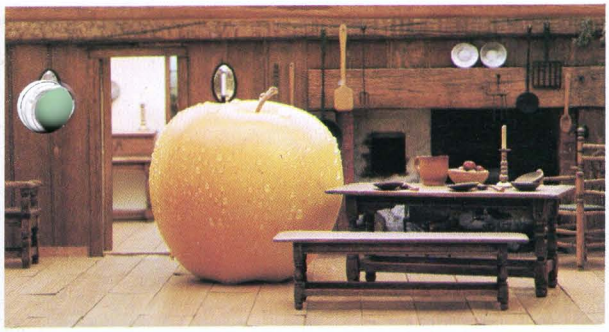
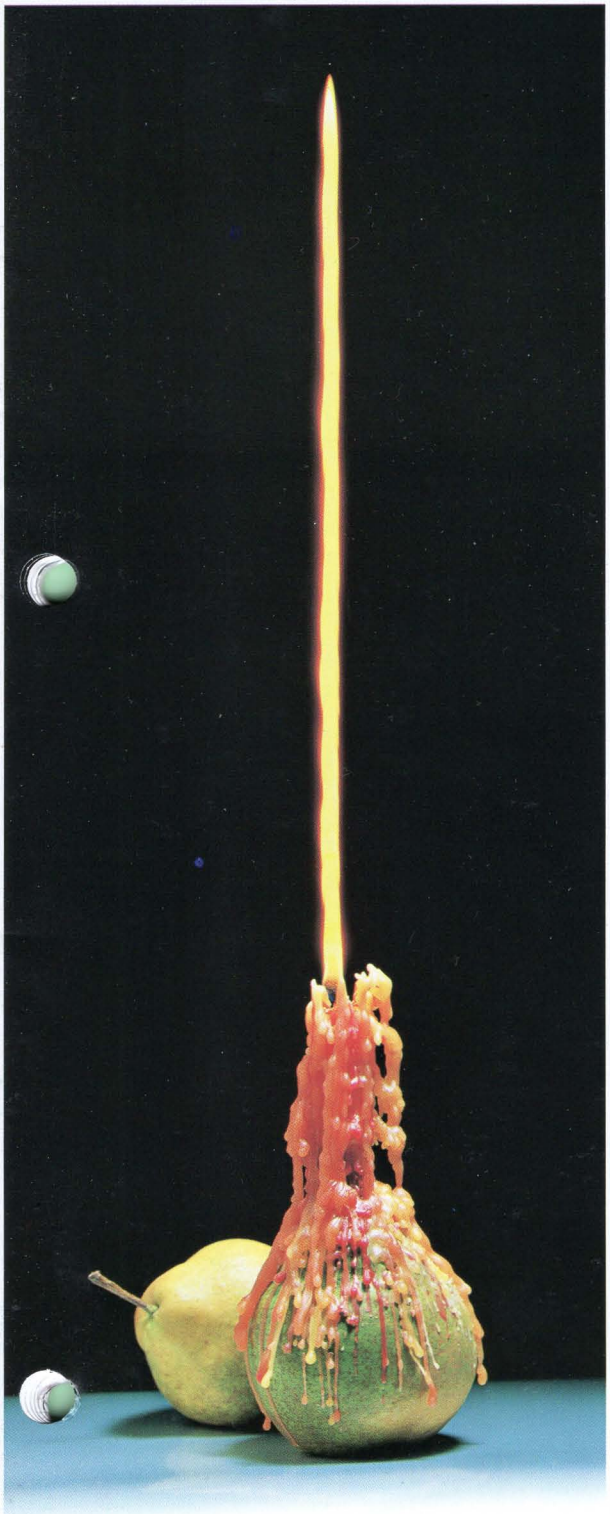
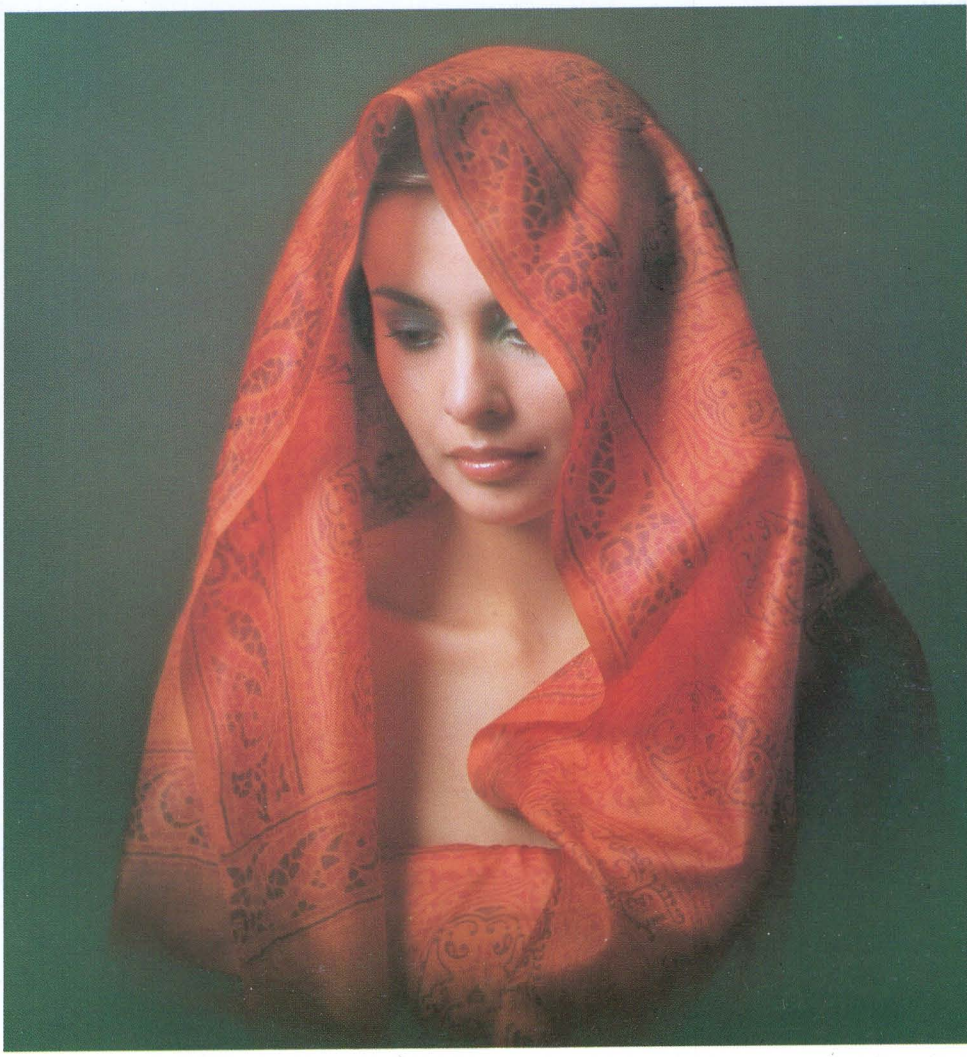
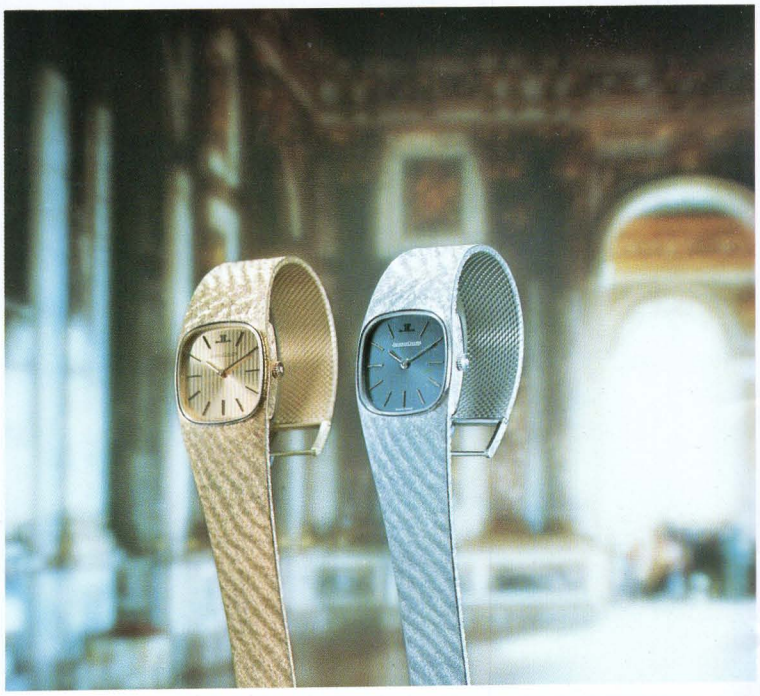
The PHOTOGRAPH


St. Joseph Bank

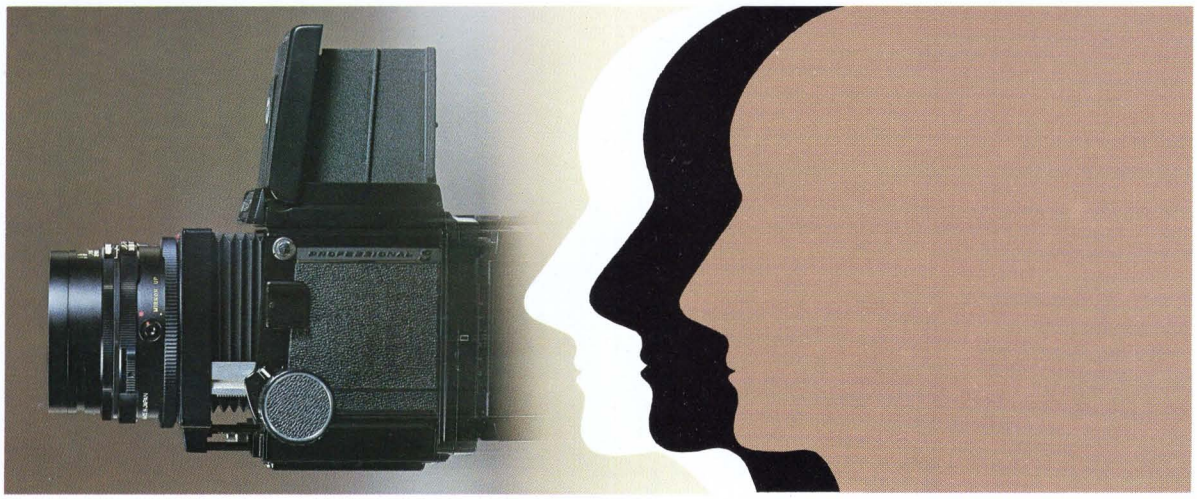








The Photograph



What makes a good photograph?

The subject of a photograph is, of course, of the utmost significance. It involves such a strong element of personal preference on the part of the viewer however, that it cannot be taken as an objective criterion for judging the photograph's excellence. It is possible, on the other hand, to evaluate a photograph objectively from a purely technical viewpoint. The elements to be examined in this case are picture sharpness, gradation, correctness of exposure, picture composition and timing (capturing the exact moment the subject is at its best).

