



# GRAFLEX Journal

SHARING INFORMATION ABOUT GRAFLEX AND THEIR CAMERAS

ISSUE 2 2022

## FEATURED

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## CONVERSION OF NATIONAL GRAFLEX I TO NATIONAL GRAFLEX II

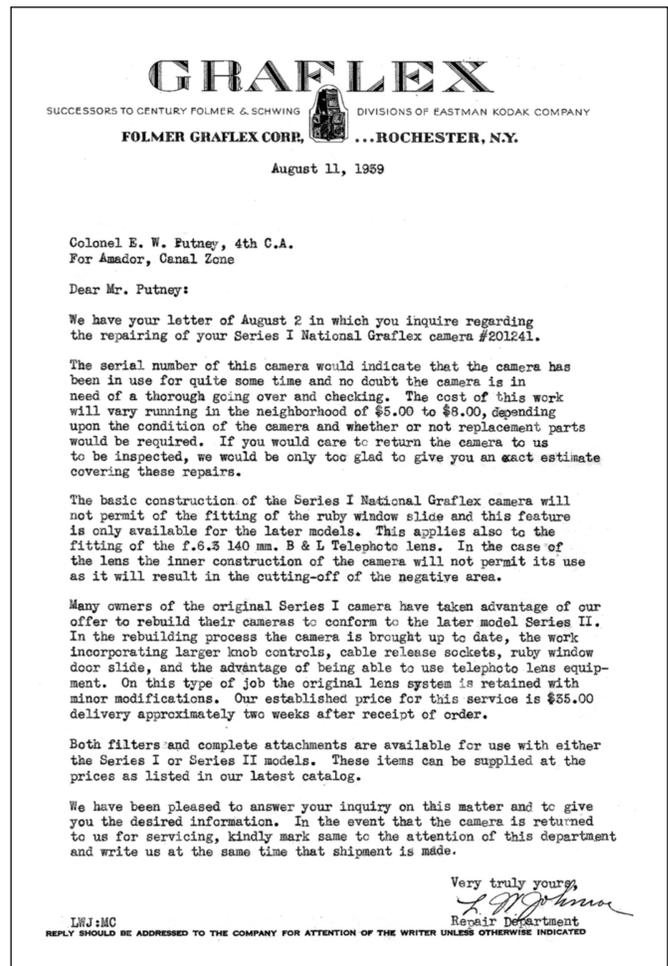
By V. Rodger Digilio

The Folmer Graflex Corporation produced the National Graflex starting in 1933. In 1934 the company modified the lens mount of the camera to accept a 140mm F 6.3 Bausch and Lomb telephoto lens, as well as the standard 75mm F 3.5 Bausch and Lomb lens that came with the original National Graflex camera. It also made numerous other improvements. In 1935 the company discontinued production of the original National Graflex (Series I) and produced only the improved version (series II). The series II production ended in 1941.

While most of the improvements were small, the ability to add the telephoto lens was significant, and there were owners of Series I cameras who asked Folmer Graflex if their cameras could be adapted to use it. The company responded by offering owners of Series I cameras the option of sending them in for "rebuilding" to the Series II. The rebuild price was \$35.00 versus the \$82.50 price of a new Series II camera in 1934.

Several years ago, I stumbled upon an auction on eBay titled "Series II National Graflex Camera Documented in the Panama Canal Zone." The seller clearly knew little about cameras, but in his listing he stated that the camera was owned by a Colonel Putney\* stationed at Fort Amador in the Panama Canal Zone in 1939, and there was correspondence between the Colonel and a Graflex factory technician.

A review of the correspondence revealed that Col. E. W. Putney owned a Series I National Graflex that he wanted altered to accept the telephoto lens. While a copy of Col. Putney's original letter of August 11, 1939, to Folmer Graflex was not included, L. W. Johnson of the Repair Department provided a detailed response (Figure 1 below) to it, and it is easy to infer what the Colonel requested.



Mr. Johnson's response clearly pleased the Colonel. On September 5, he wrote back accepting the offer to rebuild and enclosed a check for \$35.00. (Figure 2, following page).

Fort Amador, Canal Zone,  
September 5, 1939.

Folmer Graflex Corporation, Repair Dept. Attention L.W.J.  
Rochester, N.Y., U.S.A.

Gentlemen:

Thank you very much for the information contained in your letter of August 11th reference my National Graflex, Series I, #201241.

Your offer to rebuild this camera to conform to the later model Series II, for \$35.00 is too tempting.

Will mail the little camera to you today by parcel post, insured.

Enclosed is check for \$35.00.

Yours very truly,

Edward W. Putney.

Colonel E.W. Putney, 4th C.A.,  
Fort Amador, Canal Zone.

Figure 2

The camera arrived at Graflex on September 19, and L.W. Johnson wrote Col. Putney a letter on the same day confirming receipt of the camera and enclosing an official invoice for the work to be done (Figures 3 and 4). Note that 65 cents was added to the bill to cover return shipping to Panama. He also estimated that the work would be completed within two weeks.

