

# GRAFLEX Journal

SHARING INFORMATION ABOUT GRAFLEX AND THEIR CAMERAS

ISSUE 1 2022

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Author's c. 1950 Graflex Pacemaker 23 Speed Graphic.

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## LOVE AT FIRST SIGHT: THE PACEMAKER 23 SPEED GRAPHIC

By Wesley King

Anyone who's an avid collector of film cameras probably knows the feeling: There's a moment when you learn about a camera that you're not familiar with, and know you've just *got* to try it. Or, you get hooked on a brand, or perhaps a model family, and you simply must go deeper. In my case, these feelings happen on a regular basis.

Building a collection of over 130 film cameras is a journey that started unintentionally only a few years ago with a single camera purchase (a Pentax 645) and a single desire: After 15 years away from film and shooting

solely digital, I wanted to finally shoot a "real" medium format camera — something I never could afford, let alone experience, back in the day. That purchase cascaded into another medium format camera, and others still, and then into 35mm film cameras in all their various flavors, and eventually to large format — initially in the form of a Graflex Pacemaker 45 Crown Graphic, which rolled off the line in Rochester in 1953.

Getting to know more about the Graflex brand and history, in no small part through the pages of this very publication, I next ventured into the Graphic 35 rangefinder cameras. Having already cut my teeth with Prontor shutter servicing with some simple viewfinder cameras, taking on the Graphic 35 soon cascaded into the restoration and repair of more than half a dozen of them. Soon enough, I began to have visions of more Graflex fun.

It's not that a 2x3 Graphic hadn't been on my mind before; I'd admired a pair of them that sat on the shelf of my local brick-and-mortar camera shop long enough that their price tags faded and yellowed from apparent (and unfortunate) lack of interest. But it was Glass Key Camera in San Francisco that pushed me over the edge. In January 2022, they'd posted to Instagram the availability of a Century Graphic, which included several 2x3 cut sheet film holders and a roll film adapter for just \$200. As I was considering it, someone else beat me to the punch. But I reasoned that the lack of a rangefinder, tubular viewfinder and a sufficiently speedy leaf shutter were all reasons to have passed on it.

So, I went hunting, and National Camera Exchange in Minneapolis had an even better option on offer: the Pacemaker 23 Speed Graphic that is now mine. Manufactured early in 1950, it sports a Kalart rangefinder, tubular viewfinder, a better lens than on the Century I saw, a front shutter release, a 6x9 Graflex roll film back, and of course that desirable focal plane shutter — so the decision to buy it was a no-brainer. The only issue? I intuitively knew that this camera would need adjustment and calibration, and for that, I would need a proper ground glass and hood as well, which were not included. While Graphic 2x3 accessories seem to be a bit more elusive than 4x5, I did happen to score a near mint condition ground glass and hood via eBay to make my Speed Graphic complete.



## The challenges of vintage cameras

While my Pacemaker 23 Speed Graphic was in superb cosmetic condition, and its operating condition was generally good, there were still some issues to attend to, as there always are on a vintage camera. Surprisingly, the Graphex leaf shutter was crisp and operating properly; it's perhaps the first leaf shutter I've ever encountered in a classic camera purchase that didn't need a CLA, and I was nearly disappointed that I didn't have to disassemble it and give it some love on my workbench. I was also both surprised and relieved to find that the focal plane shutter was working nicely as well, with a curtain in great condition. So, both shutters worked, and both were within acceptable timing tolerances, an encouraging start.



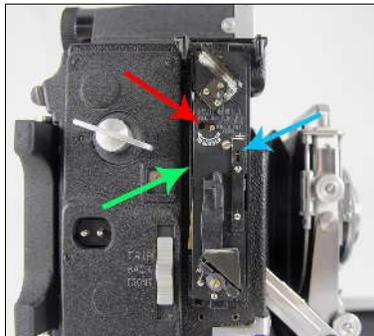
Left to right, Graphex shutter and 6x9 roll film back.