Let us relate these elements to the qualities that a camera must possess if it is to produce photographs of high quality.

1. Sharpness — excellent lenses and a high quality camera are essential, of course, but in addition, the larger the negative or positive image size the better.

2. Gradation — the free control of gradation depends on the availability of a wide variety of films. In this aspect, 35 mm and 120 roll films are the most versatile.

3. Exposure — the above two factors are directly affected by exposure, which is why the TTL metering system is considered an important factor when choosing a camera. Good photography can never be guaranteed, but if the camera is fully systemized for everything from speedy average metering to precise spot metering, it will be easier to produce good pictures.

4. Picture composition — any single-lens reflex system provides precise framing of the subject. However, a versatile system should provide the possibility of viewing the subject directly from eye level — when the viewfinder and the camera act as an extension of the human eye — as well as the possibility of viewing from a waist-level viewpoint to obtain more creative composition. The illustrative and advertising photographer often has a specific layout of the products to be photographed. With a removable waist-level viewfinder, the photographer can sketch the layout on the focusing screen with a grease pencil, then wipe the sketch off when the assignment is completed. This dual-finder capability adds greatly to the versatility of the camera system.

5. Spontaneity — The photographer's skill alone is not enough to guarantee that momentary photographic opportunities will be captured accurately on film. The camera itself must be easy to operate precisely and rapidly to capture the exact moment the subject is at its peak action, right pose, prettiest smile, etc.

In order to produce superior photographs, therefore, a superior camera is a prerequisite. To a photographer, a camera is not just a tool; it is also a partner that cooperates with him in the production of good work. Thus, although a wide variety of cameras are produced, the number of camer that can be considered to be human engineered and t operate as an extension of the photographer's own vision and capabilities is very small.

Although there are many excellent 35mm cameras, they are all hampered by the fact that the picture they produce is restricted in size. Large-format view cameras, on the other hand, lose appeal when it comes to portability and ease-of-operation.

Between these two sizes lies the medium-format camera. The photographs above are 6×7 cm and 35mm photographs which have been enlarged full-frame to the same size. While the 6×7 cm format photograph has only been enlarged 3.6 times, the 35mm photograph had to be blown up all of 7.2 times. The differences in picture quality according to the enlargement ratios are marked.

It is safe to say that the 6×7 cm format is the smallest format that can withstand the greater enlargement ratios frequently used by professionals, provide excellent picture quality, and still be portable enough to take good photographs of moving subjects. The following pages give an idea of some of the various fields of photography in which the 6×7 cm format camera is being employed.

Wildlife Photography

Pursuing Lively Movement—the RB67

M.K. Morcombe

My initial interest in wildlife photography began as a hobby. At that time, I was living in an area which was close to forest country and where there were many colorful birds. My first collection of photographs was published in book form in 1966, and since then I have been engaged full time in this work.

I purchased a Mamiya RB67 in 1970 and found it an ideal camera for animal photography. If the mirror-up pre-release is used, the lens-shutter makes very little noise and there is none of the slight time delay that usually results with a quick return mirror. I take photographs using an electric shut release which consists of a small electromagn that pushes a very short cable release in the lens-shutter release socket.

The 6×7cm film format permits excellent quality printing reproduction, especially for color books. The finders I use all have TTL exposure meters, the upright CdS finder being suitable for photography when the camera is very close to the ground and the CdS prism finder for other general photography when the camera is to be mounted higher.

With the leaf lens-shutter system, electronic flash can be used at all speeds. Since my type of photography is almost entirely done using daylight sync, it is not possible to use a focal-plane shutter type camera. For electronic flash, I use an old, bulky unit which gives a flash duration of 1/7000 sec, something that modern strobes cannot do.

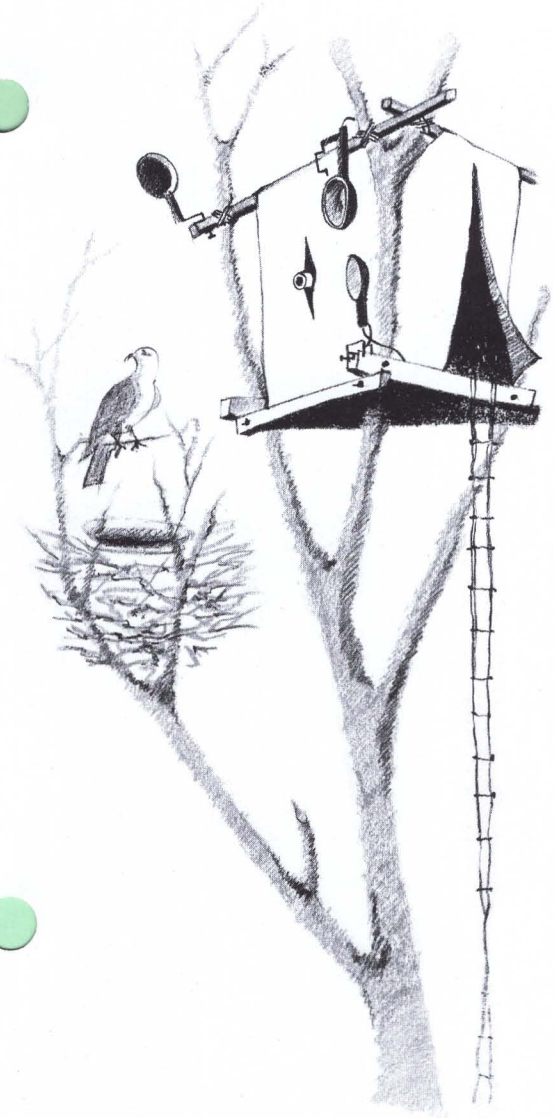
The main interchangeable lenses I use are the 250mm f/4.5 and the 90mm. A longer focal length, say 500mm f/8 would be very effective for timid animals. Normally, however, for most small birds, I place the camera near the nest and operate it by remote control while viewing the subject through binoculars. The electric shutter release is very convenient for these conditions.

For birds in flight, I constructed a spe device whereby a bird flying through a light beam is registered on a photo-diode which sends an electrical impulse to the camera shutter and triggers the electronic flashes.

The RB67 was developed to obtain compatibility between a large picture size which produces high quality and handling ease that would enable it to capture fast moving subjects. Mr. Morcombe's photographs are marvelous examples of these two aspects at work.

If we think only in terms of speed, there is no doubt that the 35mm format is superior. However, there are problems with picture quality when 35mm photographs are enlarged into large plates for printing books. In terms of cropping for freedom of layout, the 6 × 7 is about the minimum size one should use.

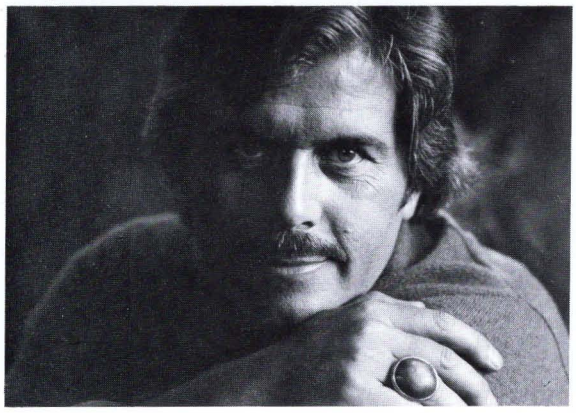
As Mr. Morcombe points out, for electronic flash photography there is only one type of camera—the lens-shutter type. From the viewpoint of using the RB67's mirror-up function in creating photographs rather than merely utilizing it to avoid shock, Mr. Morcombe is a real expert.



Portrait Photography

Faithfully Reflecting the Photographer's Individuality—the RB67

Gage White



The representation of human personality on film is one of the eternal themes of photography. To transcend a person's facial expression at the instant the shutter is opened and capture on film that person's humanity — that is the joy and agony of portrait photography. For this, it is essential that the camera being used operates reliably.

In this respect, I am completely satisfied with the RB67. Of course, it is excellent for hand-held photography, but tripod photography also goes smoothly; in particular, the revolving back helps minimize any loss in shooting time. Unlike the familiar 35mm camera, even the external appearance of the substantial RB67 seems to give the subject a feeling of reliability.

There is nothing special that I want to say about my technique other than that I try to use lighting which gives depth. It is true that sometimes portraiture with the Mamiya-Sekor lens is too sharp, but in those cases I use a soft focus attachment. Consequently, I am extremely interested in the recently developed 150mm f/4 soft focus lens.

I am also fond of the technique of producing a certain special atmosphere in a photograph by vignetting the corners. The bellows lens hood is of great value for this technique.

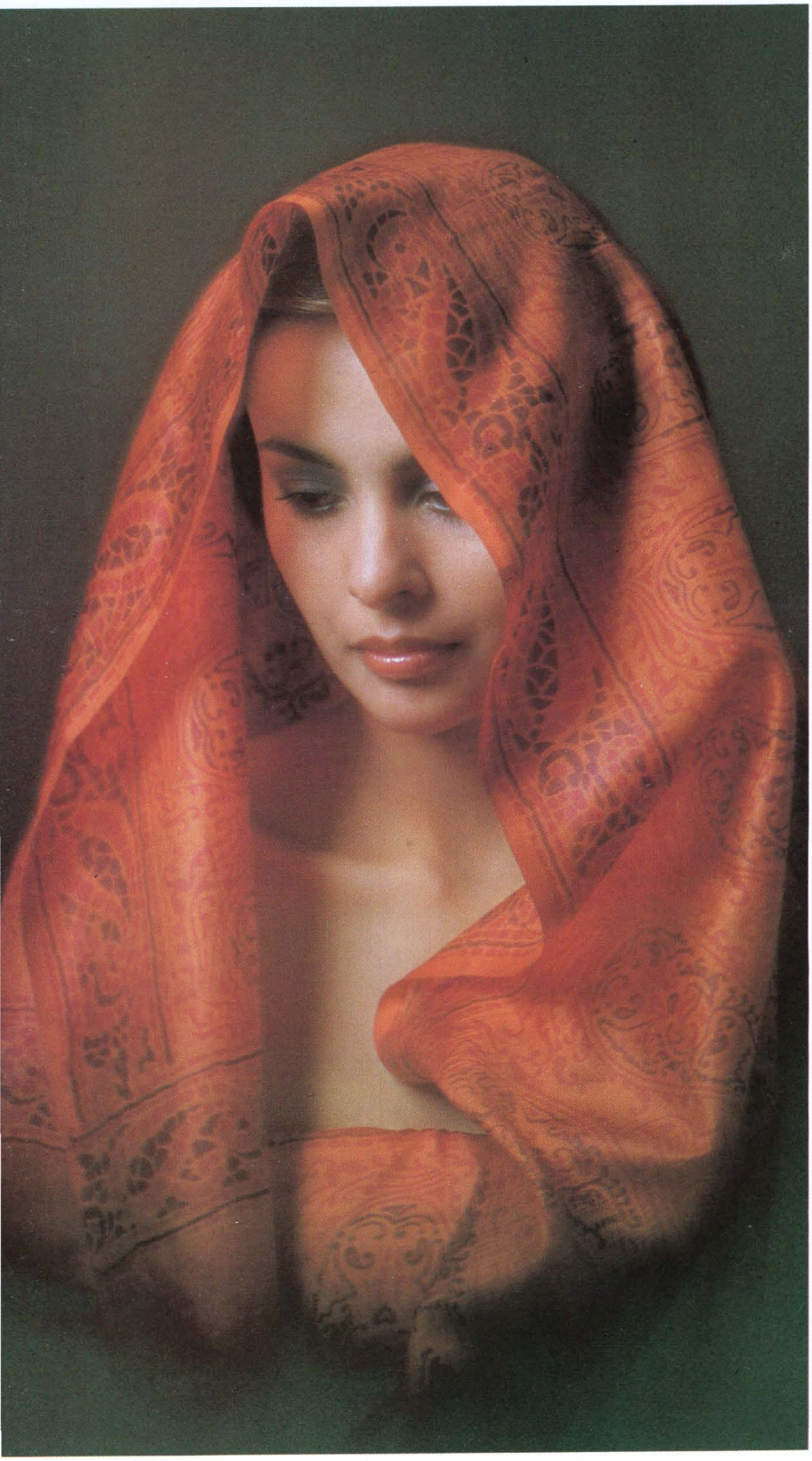
Sometimes, I simply release the shutter, trusting in the documentary nature of photographs. There is something fascinating about photographs which surpass the expectations of the photographer in their graphic depiction of the subject.

