# MINOX MEMO

The Journal Of The Minox Historical Society

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# WALTER ZAPP

## 1905 – 2003

# Minox GmbH Press Releases

**The MINOX was his life.**

Walter Zapp, inventor of the legendary spy camera is dead. The German Balt from Riga/Latvia died on July 17, 2003 aged 97 in Binningen/Basle, his home in Switzerland. Together with his family the management and staff at MINOX GmbH mourn a person whose ingenious ideas and visions never ceased.

Right from a child's age the autodidact, with his photographic memory, lived for one great idea: the miniaturisation of the photo camera.

The German Balt, who was born in Riga, Latvia in 1905, created an entirely new development in 1936. A camera so small that it disappears in your hand when closed to a fist. In Riga, the capital of Latvia, he was able to convince a company not well versed in the trade with his incredibly tiny precision camera. In 1938, a time when even 35 mm cameras, such as the Leica, were still not being taken really seriously by experts, VEF, the largest electrical appliance company in the country, launched what was known as the Riga MINOX. The concept worked. However the world success of this small masterpiece was quickly brought to a standstill through the Second World War. To avoid being taken by the Russian occupying power, Zapp fled to Germany.

In Berlin he worked on the development of the first scanning electron microscope. After the collapse of the Third Reich a new opportunity opened up for MINOX in Germany. With the help of the American victorious power as well as his old friend and longstanding partner, Richard Jürgens, Zapp founded the MINOX GmbH, Wetzlar. Funding for the series production as well as a new company domicile in Heuchelheim, near Giessen was acquired through the financial participation of a cigarette manufacturer. In 1948 the first MINOX Made in Germany was already running from the production line and went on to reap success all over the world as a novelty export item.

Soon, however, Zapp was forced to leave the company due to an irreconcilable disagreement in opinion. The head developer and designer was only able to watch the worldwide success of his invention from the background. The MINOX had also advanced to become a very much sought after tool in the Cold War and was the little favourite of spies on both sides of the iron curtain.

It was not until the beginning of the Nineties, after the major company crisis at MINOX, that a young management recalled the old inventor and founder of the company. Trips were made to visit Walter Zapp in Switzerland, where he had been living for decades, and an offer was made to him that he did not refuse. Aged 90, Walter Zapp commenced work again as a development engineer at MINOX, after 40 years. The ingenious mind pursued its goals consistently, right up to the end: "If I succeed with what I have in mind, then hopefully it will be the miniature camera of the 21st century. Even if I no longer experience it myself. It's enough if it is successful."

**Die MINOX war sein Leben.**

Walter Zapp, der Erfinder der legendären Spionage-Kamera, ist tot. Der aus Riga/Lettland stammende Deutsch-Balte verstarb am 17.07.2003 im Alter von 97 Jahren in Binningen/Basel, seinem Schweizer Domizil. Mit seiner Familie trauert die Geschäftsführung und die Belegschaft der MINOX GmbH um einen Menschen, der seine genialen Ideen und Visionen seit seines Lebens niemals aufgab.

Von Kindesbeinen an hat der Autodidakt mit dem fotografischen Gedächtnis nur für eine große Idee gelebt: Die Miniaturisierung der Foto-Kamera.

Dem 1905 in Riga, Lettland geborenen Deutsch-Balten gelingt 1936 eine völlige Neuentwicklung. Eine Kamera so klein, dass sie in der geschlossenen Faust verschwindet. Ausgerechnet ein branchenfremdes Unternehmen in Riga, der Hauptstadt Lettlands, kann er von seiner unglaublich winzigen Präzisionskamera überzeugen. 1938, zu einer Zeit da selbst Kleinbildkameras wie die Leica von den Fachleuten noch nicht ganz ernst genommen werden, bringt VEF, das größte Elektrogerätewerk des Landes, die sogenannte Riga MINOX auf den Markt. Das Konzept geht auf. Doch dem Welterfolg des kleinen Wunderwerks ist durch den 2. Weltkrieg ein schnelles Ende beschieden. Um der drohenden Verschleppung durch die russischen Besatzer zu entgehen, flieht Zapp nach Deutschland.

In Berlin arbeitet er an der Entwicklung des ersten Elektronenraster-Mikroskops. Nach dem Zusammenbruch des Dritten Reiches tut sich in Deutschland auch für die MINOX eine neue Chance auf. Mit Hilfe der amerikanischen Siegermacht sowie seines alten Freundes und langjährigen Partners Richard Jürgens gründet Zapp die MINOX GmbH, Wetzlar. Geld für die Serienfertigung sowie einen neuen Firmensitz in Heuchelheim bei Gießen bringt die Beteiligung eines Zigarrenfabrikanten. Bereits 1948 läuft die erste MINOX Made in Germany vom Band und als Exportschlager Hessens rund um die Welt.
Bald jedoch zwingen Zapp unüberbrückbare Differenzen mit dem Mehrheitseigner das Unternehmen zu verlassen. Der Chef-Entwickler und -Konstrukteur kann den weltweiten Erfolg seiner Erfindung nur noch aus der Ferne beobachten. Die MINOX ist längst auch zum heißbegehrten Werkzeug des kalten Krieges avanciert, der kleine Liebling der Spione diesseits und jenseits des eisernen Vorhangs.

Erst zu Beginn der 90er Jahre, nach Zeiten der größten MINOX-Firmenkrise, besinnt sich ein junges Management auf den alten Erfinder und Firmengründer. Man besucht Zapp in der Schweiz, wo er seit Jahrzehnten lebt und macht ihm ein Angebot, das er nicht abschlägt. 90jährig nimmt Walter Zapp als Entwicklungsingenieur nach über 40 Jahren die Arbeit bei MINOX wieder auf. Konsequent lebt der geniale Geist seinen großen Traum bis zum Schluss: "Sollte mir gelingen, was ich mir vorstelle, dann hoffe ich, wird es die Kleinstbildkamera des 21. Jahrhunderts. Auch wenn ich es nicht mehr erlebe. Wenn es gelingt, genügt es."