**THE FOLMER GRAFLEX CORPORATION**  
ROCHESTER, N. Y.

|                                |                |                 |              |
|--------------------------------|----------------|-----------------|--------------|
| CUSTOMER'S ORDER NO.<br>letter | DATE<br>9/5/39 | REQUISITION NO. | CONTRACT NO. |
|--------------------------------|----------------|-----------------|--------------|

SHIPPED TO

SOLD TO  
Colonel E. W. Putney  
4th C. A.  
Fort Amador, Canal Zone

|                     |                         |                        |                       |                          |                      |
|---------------------|-------------------------|------------------------|-----------------------|--------------------------|----------------------|
| TERMS<br>Prepaid -L | DATE SHIPPED<br>10/4/39 | HOW SHIPPED<br>PP Ins. | SHIPMENT NO.<br>57031 | INVOICE DATE<br>10/11/39 | INVOICE NO.<br>11596 |
|---------------------|-------------------------|------------------------|-----------------------|--------------------------|----------------------|

| QUANTITY SHIPPED | DESCRIPTION                                                                                                                                              | PRICE | AMOUNT                | TOTAL |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------|-------|
|                  | REPAIR:<br>1- National #201241 with B&L lens #1250<br><br>RECEIVED.<br>Rebuild to conform to design of Series II National Graflex without telephoto lens |       | 35.65-net Fort Amador |       |

PAID

OCT 9 1939  
The Folmer Graflex Corporation

Figure 4

On September 26, the Colonel sent another letter to Mr. Johnson (Figure 5), enclosing a check for 65 cents for the shipping and requesting that Graflex include an up-to-date instruction book with the rebuilt camera when it was returned.

**GRAFLEX**  
SUCCESSORS TO CENTURY FOLMER & SCHWING DIVISIONS OF EASTMAN KODAK COMPANY  
FOLMER GRAFLEX CORP. ... ROCHESTER, N.Y.

September 19, 1939

Col. E. W. Putney  
4th C. A.  
Fort Amador, Canal Zone

Dear Sir:

This will acknowledge receipt of your Series I National Graflex camera #201241 with B & L lens 1250. We also have your letter of September 5th with reference to this camera and wish to acknowledge and thank you for your check in the amount of \$35.00 to apply on the rebuilding job.

We have entered your order for this work and we expect that the camera will be ready for delivery in about two weeks time.

In quoting you on the rebuilding of this camera we gave you a price of \$35.00 net, which is f.o.b. Rochester, New York. Additional charges for transportation, and insurance coverages will amount to approximately .65 cents. We will appreciate receiving your additional remittance for these charges at your convenience.

Appreciate very much this opportunity you have given us to be of service, we remain

Very truly yours,  
*L.W. Johnson*  
Repair Department

LWJ:MC

REPLY SHOULD BE ADDRESSED TO THE COMPANY FOR ATTENTION OF THE WRITER UNLESS OTHERWISE INDICATED

Figure 3

Fort Amador, Canal Zone,  
September 26, 1939.

Folmer Graflex Corp.,  
Repair Department (Attention of Mr. L.W. Johnson)  
Rochester, N.Y.

Dear Sir: Reference your letter of September 19th.

Enclosed is check for sixty-five cents to cover return shipping charges on my National Graflex.

Will you kindly send with the camera an instruction booklet covering the operation of the camera in its revamped form.

I have ordered several accessories through local dealer (Fort Amador Post Exchange), and am looking forward to having a great deal of pleasure with the outfit.

Yours very truly,

Edward W. Putney.

Col. E.W. Putney, 4th C.A.,  
Fort Amador, Canal Zone.

Figure 5

On October 17, Col. Putney wrote his final letter to Mr. Johnson (Figure 6, following page). He confirmed receipt of the rebuilt camera, noting that it looked fine. However, a point on the invoice had caught his eye and raised a question. The invoice specified that Graflex completed the "Rebuild to conform to design of Series II National Graflex without telephoto Lens." Did this mean the rebuilt camera could not be used with the new telephoto after all?

Fort Amador, Canal Zone,  
October 17, 1939.

Folmer Graflex Corporation, Repair Dept. Attention of L. W. J.  
Rochester, N. Y., U.S.A.

Gentlemen:

The National Graflex has been received back and looks to be fine. However there is one point that I do not understand. The following is quoted from receipt that you sent, "Rebuild to conform to design of Series II National Graflex without telephoto lens." What is the meaning of the phrase "without telephoto lens"? Does that mean that the telephoto lens cannot be used with this particular camera if I should choose to acquire such a lens? Although I am not interested at present in getting a telephoto lens for this camera, at some time in the future I may wish to do so. In view of your letter of August 11th, part of which is quoted below, it was my belief that I would be able to use the telephoto lens should I care to get one.

"In the rebuilding process the camera is brought up to date, the work incorporating larger knob controls, cable release sockets, ruby window door slide, and the advantage of being able to use ~~#####~~ telephoto lens equipment."

Yours very truly,

Edward W. Putney.

Colonel E. W. Putney, 4th C. A.,  
Fort Amador, Canal Zone.

Figure 6

In response, Mr. Johnson wrote back his final letter on November 9 (Figure 7). He assured Col. Putney that the camera had been rebuilt to accept the lens and that the language on the invoice reflected only the fact that a telephoto lens had not been ordered for it at this point.

**GRAFLEX**  
SUCCESSORS TO CENTURY FOLMER & SCHWING DIVISIONS OF EASTMAN-KODAK COMPANY  
FOLMER GRAFLEX CORP. ... ROCHESTER, N.Y.

November 9, 1939

Colonel E. W. Putney,  
4th C. A.,  
Fort Amador, Canal Zone

Dear Sir:

We have your letter of recent date in which you have acknowledged receipt of the National Graflex Camera recently rebuilt for you.