I simply want to photograph my models as living human beings rather than as professional models. For that reason, the creation of the setting and the psychological control of the models can also be called part of my portrait technique. I cannot, therefore, afford to use a camera which is a bother to operate. I am fully satisfied with the RB67 in this regard.

When developing the RB67, Mamiya first decided that it would primarily be a camera for studio use. Behind this was the fact that, because of the general trend in the camera world towards fast, out-of-doors photography, the number of sturdy cameras that the professional photographer can use in studios has been decreasing.

Of course, users have gone beyond Mamiya's preliminary thinking and are utilizing the RB67 as a general-use camera. To facilitate this, the RB67 system has been developed. From now on the functions of the RB67 as a general-use camera will probably be extended but even so, its fundamental nature as a camera for professional, studio use will not change.

The styles of the portraits done by Mr. White are so different that it is difficult to believe they were made with the same camera. Mamiya wanted to produce a professional-use camera that would respond to the personality of the phtographer like this. It seems that this goal of Mamiya's has been fulfilled.

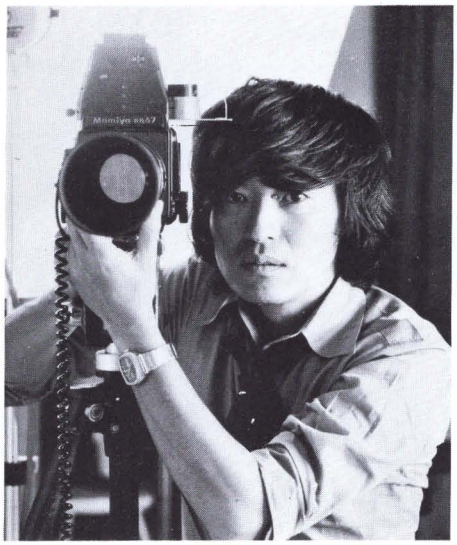


Magazine Photography

Guaranteeing Reliable Photography Even When Deadlines Have to be Met—the RB67

Toshio Ikeda

(of the photography department of Shufu-no-tomo)



Those working for magazines are always at war with deadlines, so an easy-to-operate camera is essential. When there is time to spare I also use a 4×5 view camera. Sometimes, a 35mm photograph is placed next to a 4×5 photograph in a double spread and the difference in picture quality is very great. That is why I regularly use the RB67.

While using it in conjunction with a view camera, I have noticed that sometimes a greater sense of reality results if a few changes in perspective are made than if the subject is photographed so as to avoid changes due to the shift effect. In this respect, too, while the RB67 resembles a view camera in the way it handles, it is good for getting the job done quickly. Another big plus is the fact that it has a great number of interchangeable lenses.

Sometimes, when one cannot go on location because of seasonal factors, efficiency considerations, and the like, it is necessary to use the front projection screen process, and it is unthinkable to use anything smaller than a 6×7 camera for this purpose.

Both speed of completion and high picture quality are required in color transparencies for periodical publications. As a result of improvements in printing quality, any imperfections in the transparencies are immediately apparent in the make-up. It is possible to use a slow, fine-grained film in a 35mm camera, but shooting with this film is unreliable and it takes a longer time to develop. These are some of the prime reasons that the RB67 is now being used by the photography departments of many magazines.

Compared to a tripod-mounted view camera, the RB67 is both handy and enjoyable to use for reportage as well as for quickly finishing off jobs that have limited, short shooting times. In particular, as Mr. Ikeda pointed out, the great number of interchangeable lenses, equaling those available for 35mm cameras, makes possible a wide range of visual expression.

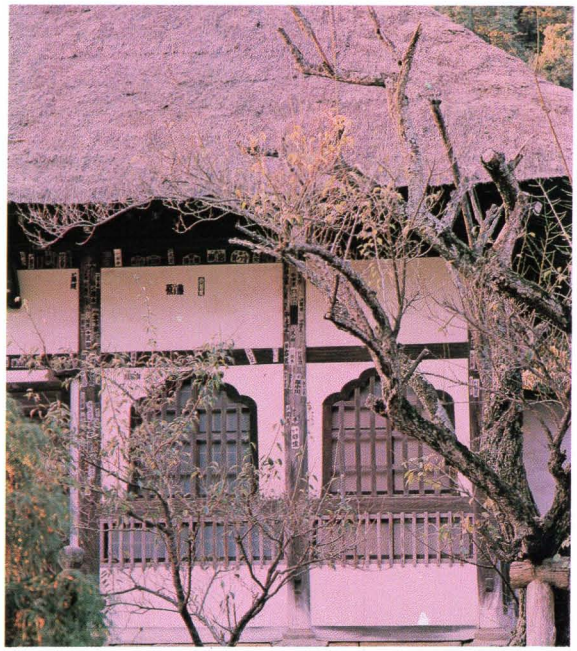
One requirement in fashion photography is especially high picture quality. It is not enough just to capture the form and shape of the clothing—we can even go so far as to say that one must be able to photograph in detail each individual fiber of the cloth. In this respect, too, we believe that the RB 67 has a power of representation that meets all expectations.

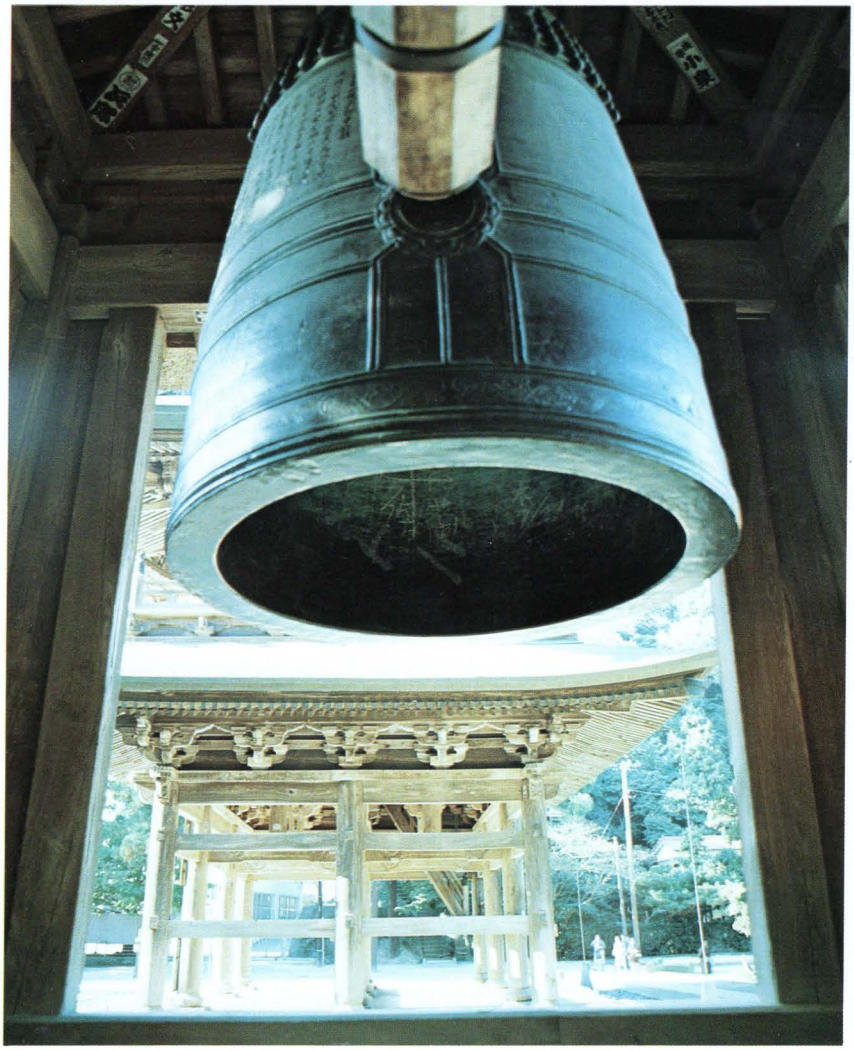
Further, a stock of photographs is one of the most valuable assets of the editorial staff of a magazine. Yet one never knows what sort of cropping will be done when the photographs are used at a later date. With this in mind, there are magazines which use the RB67 in gathering materials and recording news items.

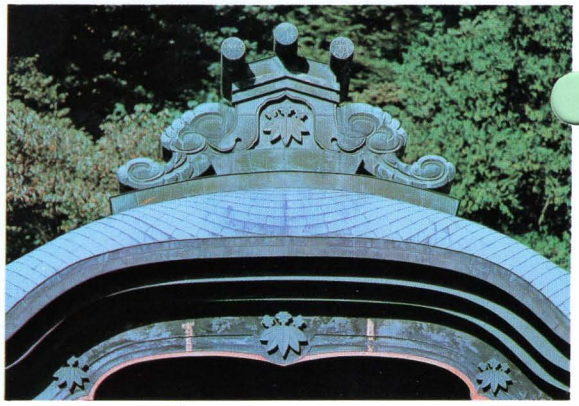
(Shufu-no-tomo is one of Japan's biggest family magazines.)