MHS

# In Tribute to Walter Zapp

Peter D. Zimmerman
President

On July seventeenth the Minox community lost its founder and patriarch, Dr. h.c. Walter Zapp, who slipped away from us at age 97. Zapp's presence on the Minox scene was one we sometimes took for granted; he had always been there, and he always would be. But we lost sight of the fact that he belonged to the era of the pioneers of 35mm photography. He was a bit younger than Max Berek and Oscar Barnack who gave the world the Elmar lens and Leica camera, respectively, and perhaps a bit older than Walter Seibert, the genius who designed the lenses for the post-war Minox subminiatures. The other pioneers had all left the scene while Zapp continued to innovate and to provide technical advice to the company he founded.

Dr. Zapp (the degree is an honorary one from the Latvian Business Academy in Riga, hence the abbreviation h.c. for honoris causa) was a self-taught engineer and an inventor whose talents ranged widely. From 1975 until his death he was granted nine U.S. patents for devices as diverse as the T-8 telescope, an innovative computer keyboard mechanism, a fine-tuning peg for a violin which can be adjusted with the left hand while the violinist is playing the instrument, a child-proof medicine bottle closure, and a resealable rip-top cap for beer bottles (which are specifically named in the patent). This is in addition to his many pre-1975 patents on the Minox camera and its accessories.

His relationship with Minox GmbH was at times tumultuous. He left the company in 1950 in a dispute over his authority as chief engineer and primary designer. When I first visited the Minox factory in Heuchelheim in summer, 1970 I was told a little of the

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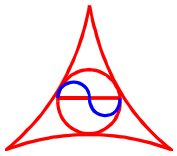
story; Hubert Heckmann tells a bit more. Nevertheless, when Minox reorganized after Leica bought the assets of the original company, the dynamic young leadership of the new Minox was able to interest Zapp in a return to work as consultant and designer. In his last years he worked on the design of a Minox for the 21st century, as he says in the biographical video included with every MHS special edition EC camera sold.

Minox fans argue endlessly about which camera model was closest to Zapp's original conception. He himself would probably say the IIIs because it offered everything necessary to the skilled photographer. From the standpoint of symmetry and industrial beauty, I have always preferred the Minox B, because a meter is necessary for taking good color pictures (a necessity after about 1970) and the BL because of its superb meter. But why Minox gave up the green filter will always be a mystery. As a working color photo tool, there's no question: the LX's exposure system is superior to anything else Minox has built, but it is too streamlined for many fans.

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Share my love for Minox submini cameras. Visit my webpage, read snippets of history from the world of Minox, read up on the history and characteristics of the various models, learn what cameras and accessories might be the best for your interest, and review cameras and related items for sale.

This is my hobby, not my livelihood, so expect to be treated differently than those who must make a profit on dealing in Minoxes. I buy and sell Minox items, highest prices paid for items in excellent condition. Nearly all cameras for sale have been Cleaned, Lubricated and Adjusted (CLA) by a trained and experienced serviceman. Everything guaranteed, trades accepted.

Transactions worldwide by an experienced and reputable collector. Numerous references from my Minox friends can be reviewed on the webpage.

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It is a tribute to Walter Zapp's original conception that neither he nor anybody else ever came up with a better, smaller, sharper subminiature camera that could be mass produced and used by an ordinary photographer than the Minox A. Optically it was optimum; ergonomically it is just about perfect. And it just slips into a pocket where it is barely noticeable. Indeed, the telescope-action of the Minox was imitated by many makers in other years, but never with the same satisfying look and feel. He never topped his original design, but nobody else even came close.

Almost a million Minox 8x11 format cameras have been sold over the years. Each is true to the inventor's idea of a camera that is a personal accessory intended to record the events of our lives simply, unobtrusively, and beautifully. The extended family of Minox owners and fans joins Walter Zapp's own family in mourning his passing. MHS

# The Significance of the Minox Camera

John Watson
Vice President

It is a part of human nature to take note of "the greatest", "the most", and "the first". Unfortunately, as we note these, we do not often have all the facts at hand. This is most probably the reason why the Minox camera, and by extension its inventor Walter Zapp, are not lauded by the world with such inventions as the transistor, nuclear fission, and penicillin.

In many ways it can be well argued that the Minox camera was one of the most influential and important inventions of the 20th century.

When one takes a moment to sit and reflect, the power of this becomes quite evident. The Minox camera as a tool of The State, has prevented and caused more conflicts, raised and felled more governments, prevented and caused more transfers of vital technologies, and been behind the scenes of almost every major pivot point in international history since its invention in 1937 even through today.

The power of this little tool is first noted anecdotally by the purchaser of the first Minox sold outside of Riga. This French diplomat noted "its usefulness for office

purposes" (*Moses, Spycamera p14*). From that moment on, governments clamored for specimens to add to their arsenal. Orders for dozens of cameras at a time can be found from most of the governments that were real players then. Governments even went so far as to purchase cameras from civilians during World War II to fulfill the nation's insatiable need for Minox cameras.

Why wouldn't it become the preferred medium to exchange information? While other cameras have been made about the size of a Minox, none have matched its durability, features, or flexibility. The same camera that is about the size of a lighter can take a picture of an enemy base from the top of a ridge, then snap a covert photo of a diplomat in that facility at close range, and then take photos of the documents in that diplomat's file drawer later that evening. All of this vital information is then contained in a cylinder about a half an inch in diameter and about as high. Not only that, but the ability to put 50 pictures on a single roll pretty much leaves all the other competition in the dust. Only now are electronic means of storage beginning to compete with the density, durability, usability and portability of this information storage media.

Once the capabilities of the Minox were known, they became standard tools of the trade. As early as World War II, sensitive images were crossing international lines to aid both sides in assessing their enemy's strengths and weaknesses. Decisions on which hundreds of thousands, if not millions of lives pivoted on came down to analysis of a frame from one of these rolls of film.

And those are just the ones we know about.