Your camera as now constructed will accept all the accessories for the Series II National Graflex Camera including telephoto lens equipment. We realize, of course, that the phrase "without telephoto lens" might be a bit misleading to you, but this is only a term used in entering the factory order covering this type of repair job. In the past when rebuilding jobs of this type we have done this in combination with the sale of a telephoto lens and for this reason it is necessary to specify with or without the auxiliary lens equipment.

We have been pleased to give you this information and sincerely hope that the camera has met with your approval. If at any time we can be of any service on matters pertaining to your photographic problems, please feel free to write us.

Very truly yours,

*L. W. Johnson*  
Repair Department

LWJ:EM

REPLY SHOULD BE ADDRESSED TO THE COMPANY FOR ATTENTION OF THE WRITER UNLESS OTHERWISE INDICATED

Figure 7

Col. Putney's camera, serial 201241 R, has been in my collection ever since, and it gives us the opportunity to compare in detail the "rebuilt" camera with the Series I and the Series II factory production cameras.

Let us examine the film compartment cover first. The Series II included a sliding cover over the ruby window. While it would have been possible to add it to the Series I cover, the process would have been complicated.



Figures 8 9 10

It appears Graflex just picked out a cover from the Series II production and hand stamped it with the serial number of the original Series I camera, adding an R to indicate it had been rebuilt (Figure 8). Figure 9 shows a serial number of an original Series I camera, and Figure 10 shows the serial number of a regular production Series II. They are machine stamped, and the numbers are all even. The hand stamped numbers in Figure 8 are certainly not.



Figure 11

The second item is the lens mount. While the mount looks very similar between the Series I and Series II cameras, there are differences. Figure 11 shows the three cameras; the Series I on the left, the Series II in the middle and the rebuilt Series I on the right. Looking closely at the Series I, you can see a silver button on the camera frame just above the center of the lens compartment. Pressing this button up allows the lens mount to rotate into the camera so the lens compartment door can close. There are also two small rivets below it on the lens board itself. The button and the rivets are not present on the Series II or rebuilt camera. The opening button for the lens compartment door on the door itself is identical on all the cameras. Clearly the new lens mount was added and not adapted from the old one, as the type of rivet is uniform, and there is no filling of holes. Substituting a new leather covering for the old on the original lens board could not have been done, as a number of the new rivets are smaller than the ones they replaced. The lens, however, appears to be the original Series I lens based on serial number analysis.



The top plates are likewise new. The improvements included moving the mirror set lever from the right side of the viewing hood to the less crowded left side. The new plate on the right side shows no trace of where the lever was. Other changes on the right side include substituting a knob for the little lever that controlled the setting for I or B, the addition of a cable release fitting where the mirror lever used to be, and the substitution of a larger diameter shutter winding knob. The shutter setting knob is also a larger diameter.

The left top plate also appears to be new, as the slot for the moved mirror set lever would have had to be cut in the existing one, and the hole in the plate for the mirror release button would have been just adjacent and would have needed to be filled. The button was moved away

from the hood and located just behind the new cable release fitting. The top plate is uniform and shows no signs of any work. The film wind knob may be a little larger in diameter. A final additional change on the plate was the addition of a screw securing the plate in the front left corner of the plate. There is no screw in that position on the Series I.

All of the additions had to be handled in the mechanisms under the top plates. I am reluctant to disassemble the cameras to view those parts, as the knobs and small screws would have to be removed, and poking around inside older cameras often results in a bad outcome. The changes on the right side of the camera would not have been too difficult, as the new cable release is right by the shutter release lever. The other changes involve no work underneath the top plate at all.

On the left side, there is plenty of room to add the mirror set lever and to tie it to the mirror. Moving the mirror release button required a significant change in how the rod transmitted the force to release the mirror. On the Series I, it was almost a straight vertical shot to the back of the lever that triggered the release. On the Series II, there must be linkage under the top plate that conveys the force to the front of the camera where it connects to a vertical rod that transmits it to the front of the lever that triggers the release. Setting the new cable release would have presented little challenge, as the shutter release button is there, and the linkage would have tied into its mechanism. The cable release on the left side appears to be for instant exposures, while the one on the right for "bulb" exposures.

The viewing hoods on the Series I and II are very similar. The only real difference is in the brass plaque on the rear of the hood that provides the shutter conversion tables from the Graflex number (1-9) to fractions of a second (1/30 through 1/500). The Series I plaque does not identify the camera as Series I, but the Series II plaques do identify them as Series II. The major difference is in the size. The Series I plaque is noticeably larger and measures in inches approximately 1 and 11/16 long by 1 and 3/16 high. The Series II plaque measures 1 and 7/16 long by 1 and 15/16 high. The plaques are affixed with brass pointed tabs at the corners that are crimped over inside the hood. The conversion camera has the smaller plaque, but there is no indication either on the inside or outside of the hood that a larger plaque was ever there. As it would have been difficult to "patch" the old hood, it looks like Graflex installed a replacement hood from the then current Series II production run.

Finally, an examination of the hinged plate that covers the top of the camera indicates that it, too, is a replacement rather than a modification. While the brass plaque inside the cover is the same on both models, there are 3 alterations. The hole for the shutter set knob is larger to accommodate the larger knob. Most importantly, there is a depression inside the cover next to the plaque. This depression is over the little mirror set lever. On the Series I, it is to the right of the plaque. On the Series II, it is on the left, because the lever was moved to the left side. The last modification concerns the springs that keep the cover open. The cover on my Series I camera shows no evidence of any springs and is held open only by its weight. The Series II cameras and the conversion have a spring added to keep the cover from closing against the viewing hood.