My vision for shooting this baby Graflex was to leave its 101mm Optar lens in its lens board as the camera's sole lens option, carry it around with its Graflex roll film back, and treat it like a fixed-lens 6x9 medium format camera — as if it were an oversized 6x9 folding rangefinder, perhaps. But for this vision to work, the onboard Kalart rangefinder would have to function properly, and unsurprisingly, it was well out of alignment.

Generally, adjusting rangefinders hasn't presented many challenges since I started working on vintage cameras, apart from deteriorated beam splitter mirrors, anyway. I'd adjusted the Kalart on my 4x5 Graphic, so how hard could it be? As it turns out, plenty hard.

Adjustment instructions for the Kalart are available in the form of a scanned owner's manual in the reference library provided online by Pacific Rim Camera in Oregon. They've taken great pains to do high quality scanning and posting in PDF format of a large number of manuals, advertisements, catalogs and printed vintage camera materials — a collection that I've found invaluable. Following the manual's directions allowed me to get my first Kalart calibrated in short order.

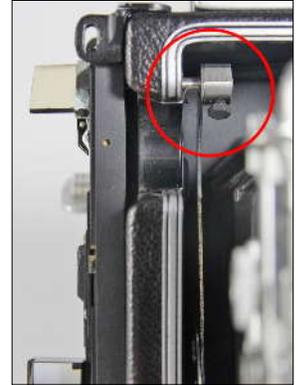
The typical adjustment protocol for the Kalart involves tweaking only two settings with the rangefinder's cover removed. You start by adjusting them at infinity, then doing it again at fifteen feet, and again at four feet from an alignment target, returning to infinity to check and/or re-tweak the alignment. It can take a few cycles to get it right, so while the process is tedious, it's not particularly difficult.



The Kalart rangefinder normally requires just two adjustments. The blue arrow points to the one; the red arrow shows the loosening location of the second. A small tab (not visible) pointed to by the green arrow is moved up and down to make the adjustment.

The Kalart on my baby Graflex, however, wasn't cooperative, and the problem was that the range of movement of the adjustments was inadequate to achieve alignment. Suggesting that something was more deeply out of kilter, I had to dig deeper.

Hours of tinkering over the course of two days later, a mispositioned rangefinder actuator arm in the body had been addressed; it had been catching against the bed brace, so its mounting point had to be adjusted. Additionally, the positioning of the lower mirror within the rangefinder had to be tweaked. In the end, the recommended starting positions of the two key adjustments for the rangefinder were quite close (a table in the Kalart manual shows these reference settings for each focal length of lens), requiring only the usual slight tweaks one would expect. The end result is a rangefinder that operates accurately from about two feet to infinity.



The actuator arm mounting point, circled, needed adjustment on this particular camera before the rangefinder would operate properly.

Everything else that the Pacemaker 23 Speed Graphic needed was completely expected: A full detail cleaning inside and out. All lens surfaces, as well as the glass in both the tubular viewfinder and rangefinder had to be cleaned. That required some careful disassembly on my workbench, a light touch on the parts, and reassembly. I'm a bit fastidious about cosmetic appearance with my cameras, so the body coverings were also touched-up with dye in various slightly worn spots, then appropriately polished. Even the missing white fill paint on the viewfinder parallax correction scale received a touch-up.

The result is a remarkably handsome camera that both cosmetically and operationally is at or very near how it was when it left the Rochester factory some 70+ years ago — a testament both to the build quality of the cameras themselves, and the care and love that this particular Pacemaker 23 Speed Graphic was given by its owners along the way.

## The 2x3 Graphic in a modern world

Anyone who owns and uses a Graphic of any age or flavor has surely become accustomed to the strange looks, amazement (or amusement) and unsolicited questions and comments they're likely to get from complete strangers in the process. But beyond making a statement when you carry and use one, how practical are they in today's photographic environment?

Before we get to the image-capturing, let's talk film. When I first saw a 2x3 Graphic, I was told that film was no longer made for them. Naive (and uninformed) at the time, I took that at face value, and it's the main reason I didn't think much about them along the way; I'm committed to having every camera in my collection usable — that there's film available to put in them, and that they're in working condition to shoot it. As a result, I had no place for a conversation piece, no matter how beautiful the camera.