Architectural Photography

Continuing to Develop in New Directions–the RB67







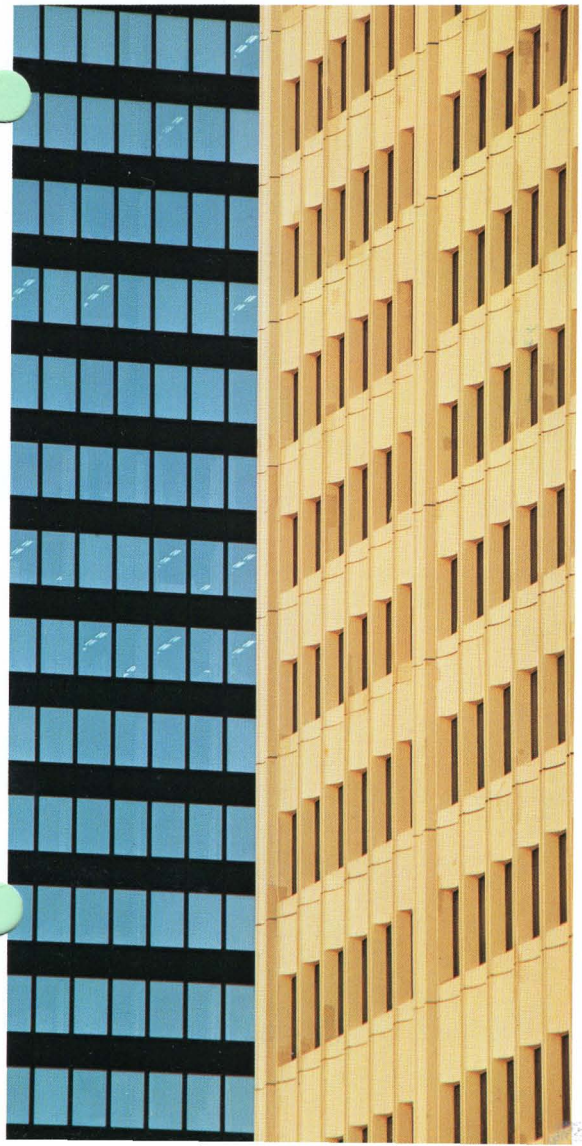
The age has ended in which it was thought to be enough if architectural photographs recorded accurately the form of a building and its method of construction. Since buildings have now gained the status of being designers' masterpieces as well as reflections of the character of the regions in which they are built, one must now be able to capture the concepts behind each building.

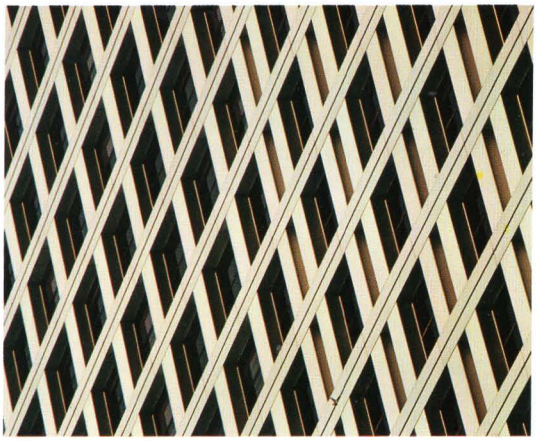
The ideal camera for architectural photography is one that can capture anything from the dynamism of a modernistic building to the historic, age-old patina of an ancient temple.

This is where the RB67 excells. If the full range of interchangeable lenses is utilized, it can be used in the same way as a 35mm camera when facing the subject. On the other hand, if you set it up on a tripod, check thoroughly through the focusing screen and snap the shutter, you get the same feeling and results as with a view camera. The temple was photographed using a gelatin filter and the large focusing screen was extremely useful because it enabled the photographer to check the results.

We can express photography in one word, but a great many elements are encompassed by that one word. As is the case with photographers, the individual characteristics of the possible subjects are beyond counting. If we think about the works that result from the proper use of cameras that meet all these different conditions, that is one sort of ideal. But there is no doubt that it is even better if all these conditions can be met with one camera.

The development of the RB67 as a system camera that meets the many and various demands of the cameraman has been continuing ever since it was first introduced. The aim of that development is to be able to transform the camera into the optimum unit for each occasion through the combination of system accessories. The RB67 system will continue to be improved as photographic technology advances in the future.



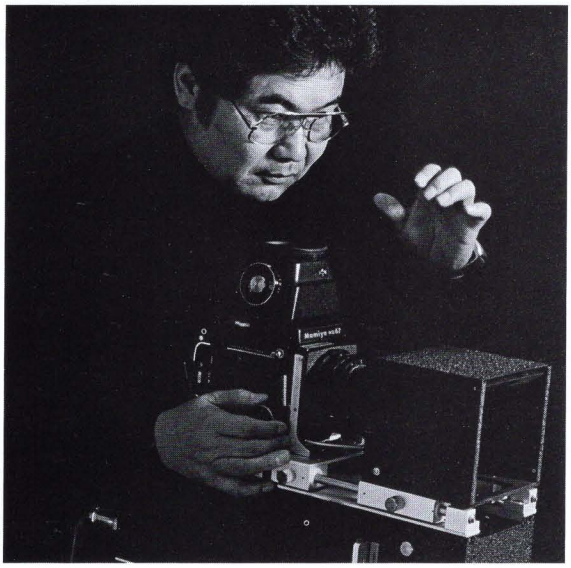


Experimental Photography

Stressing Freedom in Photography–the RB67

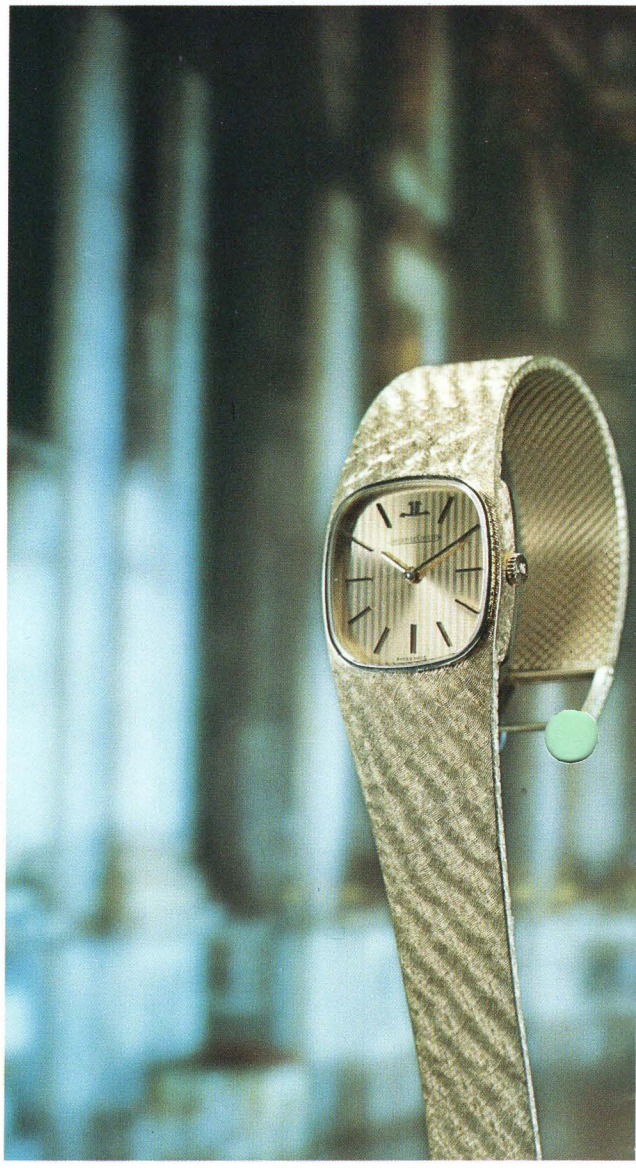
Isamu Tamada

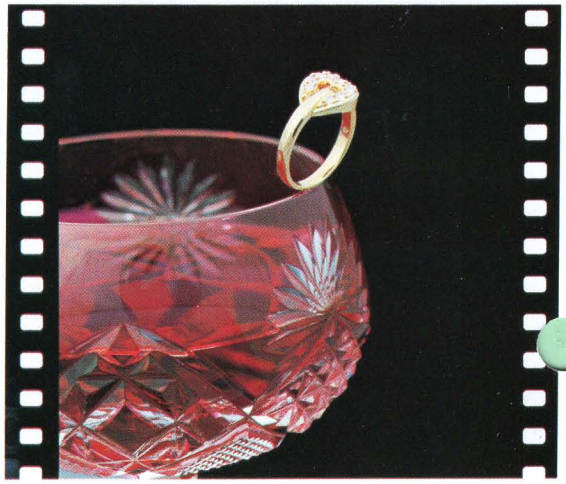
(Member of the Japan Professional Photographers Society)