We know about the Minox and its involvement in the Walker Spy case, Christopher Boyce, JFK's reliance upon information obtained by a Minox in the Cuban Missile Crisis, Lord Brabazon's illicit (though benign) photos of the British Parliament at a pivotal time in history, and a whole host of other times that a Minox was there when another couldn't be. A listing of these alone would be impressive enough to make the argument quite solid.

Almost by definition though, it is the activities we DON'T know about that would most likely put the Minox over the top. After all, which is more damaging or helpful to a government: The spy who is caught and you can know what was lost, or the spy who is never detected and is able to continue for decades un-noticed.

Will we see a 60 Minutes report that the Minox has superceded the transistor as the invention of the century?

Most likely not.

That doesn't diminish the genius and simplicity of the Minox camera. Its influence is still being felt in the halls of governments, and the pages of history books, and will continue to do so for years to come.

# Member's Responses

*The following messages of tribute and mourning were received by the MHS after the news of Walter Zapp's death was announced. The editors of the Minox Memo, and the entire Minox Historical Society, join in their sentiments:*

It is indeed a sad day!
Rest in peace Walter!
You will live on in the cameras we carry, use and love!

Kenneth Gauld
Scotland

In 1972 I was shopping around in a Buy & Sell store in my neighborhood, and saw a cute little camera. I asked the salesman to show it to me, and I fell in love with its fit, finish, and its diminutive size. Right then and there, I was hooked!

This was a Minox IIIs. I still have this camera today, and it continues to take beautiful pictures.

Since that time, I've been collecting Minox cameras and accessories. I live and breathe Minox, and found a special place in my heart for subminiature cameras. These little gems occupy most of my free time, and I have constantly carried a Minox wherever I go since 1972.

The cameras invented by Herr Zapp opened a door to the love of photography, and the ability to carry a camera at all times. To take that special, once in a lifetime picture.

Thank you Herr Zapp, and may your legacy live on in your company!

Tom Palazzo
USA

In Memoriam: Walter Zapp - Inventor, Photographer, Gentleman

I was both shocked and deeply saddened to learn recently that Walter Zapp, father of the extraordinary Minox subminiature camera system, had died on 17 July, 2003, at the age of 97. One newspaper has already hailed him as "the last pioneer in photography," but I feel he was far more than that.

In the short time in which I was honored to have been able to speak with him in the course of an interview in 1995, I found him to be a highly intelligent, very gentle, good humored and passionate man. He was also one of the most unassuming men I've ever had the pleasure of meeting.

On that September night in celebration of 50 years of Minox as a German company, and his birthday just days earlier, one of Germany's largest news magazines and one of their largest television stations had each sent a team to interview him. I've never quite got over the humble feeling on learning much later that he had given 15 minutes to each of those teams, and later that evening, gave 90 minutes to me, an American unknown soldier who was trying to finish a book on his marvelous cameras. He was not a publicity seeker, but would gladly and selflessly give his time to anyone who shared his passion for photography.

He later shared with me several letters he had written to various people over the years, all them enthusiasts who had written to ask him questions about his invention, his thoughts in creating it, etc. I was struck by the fact that although declining health in later years made it more difficult to respond quickly, he never failed to take the time to respond to every letter, and fully and completely answered all their questions with both pleasure and humility. While we celebrate his achievements as a photographer and inventor, I've always found myself thinking of him first as a true gentleman.

Hr. Zapp was passionate about the "rightness" of the design of his original Minox subminiature camera, as he had every right to be. Almost 70 years later, the elegance of the simplicity in its styling still captures the fascination of any who see it for the first time. That something so tiny could operate with such precision, producing photographs of such high quality remains one of the delights of photographers around the world. It is no accident that the Model III camera, the very last one in which he had a direct hand in producing, remained his favorite and most used of the Minox cameras until his death.

He once said that the III represented the true elegance of design styling, being free of protuberances and add on accessories that, as he put it, "went against the design of the camera." Consequently, he wasn't as impressed with the series of add on viewfinders, filters, and other accessories (beyond the ones he originally designed for the Minox system) that were later produced by Minox, GmbH. However, it stands as a mark of the huge popularity of these cameras that such accessories were requested and introduced to enthusiasts who embraced them for the added flexibility they gave to his cameras, allowing photographers to wring the maximum potential from virtually every photographic situation that might present itself.

It remains a fact that after almost 70 years since the introduction of his first Minox camera, in spite of numerous electronic advances in later models, no one has ever been able to substantially improve upon the original mechanical design.

Part of the legend that is the Minox camera is the fact that its inventor never completed formal schooling, and received little or no formalized, technical training of the sort that might be required to produce the miniature marvel the Minox camera represents. More significantly, those 70 years have seen the rise, and subsequent demise, of dozens of imitators, some invented and produced by the biggest camera companies in the world.

No one ever quite found a way to make a camera smaller, and still be as fully capable as the Minox is. No one ever quite sorted out that almost magical balance of style, function, quality and appeal that the Minox universally commands. No one ever produced a camera as instantly recognizable across cultures, borders or generations as the Minox is.

No one ever did it better.

D. Scott Young

Author of "Minox - Marvel in Miniature"
and founding member, MHS

I would like to extend my condolences to the Zapp family on the passing of Walter Zapp. I have been using the 8X11 Minox since 1955. Walter's invention has brought me much joy over the years both in picture taking and collecting.

Ed Etzold
USA

This is passing of a stupendous legend of the 20th century. Walter Zapp will be greatly missed. I am sure Walter and our Heavenly Father will have much to talk about. Walter was a genius of immense proportions.

Good bye, Walter ... you were an inspiration to us all who love Minox cameras.

William K. McAbee
USA

Farewell, Walter, and Godspeed.

You lived long and lived well, an exciting and creative life which touched many.

Godfrey DiGiorgi
USA

Only in silence the word,
only in dark the light,
only in dying, Life;
bright the hawk's flight
on the empty sky.

Walter Zapp will always be remembered as the man who dedicated his life to give us this view, to bring into existence this second visual system and this way to see the world.