I've since learned that the talk of obsolescence for 2x3 sheet film was premature, at least with respect to black-and-white films. (That is a nominal measurement; it's 2¼ x 3¼ inches, technically speaking.) As of early 2022,

Iford still produces both HP5 Plus (ISO 400) and FP4 Plus (ISO 125) in the size. Additionally, Adox manufactures it for their CHS 100 II (ISO 100) stock, and Freestyle sells Arista sheet film in the size as well (which is ostensibly rebadged Fomapan, and which oddly appears itself not to be sold in 2¼ x 3¼ sheets). There may be other stocks available in other regions as well.

One of the challenges of 2x3 sheet film is finding film holders. While 4x5 holders seem readily available from myriad sources, 2x3 holders have been challenging to source — at least in reasonably good condition. And once shot, the sheets must be processed; as with 4x5, my solution is a sheet film holder insert for Paterson processing tanks, supplied by 20<sup>th</sup> Century Camera, who also provides a nice range of other modern Graflex accessories, including a lovely hand grip for the Graphic cameras.

It's true that sheet film in the 2x3 Graphic offers a traditional large format shooting experience, in a slightly smaller package. (But to be honest, even with sheet film, the 2x3 Graphic has to be considered a medium format camera in my view.) With a ground glass and hood, along with a loupe and perhaps a focusing cloth, you can experience the meticulous, old-school process in all its glory. (Of course, you can also use a roll film back in the same manner, it just involves even more messing about as you swap components around.)



Two vintage Graflex roll film backs, both with knob advance. The “23” 6x9 back is shown open; the “22” 6x6 back is on the left.

For Graphics equipped with the rangefinder and viewfinder as I previously described, however, the simplest approach is just to leave a roll film back in-place and treat it like any other medium format camera. Shooting medium format (120) roll film at 6x9 is roughly the same image area as a 2¼ x 3¼ sheet, with substantially less hassle — not to mention the added option of shooting color negative or color reversal films as well. But here too, *finding* the roll film backs can be a slight challenge these days; the majority you'll unearth with a web search are for 4x5 cameras. Persistence and patience pay off in the long run, I've found.

Rumor has it that Mamiya RB67 film backs will fit the Graflok back on 2x3 Graphics, and indeed, they do fit, mostly. The problem — at least on my RB67 backs — is the dark slide, which has a thick, chunky grip on the end that prevents the back from locking down properly with the slide fully into place. (Perhaps other generations of RB67 backs have different dark slides than mine.)

Finally, if you intend to use your baby Graflex the same way I am, and your camera is equipped with the tubular viewfinder on top, you'll want the proper mask that matches your lens focal length, and the image dimen-

sions of the back you're using. This enables more accurate image frame composition with the camera. The owner's manual for your Graphic provides a table of the masks, and which one goes with each configuration of camera size, lens focal length and image dimensions of your roll film holder.

In my case, my Pacemaker 23 came with a 6x9 back and the correct #2 viewfinder mask to match. To get maximum use out of the camera, I also opted to purchase a same-vintage Graflex 6x6 back from an eBay seller, and separately, a #12 viewfinder mask to compose the square images properly.

Some comments online suggest that the older Graflex roll film backs with knob advance suffer from film flatness issues. Both of mine are exactly this type, and so far, I've seen absolutely no evidence of these issues with either one, leaving me to speculate about why my experience could be so different. With gear that's decades old, wear and tear and other factors can always play a part; your mileage, as they say, may vary.

### Using the camera

Once you have a clean, working camera and the necessary accessories you need or want, it's time to get busy. Shooting my first roll of film, my objective was to exercise the camera in full, including using the Graphex leaf (“front”) shutter, as well as the focal plane (“rear”) shutter. The Graphics are not chock full of fail-safes; they are serious tools for serious photographers, and the onus is on you, the photographer, to get things right. I was reminded of this during my inaugural roll.

To use the focal plane shutter, the leaf shutter must be open. To use the leaf shutter, the focal plane shutter must be open. Normally, you'll likely use one or the other. But if you're switching back and forth as I did, it's an extra step to be mindful of. If you get it wrong, you shoot blanks — as I did. (Twice.) Additionally, the dark slide has no interlock, so shooting blanks or inadvertently ruining a frame is an easy mistake, too. Some advice: Read the manual in full, especially if you're new to the Graphics, and use a checklist if you need to.