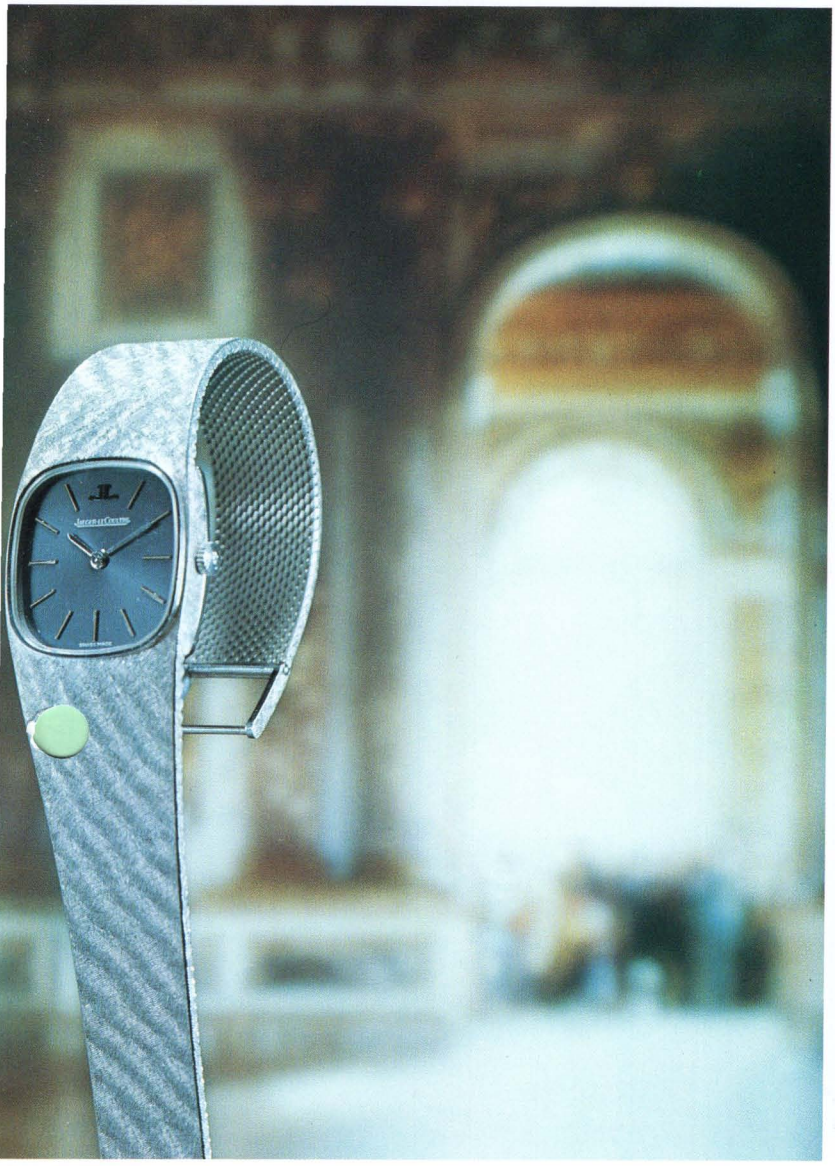


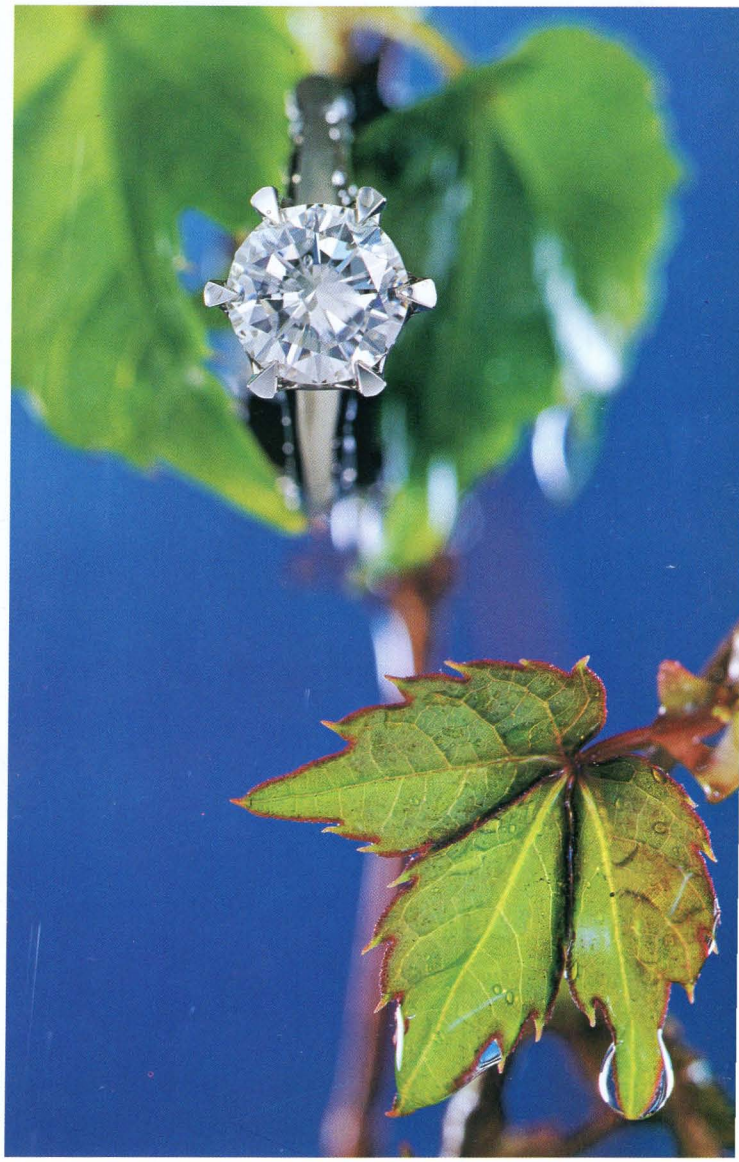
Once you have been taking commercial pictures for a long time, you — and your clients — get bored with the simple straightforward approach. Consequently, you spend a great deal of time racking your brains for new approaches. But a new approach also depends a great deal on the camera. The camera's functions must be utilized to their limits and there are even cases where pictures are obtained in ways which disregard the camera's fundamental nature. The RB67 is foolproof for general applications but it is sometimes useful if these foolproof interlock functions can be released for creative special effects. If the camera is entirely automatic, the logic of the camera takes the leading role and leaves little scope for experimentation.

The pictures that have been used here are very simple in concept. In one of them, the remarkable thing is the fact that something unstable is standing. The beauty of it is that it is not composite photograph. In addition, with the use of the front projection screen process, it becomes possible to set up scenes that can be thought to be almost impossible. In fact, I was able to take the gratifying advertising picture of the watches using a screening device that I invented and contrived myself especially for use with the RB67. One of the other photographs was taken by advancing the film during exposure. In that case, I had to use a long 70mm film that could be advanced with great precision frame by frame. The other was taken by revolving the film holder during exposure. These were particularly pleasant experiences for someone like me who is normally confined to the limits of the finder frame.



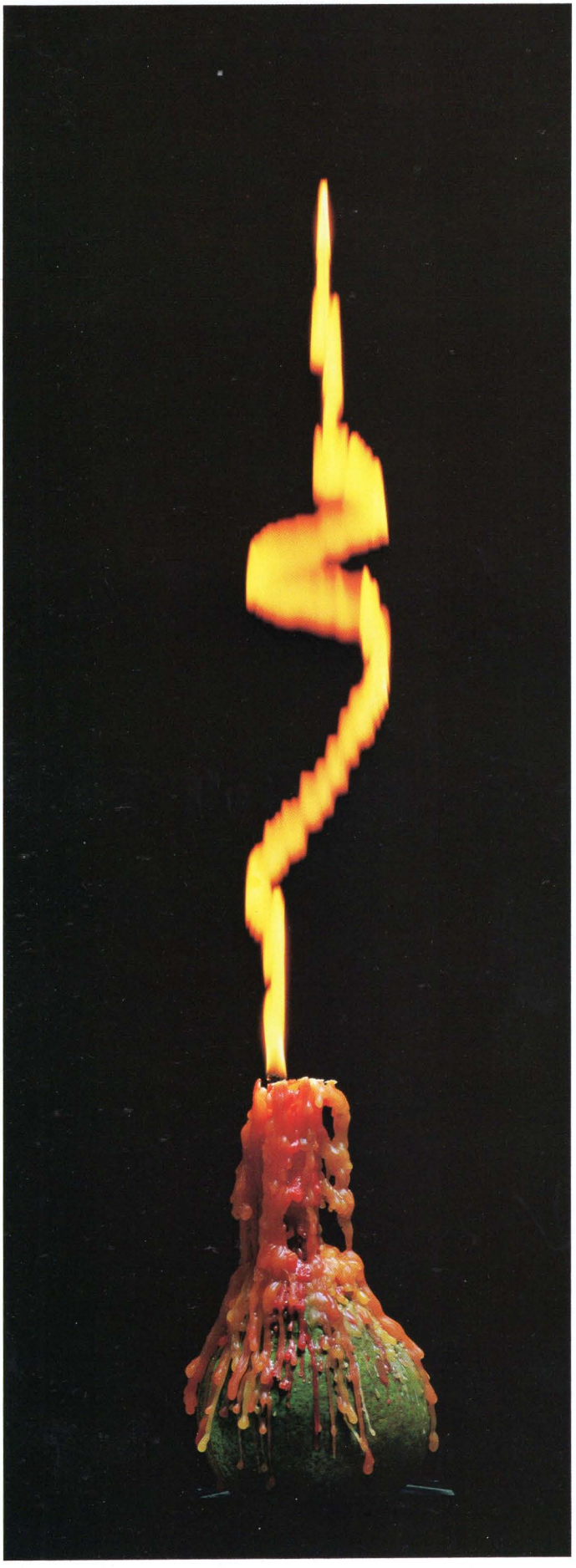






The RB67 was first launched as a camera for professionals. Unexpectedly, however, it was welcomed by amateurs and we are delighted that the unique philosophy behind its design was understood and appreciated.

On the other hand, however, a lot of demands were directed towards the manufacturer because the camera was not fitted with the usual safety mechanisms in order to give professional photographers more freedom in using it. As a result, the current Pro-S Model was produced, a camera which made it almost impossible to make a careless mistake. At this stage, it was realized that it would be easier to manufacture an entirely fool-proof camera, but in order to preserve the element of freedom of use, it was also necessary to fit it with release devices which corresponded to each safety device. In this way, the RB67 Pro-S—a camera that can be used by both the first-ranking professional and the advanced amateur—was born.




KODAK SAFETY FILM
7640 5
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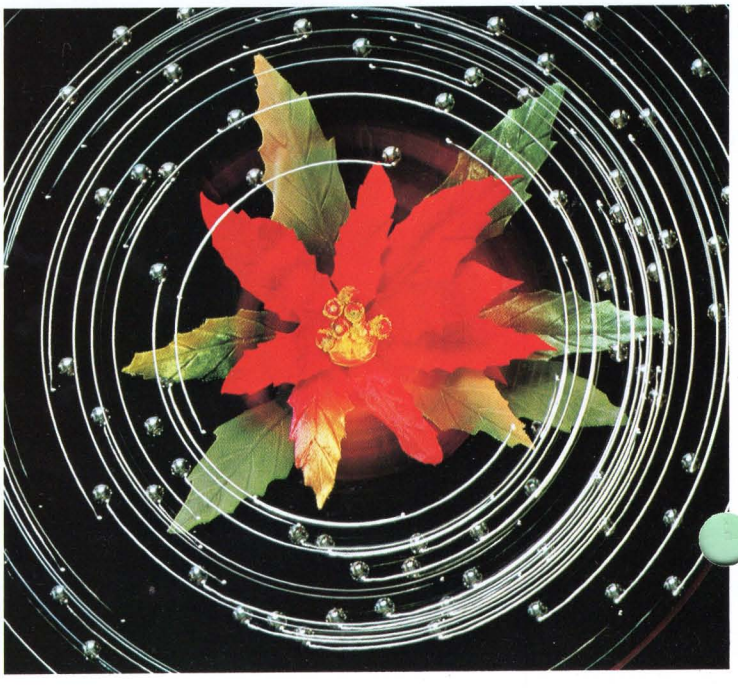


Photography of Food

Vividly Conveying the Sense of Quality–the RB67

In the photography of cooked dishes, realism is everything. This kind of photography must not only convey the hardness or the softness of the food, it must also convey the feeling of what the food would taste like when put into one's mouth. The reason for this is that if it does not convey such a feeling, the food will not look appetizing. From this point of view, the larger the picture size, the better. At the same time, a camera which is awkward to operate would cause problems since, if hot food gets cold during the photographing session, it no longer gives off steam, begins to dry, and loses the appearance of freshly cooked food.

With the RB67, these two elements are made compatible. Picture quality allows the photographs to be used as originals for posters, yet preparations for such photographs take very little time. It is also possible to take photographs which match the configurations of the rising steam.