In conclusion, it is clear that many of the alterations of the cameras sent in for conversion were made by installing completely new parts from Series II production. It is even possible that except for the original 75mm lens, the camera was totally new, as Graflex clearly did not try to adapt many of the older parts which would have required more extensive work than swapping a larger knob for a smaller one. As Graflex worked directly with the customer, they did not have to worry about building in overhead and profit markups for its network of dealers, and the \$35.00 price might well have covered the cost of the new camera (minus the lens) with a modest profit left over.

I have owned about a dozen National Graflex Series II cameras over the years, but only Colonel Putney's had been altered and showed the "R" stamped after the serial number. The [Graflex Journal](#) would be interested in hearing from any readers who have a Series II camera with an R stamped after the serial number.

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\* For those interested in Colonel Edward William Putney. Here are a few details. He was a career military officer who was commissioned as a Lieutenant in the US Army Coast Artillery in 1910. He served in several stations along the east coast of the United States until the US entered WWI. He was posted to France and served as the deputy commander of heavy artillery units in that war and was promoted to the rank of Lieutenant Colonel. Following the end of the war, he was reduced in rank to Captain in the peacetime army. Service records are unclear about his assignments, but he stayed in the army and was assigned to various stations in the 1920s and 30s and was promoted to the rank of full Colonel. In 1935 he taught Military Science at the University of New Hampshire. In 1938 he was transferred to the 4<sup>th</sup> Coastal Artillery at Fort Amador, which defended the Pacific entry to the Panama Canal.

He retired from the Army in 1940 but was active in ROTC and officer education programs during World War II and after. He lived in Madbury, New Hampshire, where he and his wife had purchased property in 1934. He was elected as a Selectman of Madbury in 1941. He died in 1966.



### Supplement

Copy of [National Graflex Repair Manual](#), ca. 1933. Original from Fred Lustig collection. Possibly the first repair manual produced by Graflex.

Emailed separately.

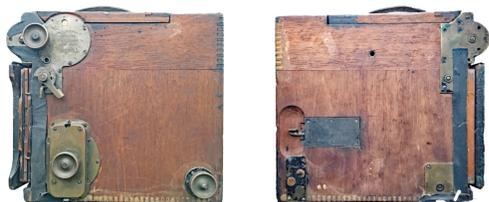


## PRESS TIME—The Conservation

By Jeffery Yost

Who isn't tired of hearing or reading about the pandemic? Two years of lockdowns, coupled with the dismal daily updates, helped refuel my desire to focus on getting my Great Grandfather John F. Yost's Press Graflex, serial #21091, circa 1907, restored. Admittedly, the timing was ripe. My patience had worn razor thin after waiting over four years on others to complete the task. Since zero progress was ever made while in the hands of the "experts", I had enough and decided to do the conservation myself, preserving a significant artifact from my family's history that was long overdue. (See previous article, "The Press Connection," in the Graflex Journal, Issue 3, 2018).

Barring its unique battle scars, its naked mahogany frame, sans its fine Moroccan leather covering, which was stripped away over 80 years ago, left its bare bones and glue-encrusted box joints visible. Further damage occurred while it was holed up inside various Midwestern closets, attics, garages, etc., enduring decades of wide seasonal temperature swings. Who knows where else the Press lived and traveled?



As the latest custodian of this invaluable family heirloom, I contemplated a full restoration versus a conservation. The conservation to preserve the rich patina of the Press's hardware, while rebuilding the integrity of the camera from the damage that the Press unfortunately acquired during my Great Grandfather's ownership, became more appealing. A full restoration would transform the Press into another potentially over-restored Graflex SLR shelf queen, losing the original his-

torical fingerprint that is "unique" to my Great Grandfather's guardianship. Besides, I will be using this Press as a working camera like JF did.

Upon viewing the dismembered parts, all neatly bagged and tagged by the first restoration "expert", until he sat on it and then gave up, it was quite a task to photograph each dissected part, while organizing the Ziploc® bags into specific categories. During the process, I learned more about the Press's construction and subtle differences, and not so subtle differences, between the earliest Graflex Press production compared to later model years. (I may write about these differences later.)

Purchasing an early 1920's Press, serial #115175, (April 1921), sans hood and back, to use as an assembled reference, also helped me to understand how each part attached to the main body, transforming it into a total sum of a working professional camera. (It will be restored later.)

A third very early Press body with attached mirror box, serial #11243, was purchased to help secure any needed extra parts. Unfortunately, the person who sold this restorable gem chose to part it out for higher profits versus preserving its integrity. It is doubtful he had a clue that this is possibly one of the earliest known Press examples. (If you know of an older one, or may have purchased parts from this camera, please contact me.)



During my Great Grandfather's ownership, it had sustained substantial damage to the main body from an apparent accidental drop or fall. Both upper rear roller ear supports were broken off. The subsequent repairs were sub-par, especially the upper right roller ear support, which was practically nonexistent.



The front focus knob was repaired shoddily using a crude, hand fabricated, large rectangle brass plate, which had the original left bearing support riveted to it. It appeared to be fabricated by an 8-year-old. Underneath the large brass plate revealed a sizable countersunk hole where the original rod bearing used to reside flush against the main body.

The internal mirror box, which is a separate component, also sustained a fair amount of damage. It was also sloppily repaired. The dual flanking mirror return springs were angled forward about 15 degrees from their original vertical posts. The new forward position required cutting into the SLR mirror return dampeners. The repair grafts were slathered with thick glossy black paint versus flat black.