Despite the blanks, the shots I did get looked, in a word, incredible. Both shutters, as expected after testing, provided accurate and perfect exposures. My attempts at shallow depth of field worked out quite well, with silky bokeh. And the Optar lens provided nice sharpness across the field. Many more rolls and sheets of film are surely to come, along with a great deal more experimentation to understand the limits of the Optar, and the camera itself. As someone who loves close-up work, I was particularly excited to play with close focus. With bellows fully extended, my baby Graflex can focus as close as six inch-



“Awaiting Riders,” taken by the author at a local park the day after completing rangefinder adjustments. Shot on Fomapan 100 Classic with the 6x9 roll film back. The original shows smooth bokeh, with amazing detail and sharpness on the subject.

es from the subject, which provides myriad photographic opportunities not possible out-of-the-box with typical vintage 6x9 shooters (such as 6x9 folders). And with the rangefinder providing coverage up to two feet, I won't even have to break out the ground glass that often.



"Graflex, by Graflex," a photo of the author's c. 1953 Pacemaker 45 Crown Graphic, taken with the Pacemaker 23 in his studio. Shot on Fomapan 100 Classic with the 6x6 roll film back. The original hi-res image reveals a stunning level of detail.



*Originally published in the Rochester Democrat and Chronicle in 1995.*

## CROWN OF AMERICAN CAMERAS

By Mike Roskin

"Pile of Film," a photo taken with the author's Pacemaker 23 in his studio. Shot on Fomapan 100 Classic with the 6x6 roll film back. The original hi-res image shows incredible sharpness with the Optar lens.



### Conclusions

One of the things I enjoy the most about midcentury film cameras — including the Graphics— is that they don't hold my hand. There is no onboard exposure meter. There's nothing to prevent you from removing a dark slide at the wrong moment — or forgetting to do it at the right moment. There's no viewfinder with a reflex mirror to facilitate focusing or composition through the lens. And all of that, taken together, means that any Graphic camera is going to provide an experience that's not to every modern film photographer's liking.

But for those of us who appreciate the technical aspects of photography as much as the artistic, the Graflex Graphic cameras are about the purest sort of experience you can get — a fact not likely lost on you if you're reading this newsletter. But moreover, the 2x3 Graphic provides that experience in a compact, lighter-weight form that's a joy to use. About my only complaint is holding the camera; the provided leather strap is even less comfortable (and more awkward) to use than on my Pacemaker 45.

In any case, while I'm sure that Century Graphic I missed out on is providing someone with an amazing experience, I'm pleased that I ended up with my 23 Speed Graphic. I can enjoy the full-on sheet film experience when I want it, and the convenience of roll film when I don't. And the close focus capabilities, choice of image formats for roll film, choice of shutter types, onboard rangefinder and viewfinder, and the attention-getting vintage look combine to offer a thoroughly enjoyable experience that's unlike any other camera in my collection — proving that this decidedly old-school camera still has a place in this modern photographer's arsenal.

Resources mentioned in the article:  
Pacific Rim Camera, [www.pacificrimcamera.com](http://www.pacificrimcamera.com)  
Glass Key Photo, [www.glasskeyphoto.com](http://www.glasskeyphoto.com)  
National Camera Exchange, [www.natcam.com](http://www.natcam.com)  
20<sup>th</sup> Century Camera, [www.20thcenturycamera.com](http://www.20thcenturycamera.com)

Collectible? Maybe. Classic? Definitely. The Crown Graphic 4x5, an instrument evolved over a century, brought American camera design to a logical high point. Then both it and American professional-level camera design died. The Crown shows both a highly evolved design and hardening of the creative arteries.

The wood-bodied folding plate or cut-film camera had been around since the second half of the nineteenth century. The Graphic stirred to life with the original 1902 Graflex camera of Folmer & Schwing of New York City. This giant-sized single-lens reflex had a spring-wound, cloth focal-plane shutter that tripped just as the mirror flipped up. Graflexes, as big as 5x7, were widely adopted by professionals early in this century.