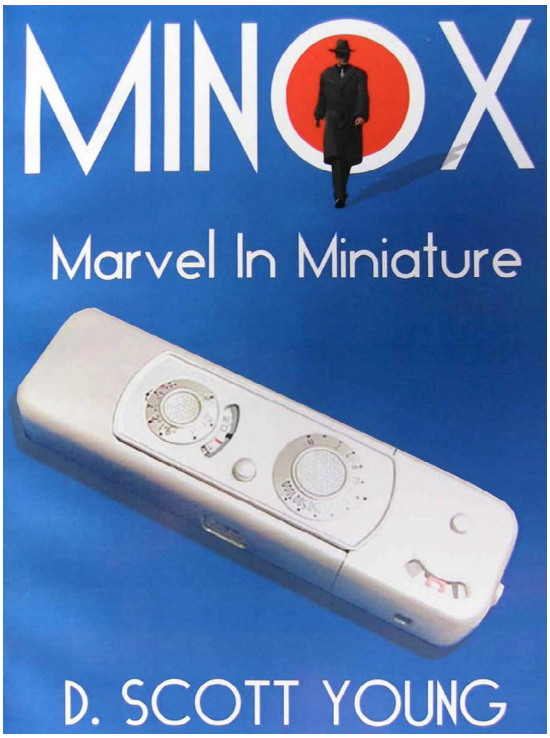
Wolfgang Fischer
São Paulo – Brazil MHS

# Editor's Note

Charles Trentelman
Editor-in-Chief

First off, let me apologize to the membership for this edition of the Minox Memo being late.

We've been late before, and we'll be late again, but that doesn't make it right. In this particular case your honorable editor has been dealing with a Speed Graphic load of problems on the personal family level -- death, let me tell you, sucks, I don't recommend it to anyone -- and that has left me unable to build fires under some of the newsletter's regular contributors and seek out new ones, which is the right honorable duty of any editor worth his salt.



Large format, soft cover, 193pp, illustrated b&w

**Minox - Marvel in Miniature** By D. Scott Young

The first new book on Minox cameras in years, this delightful exploration of Walter Zapp's most enduring design triumph, the Minox 8 x 11 camera, shatters forever the myth of the Minox as solely a spy camera. A comprehensive history of the inventor, his cameras and the Minox camera are nicely set against the backdrop of world events, with comparative views of other subminiature cameras to clearly illustrate the place the Minox occupied in history, as well as its impact. Covering every model of Minox subminiature camera and most accessories through to the year 2000, this book will be an invaluable reference to both researcher and collector alike.

A personal interview and correspondence with the inventor himself, as well as reproductions of articles and letters written by Zapp provide the reader with a unique insight into his design philosophy, his motivation and his reaction to his camera earning an international reputation as one of the premier tools of the espionage trade.

New and experienced users of these cameras will relish the user's guide, complete with camera and accessory operating instructions and a primer on beginning photography aimed at new shooters. Every facet of photography, particularly Minox photography, from film selection and loading to darkroom processing and printing is clearly introduced.

The most reasonably priced Minox book to come along in years, **Minox - Marvel in Miniature** can be ordered directly from the publisher for US $15.00, via the Internet at http://www.1stbooks.com/. It can be purchased in any fine book store such as Barnes & Noble, Waldenbooks, B. Dalton and others; simply inquire at the counter if it is not on the shelf. International orders can be handled by Petra Keller at www.camerabooks.com.

ISBN 1-58721-068-1 Released June, 2000

Hey, at least this time I have an excuse. Usually I'm just being lazy. Similar problems on the part of some of those contributors has kept them from building any fires under me. So there we are.

Still, we press on.

As you read this the world is rife with speculation whether Minox will continue to produce cameras. Well, maybe not the whole world, but certainly the parts that matter. This speculation is made more poignant with the death of the company's founder, Herr Walter Zapp. It would be too coincidental to have the company, and the man, stop at the same time, sort of like "My Grandfather's Clock," of song fame. Still, Minox is one of the very few grande marques of the classic age of cameras still making a product, and Zapp was the last of the classic camera makers.

One could certainly not blame the company's owners if they did decide to quit either soon or at least in the not too-distant future. Nobody thinks they're selling many 8 by 11 cameras except for the new collector cameras, and the company admits those have given the company a needed boost, which leaves unspoken what isn't giving the company a needed boost. I suspect the sport optic purchasers don't know, or care, about the cameras that gave the company its name. We hope they are selling 35mm cameras, but don't know, being more interested in the smaller stuff anyway."

The current state of affairs is a sad thing, at least if you hold Minox stock.

On the other hand, Minox claims it's doing OK, at least, and has made no mention of any intention to discontinue the line of subminiature cameras, although its Wetzlar factory is a shadow of its former self and accessories such as developing tanks are no longer being made. It is cleaning its closet of unsold EC models at what has to be considered a bargain price. This may revive a bit of interest, or it may just clear up some shelf space, and improve the cash flow situation, but leave less for the yard sale later. Who can say?

And they did, after all, sell a pile of MHS-EC models. I got mine, did you get yours?

Minox is selling digital cameras as well, and has moved a bunch of those cute little replica "classic" cameras that do use film. If you don't have one I can recommend them. They're pretty fun shooters and guaranteed to get a laugh or two.

None of this has to affect Minox USA which is, of course, a separate company and the only place in the country to get really quality, if a bit slow, processing of your color prints. I can recommend them: Their CD product is first rate and their prints have improved greatly with the purchase of new equipment.

The bigger question is, will the future change things for us?

You see this debate a lot. Digital cameras, I hear often, will replace film cameras which soon will be so much shelf jewelry. This, of course, is silly. I see the work of digital cameras done by the photographers at the newspaper where I work and, nice though the images from their $5,000 Nikon D-1Ns are, their prints, even relatively small 8 by 10 inches, still have a way to go to match a good color print made from a $200 Pentax K. I suppose that match will, one day, be made, but at what cost? It costs, no kidding, more than $700 to repair a broken diaphragm lever in one of those cameras. I can buy, and have serviced, four Minox Bs for that kind of money.