Lighting effects are very important in realistic documentation so it is better to have a bright focusing screen that can read the scene easily. Moreover, the possibility of using an easily-interchangeable Polaroid® film holder back permits previewing the image for greater precision.

As we have already said, the RB67 was developed with high quality pictures and speed as its goals. The field of photography is vast but each speciality has its own characteristics. However, when we try to sort out all these characteristics, we always come across the same problem: the contradiction between picture quality and speed. The people who have not been satisfied with the results they have obtained with their current cameras should really try the RB67 system.

Mamiya

RB67 PRO-S

You get more with the RB67 Pro-S System.

More Image. The 6x7cm format is ideal for standard enlargements. It gives you one-and-a-half times more usable negative area than 2¼" x 2¼".

More Innovation. Like the 140mm f/4.5 Macro C lens that focuses from infinity down to 30". The lens has a floating element system which provides exceptional resolution across the entire field of focus.

More Versatility. Like the 7 viewfinders, 11 backs and 10 lenses. You can build a system to match your professional needs.

Get more camera. For less money. The RB67 Pro-S.

BHMC

BELL & HOWELL/MAMIYA COMPANY

To learn how Fred Broderson created this photograph write Bell & Howell/Mamiya Company Attn A Metz. Dept PP-152 7100 McCormick Road. Chicago. Illinois 60645

Advertising Photography

ossessing the Power to Express Reality–the RB67

It may look as if an advertisement page has suddenly been inserted into this booklet, but actually it is included as an example of how the RB67 can be used for advertisements. Photographs for use in advertising require both a novel idea and the camera to bring that idea to life vividly.

This advertisement is one of a series in-ted by BHMC in many American amateur and professional photography magazines. Readers who were interested in how these photographs were taken were asked to write in for information. A portion of the answer concerning this photograph is as follows:

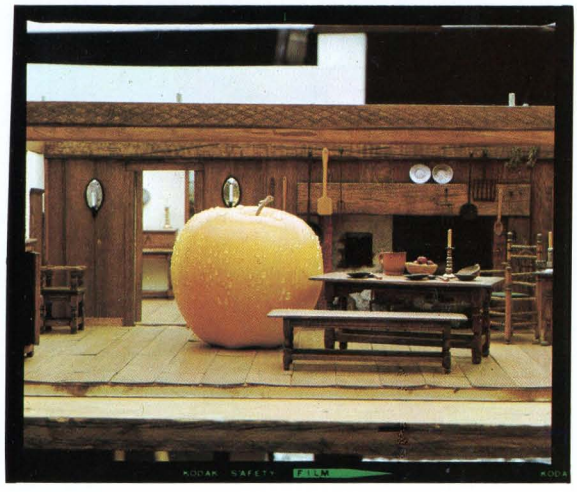
Thank you for showing interest in how Fred Broderson, one of the country's leading still life photographers, created the photograph that appeared in our recent Mamiya RB67 Pro-S camera advertisement. In making this photograph, we wanted him to demonstrate the capabilities of our new Mamiya-Sekor C 140mm f/4.5 macro lens. Here's how Fred accomplished his assignment:

EQUIPMENT: Mamiya RB67 Pro-S with 140mm f/4.5 Macro lens, Bellows extended 30mm. Floating rear lens element set to match bellows extension.

FILM: Ektachrome E3 120 roll film, ASA 50.

LIGHTING: An electronic flash with a diffusing screen was placed one foot over the miniature room set for a soft, even light effect.

EXPOSURE: 32000 watt-seconds at f/32. A shutter speed of 1/60 activated and synchronized the electronic flash unit.



The RB67's power to express reality makes a miniature (which of course must be made with extreme precision) look like the real thing. The floating lens element system, which the RB67 was the first large-size camera in the world to adopt, enhances even further the performance of the lens, particularly for close-ups.

Stage Photography

Ideal for Use in Conditions of Silence—the RB67

Kakichi Hayashi
(Member of the Japan Professional Photographers Society)

One of the most important things in stage photography is that the photographer possesses a good knowledge and understanding of the subject, be it the performer, the production, the acting, or whatever. If he does not possess this knowledge, his photographs will have minimal success as works of art.

There are various limitations which accompany photographing from amongst the audien primarily the fact that it is difficult to shift positio Consequently the rehearsal is very important for the photographer since he can figure out the lay-out of the theater and decide on which lenses to use, as well as fix firmly in his mind the shooting locations, angles, and opportunities for shooting. During the actual performance, he should always take his time and move around many times, varying the shooting location. A successful masterpiece cannot be produced in one or two attempts. If he keeps these ideas in mind, the photographer can obtain better pictures, but he must always be careful not to disturb the audience or performers.

The entertainment unfolding on the stage includes relatively few climactic events, so that as long as the photographer has some advance knowledge of what will be going on he can avoid disorganized picture-taking. For example, it is possible to take advantage of the accompanying music and click the shutter so that it will not make a distracting sound.

Of course one must consider the quality of the image and the ease with which the camera handles in stage photography, but the amount of shutter noise each camera makes is also a major consideration. More than ten years ago, two leading Kabuki actors judged for me how much different camer interfered with their performance. The Mamiya C33 received a good evaluation, so I have continued to use a Mamiya ever since.

Mr. Morcombe also mentioned it, but for Mr. Hayashi the shutter sound takes precedence over all the other characteristics of the camera. A quick return mirror was not incorporated in the RB67 because, in addition to making it an extremely trouble-free camera, particular attention was paid to minimizing shutter noise.

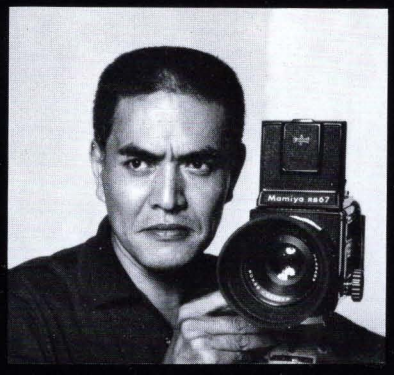
Often it is impossible to stop down the lens when photographing a dark subject like a stage. The RB67's lens' open aperture can be used with confidence, as the camera has been constructed with great care paid to such features as film-holding precision, the brightness of the finder and lens optical performance.

These photographs of traditional Japanese performing arts are from a publisihed collection of Mr. Hayashi's photographs, ("Gagaku","Bunraku", "Nihon Buyo", "Kabuki Buyo").

Poster and Still Photography

For Freedom in Editing–the RB67

Yoshinori Ishizuki
(of Toho Photo Produce Co., Ltd.)



I am in charge of photographs which range from movie stills to photographs for posters and pamphlets. I use the RB67 in this job and, being accustomed to it, can compensate for its weight. It is good because it has a finder with a large field of vision and a bellows-type focus adjustment which simplifies the taking of close-ups.

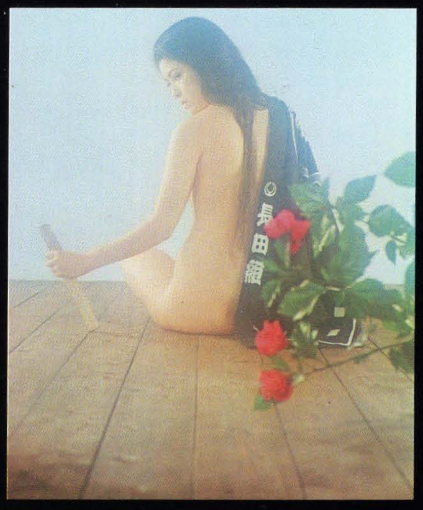
The lenses I use mainly are the 65mm f/4.5 wide-angle lens and the 250mm f/4.5 telephoto lens and, quite often, I use a weak, soft-focus attachment so that the skins of the actors and actresses will photograph well.

In conveying a movie's image through still photographs, it is necessary to have a wide range of interchangeable lenses that can meet the requirements of the original movie film. But the situation in this field that gives the most trouble is incorporating the atmosphere of the story into the photographs.

Color transparencies for posters consist not only of full frames, but often use collages or compositions made from parts of different photographs. In this respect the 6×7 picture size is very convenient for later cropping.

The RB67's finder magnification was made as large as possible, with a ratio of 95% of actual size. Taking into consideration the ease with which the finder screen can be exchanged, this can be thought of as the maximum field size.

One special characteristic of the RB67 is the ease with which close-ups can be taken; the bellows extend 46mm and, with the 250mm f/4.5 lens, you can come as close as 1.6 meters from the front edge of the lens. This feature is not found in other medium-format cameras or in 35mm single-lens reflex cameras.

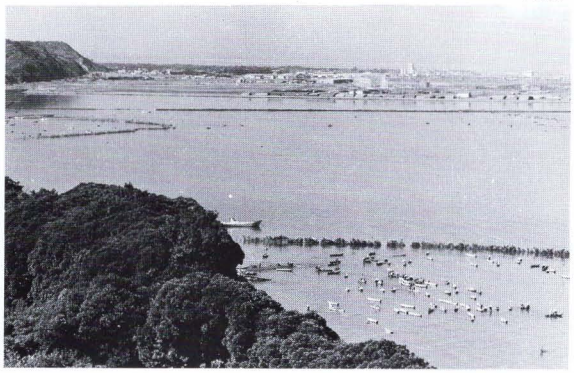


Documentary Photographs

Conveying a Wealth of Information–the RB67

Tadazumi Watanabe

1967



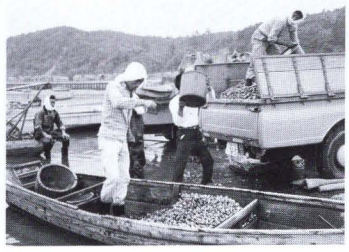
I started taking pictures to record the growth of my children. In the course of entering photography contests and winning prizes, I gradually started receiving more and more orders and before I knew what was happening had become a "traveling photographer" without a studio.

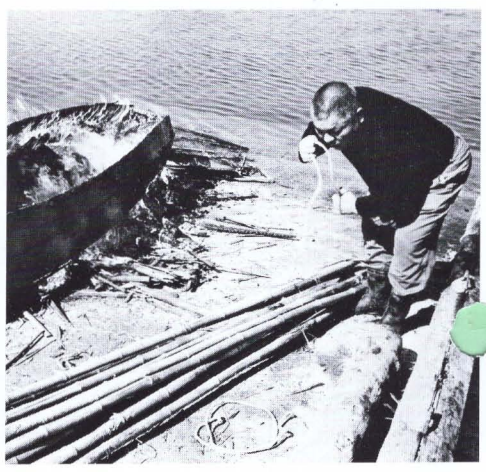
I acquired an RB67 for this work. When conditions for out-of-doors photography are not the best, the sharpness of the RB67 is a great help to me. In addition, the fact that the film holder back can be exchanged very quickly is extremely convenient when I have orders for both color and monochrome work at the same time.