Folmer & Schwing moved to Rochester in 1905 to become a division of Eastman Kodak and in 1912 put the same focal-plane (or "back") shutter on a folding camera and called it a Speed Graphic. By 1926 the company was independent again (but remained in Rochester), and by World War II, the Speed had taken over most of the U.S. news photography market. Rugged, dependable, and even repairable in the field, news photogs bashed each other out of the way with their Speeds to get the right shot. Graflexes had rather long lenses, to clear the mirror on its upward rotation, but news photogs discovered the utility of a wider-angle lens, so they could elbow their way to the front of the pack. Accordingly, the standard focal length on the Speed shrank from 152mm (about the diagonal of a 4x5 sheet minus the margins concealed by the film holder) or longer down to a 127mm Kodak Ektar f4.7 or 135mm Wollensak Raptar (also known as Graflex Optar) or Schneider Xenar from Germany. This gave the Speed a moderately wide angle of field, the newsman's favorite.

You focused the Speed either by ground glass or Kalart (or Meyer) rangefinder, mounted on the right-hand side. To get adequate depth of field, photographers liked to stop well down. In those days of Super XX, ASA 100, they achieved f11 and f16 by firing huge, household-size flashbulbs, synchronized via a solenoid mounted on the lens board that tripped the shutter.

The Speed went through several model changes, each slightly evolved from the one before but overall little changed, still a leather-clad, folding mahogany box that came in 2¼x3¼, 3¼x4¼, 4x5 and 5x7 sizes. In 1940 came the Anniversary Speed Graphic, the World War II standard, and in 1947 the Pacemaker, the last of the (wood-bodied) Speeds.

In the 1950s, I refined my photographic abilities in high school with a 4x5 Anniversary Speed and later took sports and publicity photos at UCLA with a 4x5 Pacemaker. For learning, there is still nothing quite like sending a young photographer out with one holder and the instructions: "Here, kid, you've got two shots, just in case you need an extra." You soon learned to go through a mental checklist of the many things that could be wrongly set (back shutter open?), to compose carefully, and above all to pull the dark slide. All of this was training in meticulousness, something young people do not get today—anywhere. Accordingly, I am sentimentally attached to the old Graphics and still recommend them for teaching purposes.

With the Pacemaker in 1947, the firm finally noticed that many photogs never or rarely used the back shutter. For some \$40 less, they offered the new Crown Graphic, exactly like the Speed but minus the bulk and weight of the back shutter. It also made operation simpler, as you didn't have to remember to keep the back shutter open when you were using the front shutter and vice-versa.

In 1955, with the Speeds and Crowns already sporting Ektalite field lenses for much brighter ground-glass focusing, Graflex added a better, top-mounted rangefinder to replace the Kalart. This new RF automatically corrected parallax in the tubular viewfinder. This was just about it, the end of the evolutionary line.

Rapidly losing its market among professionals to Rolleiflex, in 1958 Graflex tried another 4x5, the all-metal Super Graphic with a built-in RF and no back shutter; but it won few professional adherents.

The camera you see here is near the end of the Graphic line. The Speed was discontinued in 1968; the Crown limped on until 1973, and then only in 4x5. Starting in 1958 with the designation "Special" on the top of the lensboard, the Crown was routinely supplied with Schneider Xenar lenses (because they were cheaper), first in a Compur 1/500-second, then in a Japanese-made Copal. The Xenar, as Rollei fans might tell you, can be a fine lens. I picked up my Crown from an ad in the local paper, nearly mint, with the 135mm Xenar f4.7 and Copal. Literature in the box suggested it was produced in 1970.

How does it work? Fine! Some obvious functions—slow shutter speeds and body shutter release—suffered from congealed lubricants after decades of nonuse. Simply using the shutter solved that problem. And shutter trip is vastly softer via your right forefinger on the shutter's release up front. The rangefinder did not quite match the ground glass, but adjustment was easy: a small bracket on the left focusing rail governs how far the cable (from the top rangefinder) extends. Loosen one small screw on the bracket, and nudge it back and forward until the superimposed RF images merge where the ground glass says they should.