And anyway, who cares? People who want digital are going to buy digital. Some of the newest digital cameras are smaller than a Minox C, and smaller still is in the wings. But it is the aficionado of the mechanical wonder that still hangs on, you and I.

In this regard, Minox is hoist on its own petard. It did too darn good a job of building cameras in the past; if they're waiting for my B to break before I buy an LX, they better be sitting down. This is good for us. A clean and lube, replace the odd shutter bumper, and a 50 year old camera is up and running for another 20 or so, at least. If they've been able to improve on the lens, I can't tell and neither can you. And this is, after all, the Minox Historical Society not the Minox New Camera Society, so using a historical camera is right up to speed. We were never intending to be a mass market operation or Minox GmbH Booster Club anyway, even if we do really think kindly of the company quite often.

The film companies seem bent on continuing to make us film. Ilford's CEO, I was told at a recent show, vowed to be the last man standing and go down in flames, if that's what it takes. Kodak just introduced a new line of high definition film. If you cut your own film, a 100-foot roll of Ilford Delta-100 socked away in the freezer is a lifetime supply assuming you only use 100 rolls of film in your lifetime.

I do hope you all are using your cameras, although you couldn't prove it by me.

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## GERMANY

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I'm still waiting to be deluged with pictures that you, our faithful membership, shoot and would like displayed in a prestigious international journal. Does anyone out there specialize in a particular sort of subject: Flowers? Stamps? X-rays? Would anyone like to give his fellow members a few hints on uses of the Minox Copy Stand?

I just bought a copy stand and would like some tips. It would be to your advantage to provide me with some. If you don't, I'm liable to try to figure out how to use the thing myself, and that could take time. I could get forgetful of the clock.

And the next issue will be later still. And you wouldn't want that, would you? MHS

# A History of the Minox Developing Tank

Peter D. Zimmerman
President

So there you are in 1937. You've invented a marvelous little camera designed to fit in a pocket, equipped it with a wonderful lens (considering the year), and given it the ability to focus from 20 cm to infinity with a shutter covering speeds from ½ second to 1/1000th of a second. Of course to make the camera that small the film must be less than 9.5 millimeters wide. The question is how to develop film that small in width but with a length of almost a meter – with 50 exposures.

Of course Zapp could have used spiral reels such as were used for 35 mm cameras, just make them smaller. But the modern stainless steel tank and reel didn't yet exist. Even for "Leica films" as they were sometimes called, the solutions for home processing were less than elegant, and anything but easy to use. The Morgan & Morgan Leica Handbook for 1938 showed two solutions:

- A horizontal, hand cranked, glass cylinder around which the film was wound in a spiral, emulsion side out suspended over a tray of developer. As the photographer turned the crank the film dipped into and out of the solution.
- Developing tanks looking much like today's larger plastic tanks, but instead of a reel the film was wrapped inside a wavy curtain. This was very much like tanks for medium format films and cameras of the day. Kodak made such a tank well into the 1960s, and may perhaps still market one.

Walter Zapp must have decided that a developing tank for Minox films should be as simple to use as the camera, small, portable, and really capable of being taken on trips so that film could be processed every night. I don't really know if Zapp meant for film to be developed in hotel rooms as the photographer traveled on vacation. What I do know is that I have frequently taken a tank, some plastic bottles of developer and fix, and some clips to hold drying film on trips with me.

**Riga Tank (Figure 1)**

Zapp's concept meant, of course, that the tank must be loadable in daylight and not require a darkroom for anything. The very first version of the tank is substantially identical in operation to the last tank produced: it is a black Bakelite cylinder with a central protrusion, an outer space for the spiral screw holding the film to enter, and a pouring spout on the side. The spiral has grooves to hold the film, an arrangement to hold the leader, and a knob on top for the user to turn to drive the screw into the tank. The spiral threads through a ring which fits snugly on top of the tank, and which also has a compartment to hold the film cassette

**Figure 2**

**Riga Tank Bottom (Figure 3)**

**Post-War Tank (Figure 4)**

including space for the film to be pulled out and connected to the spiral. The upper part of the ring has a spring clip to provide tension on the spiral insert as it is screwed into the tank. The Riga version of the spiral was painted white on the inside of the knob, for no known reason. Postwar versions did not have the paint.

**Trademarks**

The first version of the tank has a oval depression, almost in the shape of the Minox maus, with the word "MINOX" in an unusual sans-serif type face raised above the depression. The VEF trademark appears only on the bottom of the developing tank.

Postwar versions of the tank used a Minox maus trademark on the side. No trademark appears on the bottom of the tank itself.

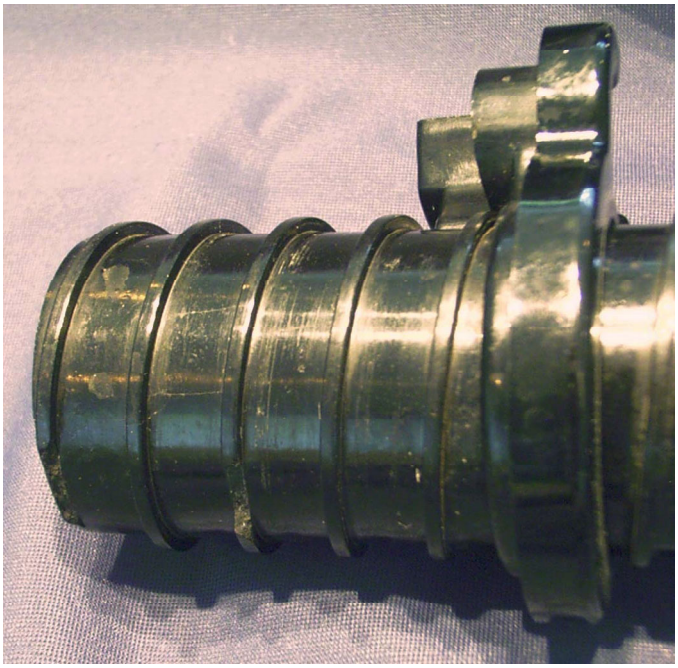
**Functional differences between the Riga tank and the postwar design**