As I reviewed the Press's broken bones spread out all over the table like a broken corpse, I concluded that a wood craftsman who has the knowledge, experience, and the correct tools would be the best resource to tackle these critical technical repairs.

Finding a luthier, a craftsperson who creates and/or works on wooden stringed instruments, like fine guitars and violins, became my mission. Unfortunately, every luthier I talked to from various parts of the U.S. were booked solid for at least six months to a year. The pandemic inspired many of the homebound to drag out their dusty instruments and get them repaired and/or restored. My quest appeared hopeless until a local luthier was kind enough to recommend that I inquire at a nearby wood craftsmen store where many of them hang out. That's when I found Dennis!

With the three Presses in tow, I introduced Dennis to the world of Graflex and to my GG's battered Press. Being a photographer himself, Dennis immediately became interested in a new challenge, since it was unlike any of the traditional work that he was doing. Dennis kept the Press for a few days to evaluate and develop a detailed plan on how he would transform my GG's Press back into a reliable working platform, so I could take over.

### The Game Plan:

- Fabricate an upper right rear roller support ear using mahogany.
- Fill left front countersunk bearing hole with a mahogany plug. Drill a center hole for the focusing rod and outer bearing support. This eliminates the large rectangle brass plate. (The original bearing was fortunately salvageable, since it was copper riveted to the plate.)
- Repair the main body's cracked upper rear main header panel.
- Fill all oversized screw holes, and redrill for the hardware. (Various size unorthodox screws had been used.)
- Repair the mirror box - Fabricate new mirror dampeners; Redrill new holes for the mirror return springs; Rebuild the front ground glass ledge; and fabricate the missing rear bottom panel. (Dennis confessed later that making a new front ledge for the mirror box was at a pucker factor of 8.5 out of 10, since it could have potentially destroyed the mirror box.)
- Replace the broken SLR mirror pivot axle - Machine, drill, and tap from a solid brass rod I purchased. (The original broke due to oversized screws.)
- Preserve the mahogany body using a hand-rubbed, polymerized linseed oil and beeswax finish. (This is a nondestructive reversible process that allows one to recover the Press later in Moroccan leather.)
- Reassemble all the Press's components.
- Make a new shutter.
- Replace or possibly make both top and rear ground glass screens using brighter borosilicate glass.
- Fabricate new lens boards for various lenses.

Dennis's key responsibilities are to execute numbers 1-6 above. My role is to complete all the remaining steps, including making a new shutter and aperture ribs.



Fabricating the new roller support ear.



Redo the bearing hole.



Repaired mirror box.

Dennis is close to completing his magic. The newly rebuilt Press body and mirror box will soon be ready for me to take over and finish its conservation into a working camera like when my Great Grandfather used it almost 112 years ago.

This journey has been challenging trying to find qualified, reliable resources, who stick to a reasonable timeframe. Yet, it has been pleasingly rewarding. Inheriting JF's Press over four years ago inspired me to build a darkroom/emulsion lab to formulate early 1880s silver gelatin emulsions. Soon I will be shooting handcrafted glass plates of various formats with my Great Grandfather's Press, along with several Graflex SLRs, Speeds, and a Crown Graphic, which I have acquired along the way. You, the readers, understand "our" Graflex obsession.

A few who have seen my GG's heavily damaged Press asked, "Why don't you restore the newer Press instead of your Great Grandfather's? It would be a lot easier and cost you less money and time." My response is simple. This Press has a soul. This is about my family's deep connection and responsibility to preserve it as a custodian. How many can claim this? ...The journey continues.



Ready for refinishing.



## FROM FRANKENSTEIN TO VIEW CAMERA WITH A HOMEMADE DSLR BACK

By Paul S. Lewis

I admit at the outset that I struggled with the value of this article for [Graflex Journal](#) readers for several reasons: I lack experience with some of the photo tools, there are nice commercial backs available, and I was not sure there was going to be a good return on my investment in time, to evaluate the utility a DSLR mounting back for my Graflex cameras would generate.

My concerns were: Is it possible to make a back? Will what I make safely hold a large DSLR? Will the whole rig be clumsy to use, and will it have any advantage over the modern tools? And finally, can I do more and/or possibly have more fun while employing my old Graflex cameras and lenses by building a back and mounting a DSLR? Ultimately, I could not resist the temptation. Here's the story, including the good and just okay, with a pleasant surprise or two.

I decided to attack this project with low cost, low risk and a short build time. That worked out reasonably well, since I happened to have all the materials, cameras and adapters on hand. My cost was zero, and time spent on the build was around three hours. More time on refinement, and a second build for another camera stayed in that budget. If I had to go out and find everything, I tend to believe, I could bring this in at around fifty dollars for wood, paint screws and the telescope adapters with enough left-over materials for a couple of improvements or do-overs.

The low risk Graflex is my "Frankenstein" Crown Graphic. It was missing parts, leather and was a donor for other cameras that needed parts. It is also cobbled together from other donors. But it had good bellows, a good focusing track, a solid body, and a working door. It was an ugly but working camera. The low risk DSLR is my Canon 20D.



The first build did turn out okay but was a bit overbuilt regarding the screws I used. Also, the turn-locks for the scope mount were a bit underbuilt and a bit clumsy. Testing showed that I had to shim the mounting hole, so the lip of the adapter fit snugly into the hole and did not drop "off plane" under the

load of the camera. I cut a cork gasket and glued it in place to get the edges matched up well enough to hold position and allow for some degree of rotation of the DSLR body. I later added stronger and better designed thumb turn-locks that held the camera body very nicely in place.