I also removed the old standard flash bracket from the right side, as few use these gigantic flashes any more. In its place, I devised a simple right-angled aluminum strip to hold a modern shoe-mounted electronic flash and attached it to the top hole where the old bracket had been. With 400 ASA film, a small flash such as a Vivitar 283 is generally adequate.

Unlike 2¼x3¼ and 3¼x4¼, 4x5 sheet film is still available, although depending on your location you might have to mail-order it. Cost per shot, less than half a

dollar, is not bad. Instead of having to shoot a whole roll, you can develop just one or two sheets, saving both time and film. Tray development in total darkness in D-76 is easy, and because agitation is better, yields full-toned, sparkling negatives. I also found that an old Beseler color drum processor, sitting around unused for years, develops four 4x5 cut films in daylight (once it's loaded) using very little developer.

Now, results. As one might expect, among the best obtainable. Of course, a 4x5 needs only about a 3X enlargement to make an 11x14. I consider the Crown—available with lens for \$300—essentially the equal of current-production, very expensive field cameras. It even has moderate front movements for architectural photography. Theoretically, a modern Schneider, Rodenstock, or Nikkor might have an edge on the four-element Xenar, but I'm not sure this would be detectable in an 11x14 enlargement. And you can easily fit a newer lens on the Crown, although I don't think you can get (or have made) matching RF cams any more, so you are limited to ground glass focusing.

Did Graflex have to die? Was the firm so successful with one type of camera, the Speed Graphic, that it became incapable of innovation? By the 1950s, Graflex was casting about for other types of cameras to meet the rapidly growing trend to smaller and lighter. It did purchase and produce the Ciroflex TLR as the Graflex 22, but it did not change or improve it except for a fresnel field lens. If Graflex had been serious, it would have developed the Ciroflex into an interchangeable-lens TLR (like a Mamiya C3) or even an SLR. Graflex also imported some unimpressive German and Japanese 35mm RF cameras, but without interchangeable lenses no professionals and not many amateurs were interested.

Instead, in 1965 Graflex brought out a smaller (6x7cm) press camera, the modular Graflex xl which had no bellows. You could change backs and lenses, but the plastic focusing cams and lens cylinders quickly wore into inaccuracy, and the plastic rollfilm backs (in my limited experience) didn't keep the 120-film flat. Although the xl was big, heavy, and expensive, some wedding photographers still use and like them. If the U.S. Armed Forces had not been required to purchase American, the xl would likely not have remained in production as long as it did.

The used Crowns sell at about the same price as similarly equipped Speeds, as many people do not want the back shutter, which has but one utility, to use shutterless lenses. A Graflarger back on the camera turns it into an inexpensive if not very bright coldlight enlarger. Disadvantage: taking lenses such as the Xenar were never intended for flat-field work, so you get noticeable loss of sharpness toward the edges. Solution: either get a 4x5 enlarger or put an enlarging lens on a Crown lensboard.

Graflex, like most human institutions, got set in its ways and could not change. In 1968 it was purchased by Singer of sewing-machine fame (interesting parallel: two great U.S. firms that could not innovate to keep up with competition) and in 1973 ceased all camera production. The Crown Graphic is both a high point in the history of the U.S. photo industry and a highly usable camera. Just having one takes you back to your early years in photography and makes you spiritually young again! I still feel deep inside, when looking at young photographers and their click-whir machines, that if you haven't cut your teeth on a Graphic, you're only a pretend photographer.

*Political scientist Mike Roskin, a former professor at Lycoming College, Williamsport, PA, has been an avid amateur photographer for over four decades.*

Ed: gene LaFord is an artist/photographer who lives and works in Tucson, AZ. He holds an MFA in Sculpture from Arizona State University (BFA from the University of Massachusetts). Gene was one of eleven artists to form ZONE Art Center in Springfield, an artist run alternative art center dedicated to presenting contemporary art in all media. His approach to landscape photography has always been influenced by his study of sculpture and drawing, concentrating on the three-dimensional, sculptural forms in nature, and its linear compositions.