Another difference between the Riga tank and all subsequent versions is the provision for a spring clip on the Riga tank used to ensure that the upper ring carrying the film cassette, holding the spiral, and ensuring light tightness of the entire tank stays in place. According to

**Riga Logo and Spring Clip Holes (Figure 5)**

Don Goldberg, heavy users of the tank almost always removed the spring clip because it makes fitting the top ring difficult, slows down work, and is unnecessary. The Riga tank which I purchased in East Berlin in 1990 has the clip removed and has been used so much that the white paint is gone. The suspicion is, of course, that this tank belonged either to a serious Minox fan who somehow managed to obtain or slit film through the era of the German Democratic Republic or that it was used by a professional who processed very many films at sometime during the course of his career. One may easily imagine just who the professional Minox users in Nazi Germany or Communist East Germany might have been. The spring-loaded tensioner on the ring of my tank is also missing, but a careful examination of the ring indicates that it might never have been present rather than that it was broken off.

The grooves of the spiral insert of the Riga Tank are visibly different from those on the postwar versions. They are simple rectangular grooves with vertical sides lacking any taper. This is an identifier should the collector be confronted with a supposedly complete Riga tank but with the spiral no longer having white paint on

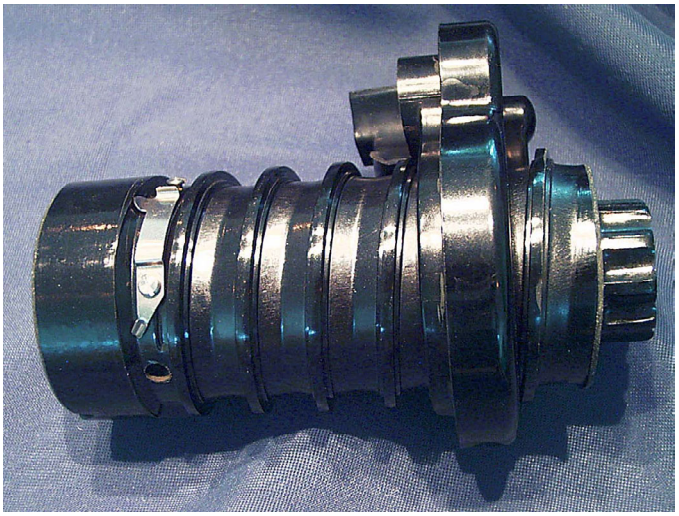


**Riga Spool (Figure 6)**

the inside of the knob area. The grooves of the postwar spiral are tapered, bottoming out in a gentle curve. The difference is unmistakable.

From the first tank made soon after the camera was first produced until the last tank left Minox's production line in 2002, the functional design remained remarkably

**Post-War Packaging (Figure 7)**



**Modern Spool Design (Figure 8)**

consistent. Until the 1970s most Minox films were packaged in 50 exposure cassettes; a small minority, mostly Eastman Kodak emulsions such as Plus X and Tri-X were sold in 36 exposure loads. The approved procedure for developing the shorter cassettes was to be careful in turning in the spiral so that the film was not pulled off the take-up spool, but there was no provision to prevent the user from making a mistake.

A short load left an empty space in the tank below the spiral, and this required additional developer (approximately 60 ml compared to the 52-53 ml with a 50 shot cassette). That meant that pre-packaged Minox developer needed to be diluted slightly too much when used to develop a 36 exposure roll, and it meant that the circulation of the developer provided by pumping the thermometer was radically different and less effective than with the spiral all the way in.

Sometime in about 1970 Minox began to include black plastic spacer rings to fill the void space left at the bottom of the spiral when a 36 exposure cassette was being developed. Tanks bought as late as December, 1969 in Germany were sold without any adapter ring whatsoever. My own first Minox tank was a Christmas present in that year, and the packaging clearly has no space for an adapter ring. Indeed, I wrote to Minox GmbH when the first rings came out in 1970 and was sent one free of charge.

When the 15 exposure "weekend cassette" was introduced a larger spacer ring was needed immediately. The void space below the spiral was far too large to allow proper development, and even with the 36-exposure spacer inserted, there was still too much unoccupied volume. A larger spacer ring was soon included with all new tanks (I have no photos of that packaging; I gave my 2-ring tank to my son long ago).

Sometime after the introduction of the Minox C, the first Minox which could not accept the original 50 exposure cassettes, Minox made the first major change in the developing kit since the postwar version was introduced. The tank itself was retained unchanged, but the spiral was radically redesigned. Instead of having the grooves continue all the way from the top to the bottom, they were terminated about 3 centimeters above the bottom, and a smooth cylindrical section was molded – in effect moving the old 36 exposure spacer ring to the bottom of the spiral (see figure 8). Developing kits sold with the modern spiral contain a small adapter ring for use when only 15 exposure films are inserted.

Postwar spirals and attachment rings are interchangeable.

**Packaging**

The pre-1970 packaging of the developing tank kit has an interesting peculiarity. On the top of the box there is a picture of the tank. It would appear logical that the orientation of the tank shown on the box should match the orientation of the tank inside. In fact it does not. In order to put the top on the box, the top must be rotated so that the picture of the tank runs at right angles to the real tank itself! Later packaging corrected this foible.

**Modern Packaging (Figure 9)**

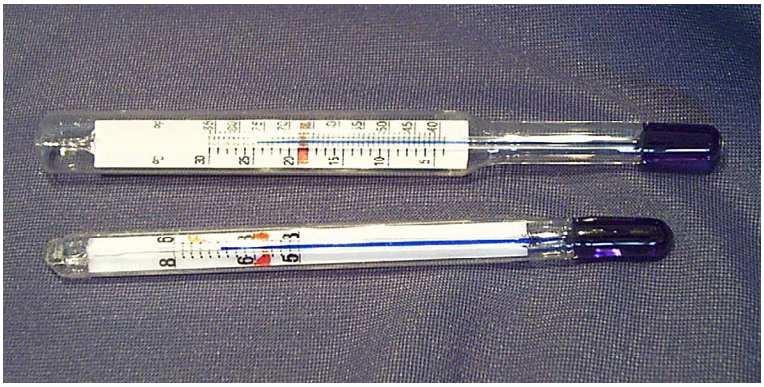
From at least 1969 until well into the 1980s the box was the dull grey-cyan characteristic of all Minox packaging of the era. Later the box changed color to the cyan of the pre-Hasselblad distribution era, and finally it shifted to red.