1968

Besides the photographs I take professionally, I am also taking a continuing series of documentary photographs of the changing Tokyo Bay area. Mt. Fuji can be seen across the bay, land is gradually being reclaimed from the sea in an area that used to be a treasure-house of marine life, and factories are being built. In the future, all of the bay will be reclaimed and there will be no sea left there. I want at least to preserve in photographs its appearance for later generations. This work was begun with these intentions in mind.

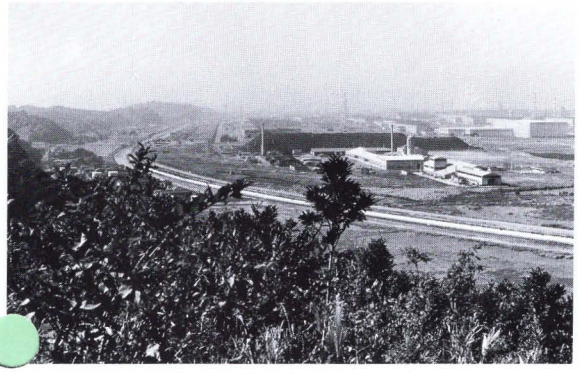
My method for this has been to take "fixed-point observations", shooting from the same spot each year. These are for the purpose of creating objective, thorough records, rather than artistic pictures.





1970

1971



1977

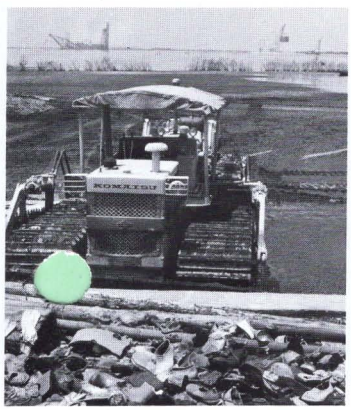
At first I used a 35mm camera, but of course I have been shooting with the RB67 since I obtained the camera. The tremendous sharpness which the RB67 gives multiplies many times over the information obtained from the fixed-point observations.

Another thing that I have been doing over the last 10 years is following the people of the sea. More than making a mere record, I want to preserve and hand down in photographs the feelings of the fishermen who are relinquishing their fishing rights.

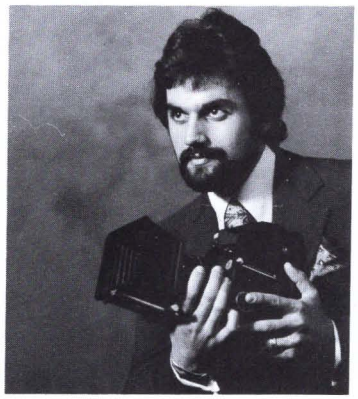
I started taking photographs to record my children's growth and now I am recording Tokyo Bay. Perhaps my lifework is documentary photographs.

The amount of visual information contained within a photograph, even one that is taken without any of the intentions that lie behind fixed point observation, can determine its value. If we greatly magnify such photographs, we can see things that were not noticed at the time of the shooting. This is an option available only with a large picture size.

At the same time, if we have a camera whose operations are sluggish, we cannot record the real movements of subjects such as those in news photographs. Mr. Watanabe chose the RB67 as a camera which met these demands. It is clear that the capabilities of the RB67 and the thinking of Mr. Watanabe were in complete accord.



Gary C. Silber

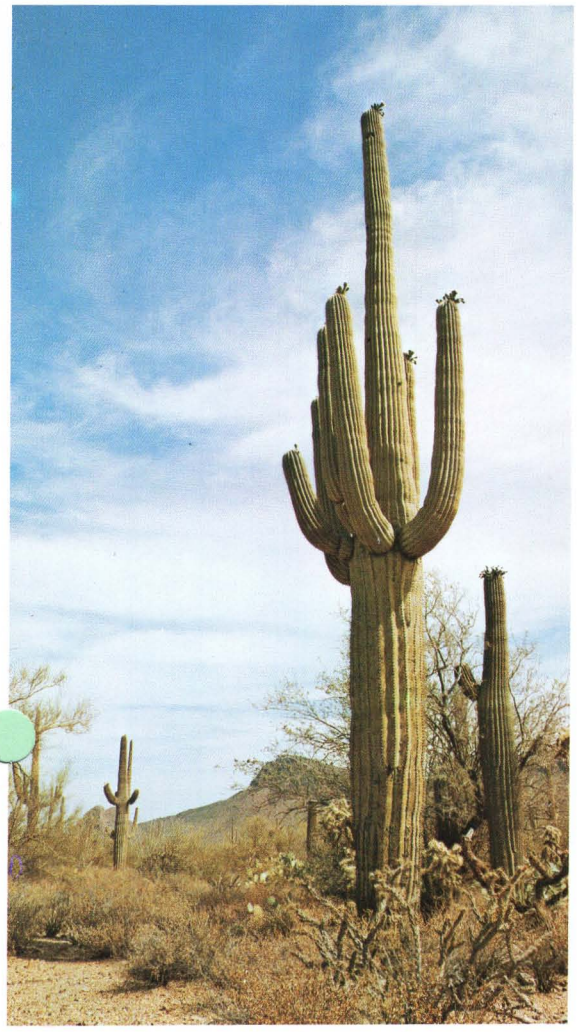


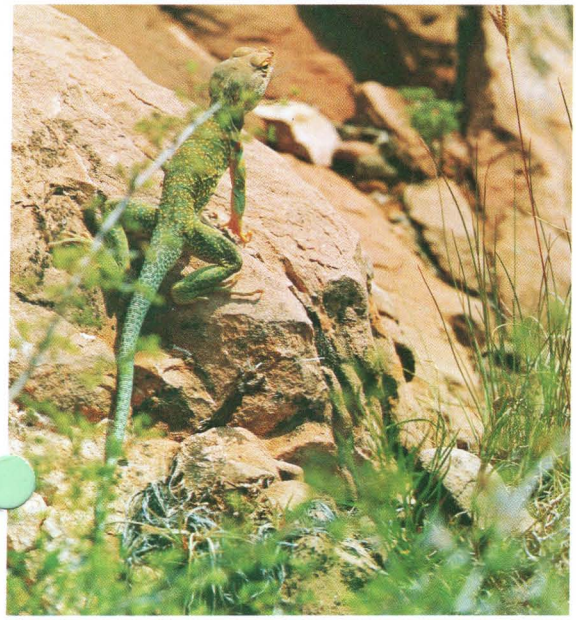
A camera used for photographing landscapes must be durable. No matter how much care you take up until the time you arrive at the site you wish to photograph, it is likely that the camera will suffer some kind of shock. Yet it is essential that you have a camera that is sure to be in working order when you arrive at your location. Moreover, since a lens-shutter that will work under low temperature conditions is also desirable, a simple mechanical shutter is more reliable than an electronic shutter for which it is necessary to carry spare batteries. Only the RB67 has all these characteristics plus a large-size format.

A large-size format is absolutely essential for photographing landscapes. Photographs taken with small-format cameras do not have the sort of rich gradation that is needed to depict living nature. And with the 6×7 format, you can take a larger number of pictures per roll. In this respect it is convenient since you do not need to carry bu[illegible] film holders when going on a photography trip. A CdS meter finder is essential. With its spot-metering capability even the brightness of distant subjects can be measured with precision.

Landscape Photography

eveloped with Durability in Mind–the RB67





Since the RB67 is a camera for professionals, it was developed to be durable enough to keep problems or breakdowns to a minimum. Mamiya is continuing to strive to develop cameras whose parts can be checked individually, cameras that are easy to operate and that will almost never break down.

As long as photographs can be taken anywhere on earth, it is likely that the photographer is going to meet unfavorable conditions which just cannot be anticipated.

We continually research how our products are being used so we can anticipate any potential problems and incorporate engineering improvements to keep such problems at a minimum.

The Camera

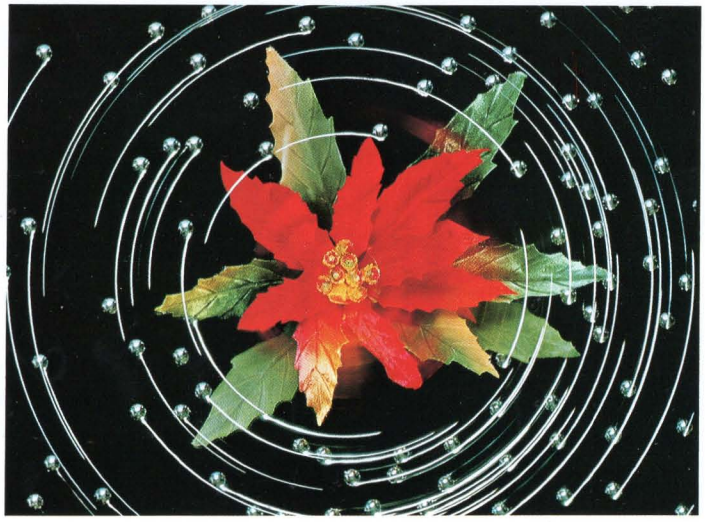
The Mamiya RB67 Pro-S has many special versatile features. Here are a few of the features that are particularly important to photographers around the world.

Revolving Back

The back of the Mamiya RB67 Pro-S can be turned 90° in one direction and has a positive lock to insure proper alignment of double-exposure preventive system and alignment with finder. This allows the picture format to be changed from horizontal to vertical without changing the camera's position or removing it from the tripod. To help in composing the picture, red lines appear on the focusing screen to indicate when the horizontal format is being used.

This kind of mechanism is considered standard on a 4 × 5 inch (9 × 12 cm) format view camera. However, the Mamiya RB67 Pro-S is the first 6 × 7 cm camera to be equipped with it, putting it on a technical par with the view camera.

Since 35mm cameras are relatively small, changes from horizontal to vertical format and vice-versa are done by changing the position of the camera itself. With medium-format cameras, however, this puts quite a strain on the cameraman. Consequently, for many years 6 × 6 cm format cameras were used, despite the fact that the photographer later had to resort to wasteful cropping of the image. The advantage of the 6 × 6 cm format, of course, was the fact that there was no need to change the camera position to take horizontal or vertical photographs since the sides of the picture were all the same length.



Format

The 6 × 7 cm format is a logical picture size which evolved after careful consideration of the pros and cons of other picture sizes.

The Mamiya RB67 Pro-S provides an actual picture size of 56mm × 68mm, with a width/length ratio of 1:1.2. This ratio is very similar to that of view cameras like the 4 × 5. People who are accustomed to such cameras will have no problem adjusting to the RB67 Pro-S film format.

Moreover, this length/width ratio is also very close to the ratios of most standard sizes of photographic paper, which means that the picture framed in the single lens reflex viewfinder can be printed exactly as it is seen in the viewfinder without cropping.