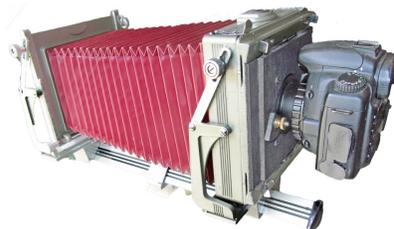
Frankenstein was a spring back camera. So, to mount the back securely, I used the original screws and built some aluminum hold downs. That turned out to be very secure. One concern is that some kind of unintended overload may do some damage to the small screws.



I mounted the back and tested it in the raw state. I found a sloppy camera interface as well as the expected long lens effect. I sensed I would be essentially building a telephoto rig, since the DSLR sensor is about one inch in size, while the light footprint on the focal plane is 4x5 -inches or roughly twenty square inches of available image. Another challenge was obtaining focus at infinity. I discovered that I needed at least a 135mm lens. Also, at infinity, the entire lens and carriage were inside the camera frame. That makes it difficult to manage the up, down and tilt.

I made some exposures and did a rough comparison to get some idea of the equivalent long lens. Just ballparking it, the parallel seemed to be roughly 300mm. The test images were quite sharp, though. So, I was impressed with the result, even though a similar image is easily duplicated with a 300mm zoom lens attached to the 20D.

Now, I was at the "why bother" phase. That is until I started playing with close focus. Then things started to get interesting. Close focus forced the lens out of the box and enabled better control of the camera's unique features. The test images seemed quite good, and I really like macro images. At this point, I decided to finish up the build, then try it on my old Graphic view camera.



The fit of the wooden back on the view camera was fine. All I had to do was a small modification to allow the Graflok to clamp on the back; easy. So, I played with that and easily managed some nice images that I found challenging to do with modern tools. (The grass flower and deep looks into Azalea blooms.) There is a lot of opportunity to do more. But a couple of hours of exploration with that rig showed that, while very capable, it was heavy, kind of tedious and not easy to move around. Still, a lot of great creative opportunities seem to be ahead for that setup.

Now, I realized that I had an old Wista 4x5 field camera just resting. I had virtually done nothing with it except get it running since it was a KEH "As Is" buy with the wood base cracked, and some thumb turn-locks were missing. It was a no-brainer purchase for me. But I

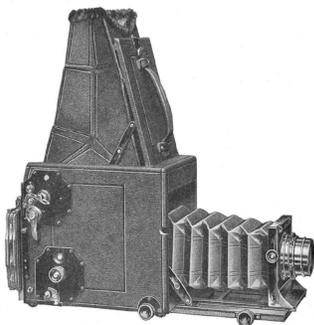


did no real work with it until now. As it turns out, the field camera is halfway between the view camera and the Frankenstein. So, I took what I learned from making the first back and did some nicer looking and smarter work for the Wista. Smaller screws instead of nuts and bolts, good thumb turn-locks and nice fit-up for the adapter mount. Plus, I was able to use the spring back to fit up the DSLR camera mount. I removed the ground glass, used the spring clamp holes for the retainers and screwed the spring back together from the back, so it would not move under the load of the 20D. All of that will allow easy reversal and back to very original condition, if I ever used film holders.

At this point, I am happy that I took on this project. The resulting back has been employed on two Graflex cameras and allowed me to do some creative exploration with the old tools and lenses. The second back for the Wista field camera will also be an easy build and will enable a lot of fun.

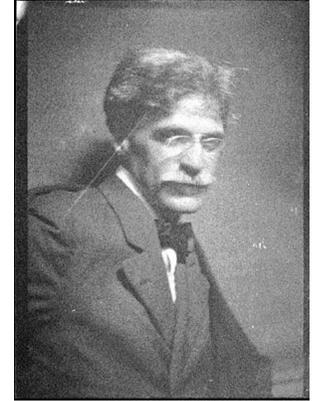
Here are some short final thoughts:

- I learned from my local pro shop that the view camera experts are using a high-grade commercial back to stitch images together.
- I believe the camera sensor moving closer to the actual film plane will cut down the critical focus at infinity and move the carrier out of the camera body on the Graflex. (Not tested.) The DSLR could be set deeper into the body. But that could make DSLR management harder.
- The best way to find the center on the back is to remove the aluminum frame and trace the 4x5 opening onto the wood. There are six screws on the frame. The lens center is slightly offset at the back to accommodate the film holder in the spring back.
- The Luan plywood is almost a dead match for good lock with the Graflok system.
- The thumb turn-locks are a bit in the way for easy dismount and attachment. The improved version is made of red oak.
- The ability to turn the camera while mounted is handy and will help with composition.
- Of the three cameras tested, the Wista seems to have the most practical latitude and mobility. The Frankenstein Crown is a close second. View camera seems to be for the truly dedicated.
- The back is easy enough to make, seems safe, and offers creative opportunities for your old gear.



THE REVOLVING BACK  
AUTO GRAFLEX

## FROM THE GEORGE EASTMAN MUSEUM COLLECTION



### RB Auto Graflex (owned by Alfred Stieglitz), ca. 1910

Folmer & Schwing Division of Eastman Kodak Company,  
Rochester, NY  
Gift of Georgia O'Keeffe

Artist Georgia O'Keeffe loaned several cameras that once belonged to photographer Alfred Stieglitz (1864 -1946) to the museum in 1956 and bequeathed them in 1986. Among those cameras was the Revolving Back (RB) Auto Graflex that Stieglitz used in the 1910s. The RB Auto Graflex was a handheld single-lens reflex camera for 4x5 -inch images, featuring a rubberized-cloth focal-plane shutter with shutter speeds from 1 to 1/1000 second. This camera is mounted with an 8¼ -inch f/5 Goerz Celor lens, which was designed for portraiture.