After Leica bought the Minox name and assets, packaging of Minox products was standardized

across the entire product line. The developing tank then appeared in the now-familiar silver box with the name "Minox" wrapped around in red letters. A more important change in the package design took place at the same time: no longer did the tank lie down lengthwise on a bed of foam rubber or cardboard. It now stands vertically, with the thermometer also held vertically, between two pieces of soft white foam plastic. The adapter ring for 15 exposure cassettes nestles in the lower foam block between tank and thermometer. The particular tank in this box is probably the last one Minox will ever sell new. When I was unable to complete my collection of tanks by buying the final version in a store, Minox was kind enough to dip into its reserve service stocks and sell one final tank to me.

**Modern Packaging - Interior (Figure 10)**

**Thermometers Top View (Figure 11)**



**Back of Thermometers (Figure 12)**

### Thermometers

The thermometer delivered with the early series of developing tanks through the 1960s is quite short and of uniform diameter from end to end. The diameter is apparently the same as the thermometer included with the Riga tank, but the post-war instrument is too short to use comfortably with the older unit. If allowed to drop into the Riga tank it falls too low for convenient grasping due to the greater depth of the well in the old tank.

In later years the thermometer has a wide top and a narrow bottom. The taper begins approximately at the lower end of the temperature scale, whence the diameter is reduced to match that of the earlier versions. The new thermometer and the old are compatible with one another and may be interchanged between tanks of differing vintages. The Riga thermometer is presumably the same diameter as the post-war version, but likely longer.

My 1969 (short, thin) thermometer is marked "Minox, Wetzlar" while my more modern ones all have the modern Minox logo. The modern thermometer appears to be substantially similar to units marketed by ROWI as tray thermometers.

### A Final Puzzle

The first time a new Minoxer tries to develop film in a Minox tank reality hits. The spiral simply will not go into the tank. Surely something is wrong. But of course it isn't. The screw thread on the spiral is left handed meaning that turning it counterclockwise drives it into the tank. This is just the opposite of almost all screw threads in the Western world. Why did Walter Zapp adopt such a peculiar – even confusing – standard?

In fact he had no choice whatever.

Open a Minox camera and look at the cassette. The

film is transported from the left side supply spool to the right side take-up spool. This is the same direction as the film moves in a 1930s Leica or Contax, so it was a natural choice, one Minox customers would accept and expect.

When the cassette sits in the top ring of the tank, the back of the cassette must face inwards toward the spiral. If the cassette faced outward, the film would have to be pulled at an odd angle and around a corner to reach the spiral. This would be awkward and might be prone to scratching. Furthermore, Zapp needed to have the emulsion face outwards from the spiral once it was wound so that developer would flow smoothly over the light-sensitive surface. Circulation of the developer in the space between film back and spiral is very poor.

Add it up. Looking down on the spiral and ring from the top the film had to pull out of the cassette to the right. Since the film must be wound emulsion out, the spiral has to have left-hand threads. Once Zapp laid down the location of take-up and supply chambers for the Minox camera, his hands were tied: the developing tank would have left-hand threads!

**What won't it do?**

Very few workers have been successful at processing color films, slides or negatives, in a Minox tank. There is too little volume to hold enough developer to develop the film to completion. In addition, it is nearly impossible to bring a Minox tank to the roughly 100° F required for modern color developers, and it is impossible to verify that the heavy Bakelite object is really at the correct temperature inside and outside, particularly since color film developing kits generally advise against a pre-soak.

**Alt Reval**

The thermometer is unable to measure the temperature of the Bakelite unless the instrument is in a water (or developer) bath in good thermal contact with the tank. Without a pre-soak the thermometer will be more responsive to the air temperature than to the tank temperature.

It is also difficult to process Technical Pan film in dilute Rodinal (1:100) in the tank for the same reason: just too little active ingredient is available. This, however, can be overcome by adding a few milliliters of developer every half minute or so, depending upon the desired contrast. Exhausted developer flows out the tank's spout and fresh chemical diffuses into the film area.

