension 1 to 6. But the camera is still very usable.



arrow shows hex nut to be removed to gain access to shaft

To increase overall shutter tension: look at the tension plate on the right side of the camera, and release the tension lock so that the "1" appears in the window. Remove the little hex cover [see above illustration]. You will see a screw slot. Now remove all of the little screws around the tension plate. Ideally, the next step requires a three handed person. Insert a narrow bladed screwdriver into the slot on the end of the shaft under that hex cover you removed earlier. The screw is splined, and you can't really turn it yet. It is on the end of a spring-loaded shaft that controls the tension on the take-up shutter spool. In order to tighten it [counter-clockwise, I might add], you have to carefully pull out the entire tension plate that you have just freed up by removing a pile of screws. As you pull it towards you, hold the main shaft steady and don't let it slip. When it is free, turn it many times CCW as you feel the tension increasing. When you feel it is improved a bunch, carefully slip the plate back into place, and put several screws back in. Now try your shutter. If not quite right, you may repeat the above directions. Finally, put in the rest of the screws and the hex cover. Of course, during the above method, you will have let the shaft slip while tightening it [because you don't have three hands], and therefore have to start over tightening the shaft, but eventually you'll get it right. Now go find a shutter tester and your camera will be ready to use. Many pro repairmen will test your camera for a [hopefully] small fee.

A final note on using the highest speeds [usually the 1/8" slit which when new gave 1/1000th second]: you'll have to judge the condition of the shutter material, but making old timers run as fast as they can does invite problems.



QUIZ: Which is the most probable model of Graflex pictured in each of the two images above? Prize for first correct entry.

Addendum to our previous story about the Graflex 1000 shutter by Bill Inman:

He suggests that A. Marty Martinez of Albuquerque, New Mexico, has had many years repairing the 1000 shutter for the government photo lab there. A typical repair is reported to be \$85 to \$125 plus parts. He anticipates your next question, and no, parts are not available separately. Mr. Martinez can be contacted by email: leroyphoto@aol.com