Museum identification placard.

Graflex cameras he used

Stieglitz A Memoir/Biography by Sue Davidson Lowe, pp 449-51  
APPENDIX IV B *New York and Lake George*

1892 Camera #2: A Folmer & Schwing, New York, 4x5-inch Graflex  
Lens: Goerz (Berlin & New York) Anastigmat Series III, f/6.8 (1<sup>5</sup>/<sub>8</sub> 35-inch equivalent focus)  
[This equipment used to take *Icy Night*, reported by AS to have been taken "in January 1898, 1a.m., full opening, 3-minute exposure."]

pre-1907

Camera #4: 5x7-inch Folmer & Schwing Auto-Graflex (as identified by AS in *CW* Number XVI, October 1906 advertisement)  
Camera #5: 3¼x4¼-inch Folmer & Schwing Auto Graflex #7: 4x5 inch Auto-Graflex  
Lens: 180mm Goerz Double Anastigmat [Camera #7, is also in the collection at George Eastman House.]

p. 100 "The new camera [Graflex] changed Alfred's photographic life, with it, he could walk and photograph at will throughout the city. ... he had already pushed his old 8x10 to its limits. In a heavy snowfall in February, he produced a negative that was a pioneering triumph; prints of Winter-Fifth Avenue and The Terminal soon circled the globe. He further extended the camera's reach with pictures at night, pictures in the rain, pictures at night in a blizzard, picture at night in a downpour. His achievements stirred excitement across two continents."

Goerz Celor lens. See [A History of the Photographic Lens](#), by Rudolph Kingslake, p.100 for discussion of this type of lens.

# GEORGE DUNBAR

As a photographer, I've always loved to browse old magazines, particularly those with fine photos or technical items. My first discovery on the Internet was an amazing archive containing every back-issue of *Life Magazine*. I spent many hours looking at the wonderful photography by the exceptional staff of photographers.

I soon realized that the advertising was just as interesting as the wonderful photos. Ads from the 1940s for new automobiles at amazing prices and those ancient ads for so many brands of cigarettes. Along the way, I spotted ads for Graflex and other camera brands.

It wasn't long before I began searching for photography magazines. *Popular Photography* is available online, as is *American Cinematographer* (beginning in 1922), both with plenty of advertising for Graflex. I soon discovered *The International Photographer*, dating to 1929.

As a boy, *Popular Mechanics* was one of my favourite magazines. Some interesting camera ads there, too.

Here are the links for those magazines:

LIFE  
[https://books.google.ca/books?id=-VYEAAAAMBAJ&dq=life+jan+1944&source=gbs\\_navlinks\\_s&hl=en](https://books.google.ca/books?id=-VYEAAAAMBAJ&dq=life+jan+1944&source=gbs_navlinks_s&hl=en)

Popular Photography  
[https://books.google.ca/books?id=QF0zAQAAAMAJ&rview=1&source=gbs\\_all\\_issues\\_r&cad=1](https://books.google.ca/books?id=QF0zAQAAAMAJ&rview=1&source=gbs_all_issues_r&cad=1)

American Cinematographer  
<https://archive.org/details/americancinematographer?&sort=-date&page=6>

The International Photographer  
<https://onlinebooks.library.upenn.edu/webbin/serial?id=intphotog>

Popular Mechanics  
<https://books.google.ca/books?id=5z8EAAAAMBAJ&printsec=frontcover#v=onepage&q&f=false>

ELECTRONICS MAGAZINE  
 1941

**NEW**  
**Stereo Graphic**  
 WITH EXCLUSIVE **Depthmaster AUTO-FOCUS**  
 Only 1 Dial to Set!

Get thrilling true-to-life color pictures easily and surely. The new Stereo Graphic is the simplest, precision stereo camera ever built—especially designed to enable you to take lifelike pictures in striking, three-dimensional color! There's only one dial to set. No focusing knob to adjust... yet you get the greatest depth of sharpness from foreground to infinity of any stereo camera! Exclusive Graflex-developed Depthmaster Auto-focus does it! Simply set the dial, frame your subject... and shoot!

The new Stereo Graphic is beautifully finished, airplane-light all metal, handsome gray covering; easy to handle; has coated and color corrected lenses. Shutter automatically cocks as you advance the film. See it at your dealer's.

**CAMERA ONLY \$66.50**  
 CAMERA, CASE AND FLASH \$76.50

**GRAFLEX** Price-Winning Cameras  
 GRAFLEX INC., ROCHESTER 8, N. Y.

LIFE MAGAZINE 1955

**Happy Memories...**

Never-to-be-forgotten days... yours forever through beautiful, lifelike pictures that you can obtain with a Pacemaker SPEED GRAPHIC or the Super D Graflex... happy memories that will never fade... honeymoon vacation... that summer at the beach... the countless moments that are worth so much, record them with...

**GRAFLEX PRIZE-WINNING CAMERAS**

For prize-winning pictures, see your Graflex dealer today! For free literature write Graflex, Inc., Room 17, Rochester, 8, N. Y.