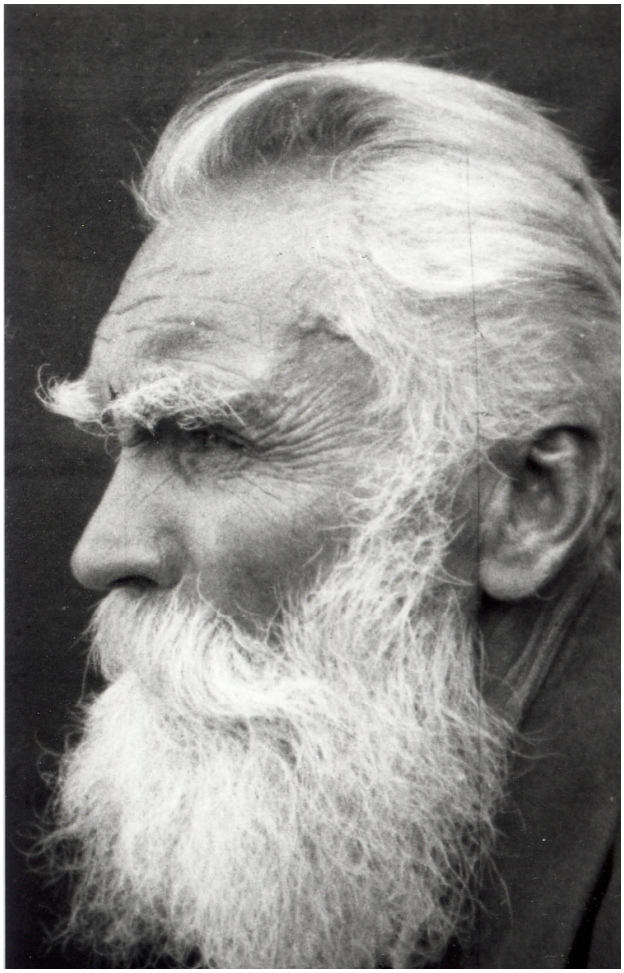
**Requiem**

The basic Minox developing tank was in production for almost 65 years, from 1938 until 2002. Surely no other developing system has been manufactured for so long, with so few changes. It is a tribute to Walter Zapp's ingenuity that this splendidly functional unit should have survived and been so popular that even beat-up versions still command high prices on eBay and other used markets. Even with the decline in home developing and in black and white film in general, Minox kept the tank in its line until the tooling needed to make it broke. No other developing tank or system I have used, for any size or format of film, has the combination of developer economy, loading and developing convenience, and total portability. I've a bunch of tanks, and I'm keeping all of them, thank you. MHS

# Minox First Fruits

In researching his book "Minox, Marvel in Miniature," D. Scott Young was able to form an unusually close relationship with both Walter Zapp and his family. One of the fruits of that relationship was the gift, to Young, of three photographs taken by Zapp with the original Riga camera in 1936.

Young says of them, "He very kindly had his son dig out the negatives and make new, original prints for me in the course of helping me with my book. …I think the shot of Reval was actually included in miniature as part of the



**Modell - 1936**

memorabilia you got if you ordered one of the Sliver edition LXs that came out in the late 70s, early 80s.

"The girl at the beach is untitled. The back of the Reval city skyline is written in Zapp's hand 'Alt Reval – 1936', which translates to 'Old Reval – 1936'. The writing on the back of the picture of the bearded man is also Zapp's hand, and is titled 'Modell – 1936', which I take to mean 'Model'."

Zapp gave Young copies of these pictures as part of the research for his book, and we print them with Young's kind permission and our deepest gratitude.

Scott MHS

# Tech Tips

*The following was shared by Dr. Gordon Mitchell, an optical engineer in the Seattle area who I work with in my line of work.*

*This is in response to an inquiry several days ago on the matter.*

*Steve Uhrig*

Cleaning lenses that are mounted is always a problem. I can remember being very careful with a microscope lens... using reagent grade solvents, lint proof cloths and no pressure. The solvent wicked around inside and created a fog on the side of the lens that I couldn't reach. What a disaster!

Cleaning coated lenses is the same as uncoated lenses unless the coating is soluble in a cleaning solvent. This is not a problem for visible wavelength lenses.

If lenses are disassembled the best way to clean them is to use a lint free cloth like:

http://www.edmundoptics.com/IOD/DisplayProduct.cfm?productid=1507
(Wow, there has to be a way to get this stuff cheaper) moistened with pure acetone or isopropanol. Drag the cloth across the lens holding it by the edges and applying very little pressure. This will dissolve new fingerprints, etc. The solvent will evaporate uniformly leaving no garbage. Most lens tissue sold in photo shops is an adequate substitute for industrial-quality lint free wipes.

Old fingerprints likely will etch the coating of the lens making it impossible to remove them. Scratches and flaking also permanently mess up the coating. Getting lenses recoated is not practical.

For mounted lenses the most important tool is compressed filtered (or from a spray can) air designed for blowing stuff off. Get it from your local office supply or photo store. This is a better way for getting dust and dirt out than the normal (moist breath and T-shirt) wipe. Depending on the method of mounting it may be possible to make a lint free wipe that can repeat the tissue drag trick above. In this case you want to be sure to limit the amount of solvent so that it doesn't get wicked in behind the lens by capillary action. The corner of the lens tissue in a bit of acetone dragged over the surface will do. Be careful to not use acetone around plastic lenses, however, it will destroy the surface of many plastics.

Using reagent grade chemicals is important because it leaves less residue. If you buy Isopropanol in the drug store it has water and who knows what in it. The only consideration there is that it will not harm people if used on the skin. There are lots of things that are OK on the skin that don't work on lenses. Go for a chemical supply place that will sell a small quantity to you. Note the warnings regarding flammability, breathability and skin contact for the solvent of your choice.

If lenses are messed up they can be cleaned better if disassembled, particularly if junk is on the inside of an assembled lens. When taking them apart you will need specialized tools like:

http://www.jensentools.com/product/group.asp?parent_id=4935

Be sure to keep track of lens orientation. Normally lenses have different curvature on each surface. Lenses that are assembled from several individual lens elements may have the elements cemented together. If it is necessary to reassemble these you will need some sort of cement. In the old days natural stuff like collodion were used. Now lenses are assembled with easier-to-use adhesives like:

http://www.edmundoptics.com/IOD/DisplayProduct.cfm?productid=1597

The spacing of elements in compound lenses is always critical. Before removing rings or spacers be sure to measure axial position. MHS

# What is it?

John Watson
Vice President

Created by Don Thayer, Sr., this is the leather carrying case for the first Minox Electronic Flash.

With Minox's blessing in 1956, a bulb flash with a collapsing conical fan came out, and later that year the electronic version was introduced. Contained within this case are the batteries and capacitors to run the flash. A coiled cord that runs from the bottom of the case to the flash unit transfers the power. The Minox maus logo is neatly tooled into the top of the brown leather case.

While the more common fan type B-C fan flash can be fairly readily found, the electronic flash is far more difficult to come by, even more so a working example.

The Minox Electronic Flash was featured on the last page of the Volume 1, Number 1, classic Minox Memo. There is some speculation that the introduction of this unit may have been the impetus for the introduction of the original Minox Memo.

***Should you have one of these models, it is recommended that they be used for display only. While value alone would dictate to many that it should not be used, there are some safety issues to note. These units are nearly 50 years old. The insulators will in most cases be very brittle, and shorts are a very real possibility. Should you manage to get a charge, the immense current that is stored in the almost industrial capacitors can be very dangerous. It is best to leave them alone unless you are a qualified technician.***

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Contact John Watson at johnw@minox.org for more information.

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