Now residing in Tucson, gene has set his camera's gaze on the local landscape with its fascinating rock formations and interesting flora. Gene uses different camera formats to obtain his images: a variety of medium formats (6x6, 6x7, 6x9); and a selection of large format gear (4x5, 5x7, 8x10). For his choice of film, gene prefers Ilford FP4+ and has settled on Ilford's Multigrade Warmtone papers for his prints.



**MAKING A TINTYPE\***

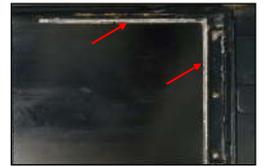
By gene LaForge  
(gene.valleyphoto@gmail.com)

In the past couple of years, I have been on a journey of making wet plate collodion (tintype) photographs of my still life work. I find this historic process well suited for my imagery, the detail it renders, the tone of the plates, and the intimacy of viewing small images. And though it can be a frustrating and unpredictable process, it is quite a lot of fun to use for my photography.

Even though there are several cameras at my disposal, I sometimes use my 4x5" Crown Graphic to photograph in the wet plate process. The choice of the Crown over my other cameras depends on lens choice, subject proximity, and how much light I can blast at the subject. A wet plate is about ISO 0.5, so it needs a lot of light.

The lenses at my disposal are: Rodenstock Ysarex 135mm f4.5; Kodak Ektar 152mm f4.5; and a Calumet Caltar II (Rodenstock) 90mm f6.8. The Ysarex and the Ektar with their max f-stop of f4.5 are ideal for wet plate work. The Caltar 90mm f6.8 will need at least two pops of a bank of strobes to get enough light for a good exposure. The Ysarex gives me a better max f-stop over my Rodenstock 150mm f5.6, and a slightly wider field of view (which is useful in tighter shooting situations) than that lens and the Ektar. With the Caltar 90mm, I get a better depth of field with very close set-ups. And with a bank of strobes, there is plenty of light with multiple pops, since still lifes tend not to move.

To hold the wet plate, I use blackened aluminum from Main Trophy in Chicago. I have adapted a Graphic Film Pack holder to hold the 4x5" plate. Plastic cleats were glued in both sides and ends to hold the plate in position. There are people making dedicated 4x5" holders, but they are quite expensive.

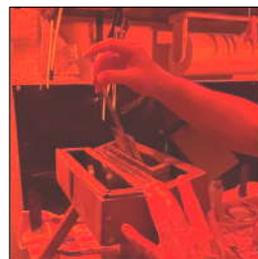


The images of the shelves and stove, a series called Domesticities, were taken with the Crown because of spatial limitations. My kitchen is quite narrow, and for the shelves I had light stands all over the place with little room to maneuver, so the Crown and the

135mm Ysarex were a good combination. Taking the photo... Here I am using a Kodak Ektar 152mm f4.5 for the fast aperture. Normally, I like to use the 90mm f6.8 for its better close-up depth of field.



Left to right. Pouring the collodion onto a plate of black Trophy aluminum. Draining excess collodion off the plate. The excess collodion is usable for the next plate. Putting the collodion-coated plate into a tank of silver nitrate to sensitize it. This can be done in normal room light.



Taking the sensitized plate out of the silver nitrate tank... this has to be done with the room lights off and the red lights on. Putting the "Wet Plate" into an adapted 4x5" Graphic Film Holder. This is done under the red lights.



Taking the photo... I am using my Crown Graphic with a 90mm f6.8 lens, because I am photographing close up and need the extra depth of field the 90mm affords. And yes, the plate is still wet.



Developing the exposed plate, still under red lights. It takes about 3/4 of a fluid ounce to develop the plate for about 18 - 20 seconds. After developing, the plate goes immediately into a water-stop bath. At this point the exposed plate is no longer light sensitive... room lights can come back on. From the water-stop bath, the plate goes into the fix for roughly four minutes. I use regular fix, the same for film or paper. The fix clears the image. Finally, after the fix, the plate goes into a series of water baths to remove the fix from the collodion emulsion.

After the plate is dried, it can be varnished for real permanence.