SPEED GRAPHIC photo by Andre De Dienes

LIFE MAGAZINE 1948

**Have you tried focusing on the nose?**

Kitty seems bent on spotting a fly on the end of her nose. Actually, this is a remarkable example of what can be done by a fast-acting photographer with shutter set at 1/800th of a second. In this case he really did focus "on the nose"... for sharp, clear details. Your photos can be just as strikingly sharp. Simply use **ground glass focusing**, a feature of all cameras in the Graflex line!

**GRAFLEX** Price-Winning Cameras

GRAFLEX INC., Dept. 10, Rochester 8, N. Y.  
 Kindly forward your literature on:  
 Pacemaker GRAPHIC  Graflex Flash  
 Graflex Cameras  
 Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

LIFE MAGAZINE 1949

**ACTION! CAMERA!**

*Lens and Light Click perfectly—thanks to PHENOLITE and NATIONAL VULCANIZED FIBRE*

POP PHOTOGRAPH  
 1956

**NOW**  
 only **\$17.58** a month  
 BUYS A COMPLETE GRAPHIC OUTFIT

**GRAFLEX-MADE Pacemaker GRAPHIC and GRAFLITE**

Now your GRAFLEX dealer can sell you any new GRAFLEX-MADE camera or equipment on an Easy Payment Plan. On a Pacemaker Graphic and Graflite combination you can take up to 20 months to pay and you only need 10% down.

**USE YOUR PRESENT CAMERA AS ALL OR PART OF THE DOWN PAYMENT**  
 Most authorized Graflex dealers will be glad to appraise your present camera free of charge and will accept it as a trade-in. In many cases your "trade-in" will more than equal the cash down payment.

Convenient payments can be arranged to pay the balance. As an example: the 1st Crown Graphic outfit illustrated above, completely equipped with 135mm. Optar lens in a Graflex fully synchronized shutter; Graflex Rangefinder that accepts interchangeable lenses to match wide angle, normal and telephoto lenses; Graflex flash unit with 3-cell battery case and 5" reflector; battery case mounting bracket; and 20" shutter cord... is yours for only \$17.58 a month.

This is the time to step up to a Pacemaker Graphic! As the most versatile camera on the market it offers many advantages that will help you get consistently better pictures. Ask your dealer to demonstrate the Pacemaker Graphic or write for a descriptive folder on the camera and accessories: Dept. P-46, Graflex, Inc., Rochester 8, N. Y.

Prices include freight for other markets and are subject to change without notice. Prices are slightly higher in Canada.

**GRAFLEX** Price-Winning Cameras and Equipment  
 DEPT. P-46, GRAFLEX, INC., ROCHESTER 8, N. Y.  
 April, 1956

## Graflex Journal

*The Graflex Journal is dedicated to enriching the study of the Graflex company, its history, and products. It is published by and for hobbyists/users and is not a for-profit publication. Other photographic groups may reprint uncopyrighted material provided credit is given the Graflex Journal and the author. We would appreciate a copy of the reprint.*

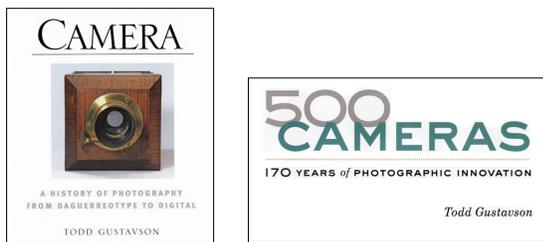
Masthead picture taken June 2021 by Marie Moen in Lomma, Sweden. Left to right, Jo Michael De Figueiredo and Vegar Moen. Picture taken with a 5x7 -inch Home Portrait Graflex camera and shows two of these cameras.

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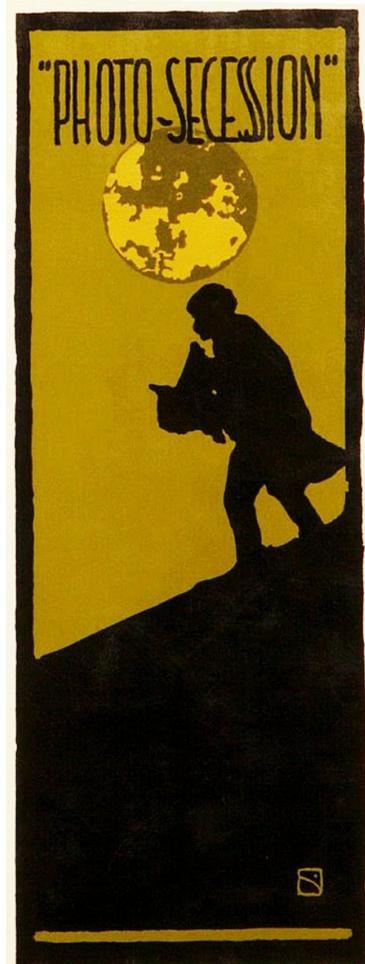
### BOOK REVIEW

Todd Gustavson, Curator of the Technology collection at the George Eastman Museum, has in print two impressive books devoted to cameras in their extensive collection.

Fortunately, for those interested in Graflex and Kodak, both companies donated their cameras, film and accessories to the museum. Todd has added significantly to the collection.

The earlier book, Camera, first published in 2009, presents the timeline of photography from Nipépce through the digital age, with 360 pages of pictures and text, better for setting out the more significant cameras in the history of cameras.

The later book, 500 Cameras, first published in 2011, approaches the collection "thematically and chronologically." Thus the "Reflex" section has Graflex cameras, but includes worthy competitors. This book also has an extensive list of camera names within its 472 pages, better for a more in-depth collection of cameras.



Graflex and Alfred Stieglitz shown on book cover of Photo-Seession, 1983