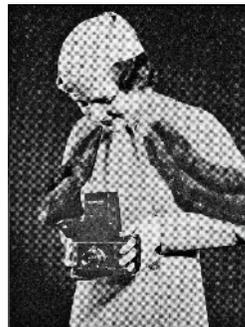
Photos by Denis Gilbert .

Besides wet plate use, I use my Crown Graphic as a field camera for 4x5" landscape photography.

\*A tintype, also known as a melainotype or ferrotype, is a photograph made by creating a direct positive on a thin sheet of metal coated with a dark lacquer or enamel and used as the support for the photographic emulsion. Tintypes enjoyed their widest use during the 1860s and 1870s, but lesser use of the medium persisted into the early 20th century. It has been revived as a novelty and fine art form in the 21st.

Tintype portraits were at first usually made in a formal photographic studio, like daguerreotypes and other early types of photographs, but later they were most commonly made by photographers working in booths or the open air at fairs and carnivals, as well as by itinerant sidewalk photographers. Because the lacquered iron support (there is no actual tin used) was resilient and did not need drying, a tintype could be developed and fixed and handed to the customer only a few minutes after the picture had been taken.

<https://en.wikipedia.org/wiki/Tintype>



1906 Auto Graflex and 1933 National Graflex.



### ODD DUCK

George Eastman Museum

Todd Gustavson (of the George Eastman Museum) sent the Journal pictures of a prototype camera that had been stored with the examples of the National Graflex, although it visually was much closer to a smaller 1A Graflex. It was given to the museum by Graflex and had the inventory number 8409-34, which says "2 1/4 x 3 1/4, Graflex like 1-A used 120 roll film."

Here is the prototype in comparison to production cameras.

	Graflex 1A	Prototype	National Graflex
Image size	2 1/2 x 4 1/4"	2 1/4 x 3 1/4"	2 1/4 x 2 1/2"
Film type	116 roll film	"120 roll film"	120 roll film
Camera width	9 5/8"	8 1/8"	5 3/8"
Inventory number		8409-34	
Life span	1908-1925		1933-1941

Size comparison of prototype and later model 1A.



National Graflex

From the degree of detail on the prototype, it appears there was serious consideration of just downsizing the 1A.

Lacking primary source information, it is not possible to know why Graflex did not have a roll-film-style camera between 1925 and 1933. One possibility is the worldwide Depression, and the substantial reduction of employees at Graflex.

Also, Todd Gustavson feels (based on pure speculation and no primary documentation) that the reason the camera didn't see the light of day is also tied up in the consent decree mess of the Folmer Graflex-forced separation from Eastman Kodak Company. I'm sure funding for new products was tight, so it may have been put on hold for that reason.

## Graflex Journal

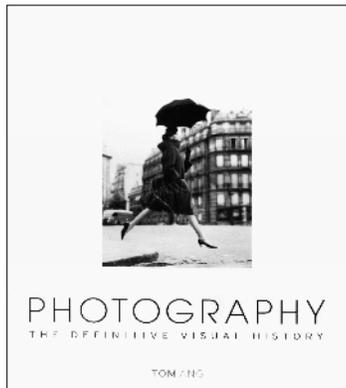
*The Graflex Journal is dedicated to enriching the study of the Graflex company, its history, and products. It is published by and for hobbyists/users and is not a for-profit publication. Other photographic groups may reprint uncopyrighted material provided credit is given the Graflex Journal and the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

Masthead Picture "TINY FISH 'SIT' FOR ODD PORTRAITS" Popular Science, July 1937. Revolving Back Auto Graflex.



Courtesy Jim Chasse <https://www.loc.gov/resource/ppmsc.027771>

1913 Native Americans with Kodak camera and Graflex tripods.



Photography, The Definitive Visual History by Tom Ang. 480 pages, excellent coverage of the earliest pioneers, as well as the greatest photographers from the beginnings to the digital age. This is for anyone with a huge appetite for photographic knowledge.

It has bios of some Canadians: Roloff Beny, Edward Burtynsky, George Hunter, Yousuf Karsh, Freeman Patterson and Jeff Wall.

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