This format is also logical in terms of the number of photographs per roll. A 6 × 9 cm format camera can make only 8 exposures on 120 roll film. And while a 6 × 6 cm format camera can make 12 exposures, they must all be cropped to fit the paper size, making the effective part of the picture similar to that of a half-format. With the 6 × 7 cm format, however, 10 pictures can be taken, with an effective picture size similar to the older 6 × 9 cm format.

Today, the 120 size is not the only roll film available. There is a tendency towards longer films, with a 220 size (20 exposures) and a 70mm (50 exposures) on a 15 foot roll. Medium-format cameras are gradually acquiring the same number of frames per roll capabilities as the 35mm camera.

It is possible to change holders in mid-roll, and an interlock system is utilized to avoid mistakes when interchanging. The Polaroid® Land pack film holder also permits the use of instant films. The format changes to 7 × 7 cm but since it is roughly similar to the format of Polaroid® type 80 pack films, image size loss is reduced to a minimum.

The Bellows

With the Mamiya RB67 Pro-S, focusing is accomplished with a bellows extension system, rather than a helicoid lens extension system. Not only does this system produce a clear picture with little internal light reflection, it also makes the Mamiya RB67 Pro-S a good camera for close-ups. This enables it to be used for product photographs, a task that was formerly achieved only with a much larger view camera.

The bellows can be extended 46mm. With a 90mm f/3.8 lens, close-ups with a magnification of about 1/2x, ($\frac{1}{2}$ life-size) can be taken. Using a 127mm f/3.8 lens, a magnification of about 1/3x can be achieved.

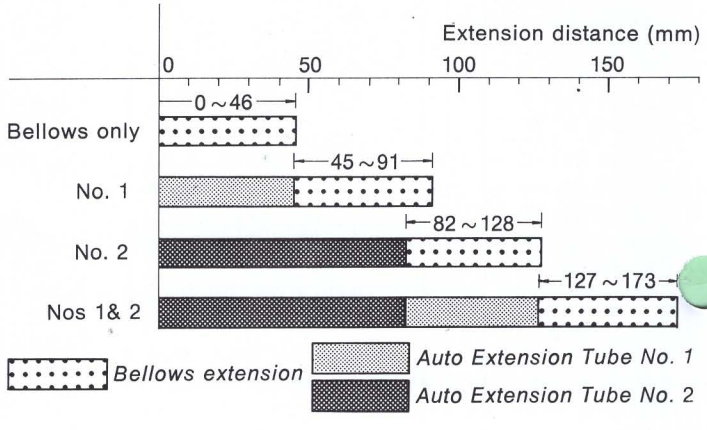
The RB67 Pro-S has a unique distance scale graph on the side of the bellows which displays the curves of all the various focal length lenses. This feature makes it possible to easily read photographic distances graphically on the camera itself. It also shows precisely how many millimeters the bellows has been extended as well as exposure compensation factors for close-ups with each lens.

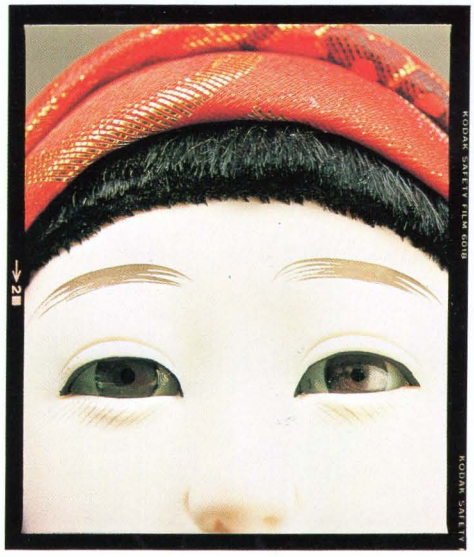
For larger magnification close-up photography, exclusive Auto Extension Tubes are available for the Mamiya RB 67 Pro-S. Extension Tube No. 1 is 45mm long and No. 2 is 82mm.

If you add the 45mm of the Auto Extension Tube No. 1 to the length of the bellows fully extended, it adds up to 91mm.

Using the No. 1 Tube with a 90mm f/3.8 lens it is possible to take life-size close-up photographs in a 1:1 ratio. The Auto Extension Tube No. 2, used together with the fully extended bellows and a 127mm f/3.8 lens, also makes it possible to take life-size close-ups. In addition, by varying combinations of lenses and extension tubes, and by varying the extended length of the bellows, it is possible to change lengths continuously from 0 - 173mm, with some overlap. What this means is that with a 90mm f/3.8 lens you can take a close-up with a magnification of 2x (of a photographic subject area 30 × 36mm) while a 180mm lens allows telescopic close-ups of the subject in almost its actual size.

Mamiya RB67 Pro-S Auto Extension Tube system





Although the Mamiya RB67 Pro-S Extension Tubes are thus systematized to a considerable extent, for even higher-precision close-up photography it is advisable to use another Mamiya RB67 Pro-S system accessory. The Mamiya-Sekor 140mm f/4.5C Macro lens was specially designed for close-up photography. It can photograph up to 1/3x by itself and from .91x to 1.23x when used with the Auto Extension Tubes No. 1 and No. 2. A floating lens element system is employed (unusual in medium-format lenses) so that most aberrations that occur when taking short-distance close-ups can be corrected just by adjusting part of the lens structure.

Proper exposure is essential for obtaining sharp close-ups. For this reason, interchangeable viewfinders with built-in TTL metering systems are available for the RB67 Pro-S. The CdS Magnifying Hood Finder, in particular, provides excellent spot metering through a 6mm diameter spot in the middle of the picture, which helps assure correct exposures.

We are confident that the Mamiya RB67 Pro-S camera and lens system will produce excellent close-up photographs because of the large 6 × 7 cm image size and the optics that are believed to be superior to others in the field.

The Lenses

A camera that does not possess a wide assortment of versatile interchangeable lenses loses much of its practicality, no matter how excellent the camera itself may be. With 6 × 7 cm format single-lens reflex cameras, as with 35mm cameras, the tendency is for purchasers to choose a particular camera after checking the quality and types of lenses available in a system rather than simply deciding on the camera body for its features alone.

A full complement of exclusive Mamiya-Sekor lenses, ranging from a 37mm f/4.5 fish eye to a 500mm f/8 telephoto, is available for the Mamiya RB67 Pro-S. When choosing lenses for a medium-format camera, the easiest way to understand what you are getting is to compare their equivalent focal lengths to lenses for 35mm cameras, which are often more familiar. The height/width ratio between the 6 × 7 format and the 35mm format is expressed by the formula $1:\sqrt{2}$ (1.414). The length of one side of a 6 × 7 cm format picture is exactly double that of a 35mm picture. Thus, to find the equivalent lens for a 35mm camera you just divide the focal length of a 6 × 7 format lens by two.

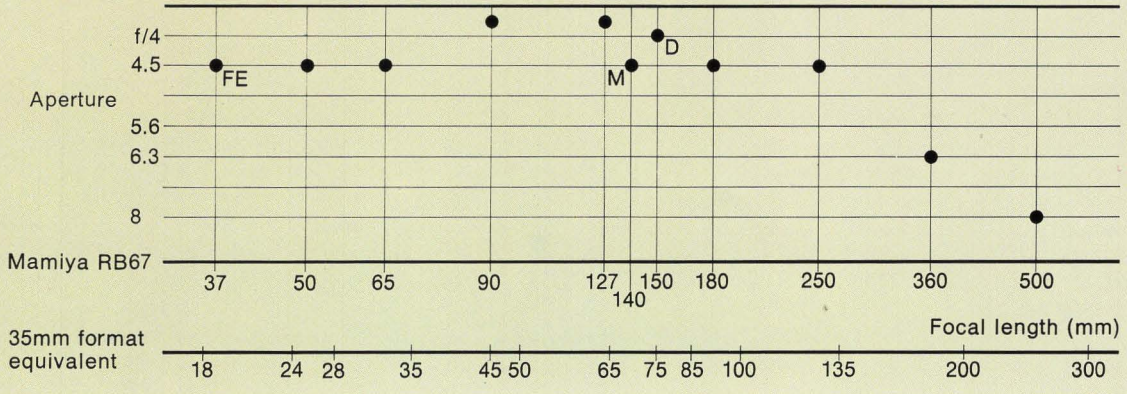
Using this simple guide, the 90mm f/3.8 lens for the RB 67 Pro-S corresponds to the 45mm for a 35mm camera, the 127mm f/3.8 to the 63.5mm, and so on. If you convert the full range of lenses presently available for the Mamiya RB67 Pro-S into 35mm terms, you will discover you can obtain the same visual effects with our system as you can with 35mm lenses ranging from an 18.5mm fisheye to a 250mm telephoto.

Naturally, this calculation has been made on a 6 × 7 c format full frame basis. So, if you include the possibilities cropping your enlargements you can extend this range still further.

If you convert the focal length of each Mamiya-Sekor lens designed for the RB67 Pro-S into 35mm terms, you will find they correspond almost exactly to the main interchangeable 35mm lenses. Using this as a reference, you can choose those lenses whose focal lengths are closest to the 35mm lenses you prefer.

When the focal lengths for the Mamiya-Sekor interchangeable lenses are listed on a graph, it is easy to see just how logical the line-up is (*see chart*). Apart from special lenses like the macro lens and the variable diffusion (portrait) lens, the lenses range at approximately equal intervals. Each lens has its own range of applications, and anybody can build his or her own lens system with only a limited number of lenses.

The Mamiya RB67 interchangeable lens system



FE = *Fish eye*
M = *Macro*
D = *Variable Diffusion*

The design and operating controls of all the lenses are standardized, and the operation of interchanging lenses is the same for all lenses. With the exception of the filters for the 37mm f/4.5 and the 500mm f/8 lenses all filters are the 77mm screw-in type — a great help in keeping the camera bag uncluttered. In addition to a convenient depth-of-field preview lever that releases the automatic diaphragm, Mamiya-Sekor interchangeable lenses also feature a depth-of-field scale. This scale works in conjunction with the floating lens element system, a particularly rare feature in medium-format wide-angle and macro lenses, and contributes greatly to improved close-range photographic performance.

All Mamiya-Sekor C interchangeable lenses are supplied with Seiko #1 leaf-type lens shutters (with speeds of T and 1 sec. - 1/400 sec, with full M-X flash synchronization). The advantages of this type of lens shutter system—which permits high-speed synchronization with any flash for daylight synchro-sunlight applications— are well known to all professional photographers.

While an automatic diaphragm is used with the RB67 Pro-S system, it does not employ a quick-return mechanism for the mirror. This is to prevent possible mirror shock, thereby helping assure sharp photographs. Moreover, with medium-format single reflex cameras, there is inevitably a momentary time lag between tripping the shutter release and the actual shutter operation. If a quick-return mirror system were employed, there is a likelihood that this time delay would become erratic.

Winding the lever located on the right-hand side of the camera body forward through 75° sets the shutter and simultaneously cocks the automatic diaphragm and the mirror. It also activates the interlocking device for double-exposure prevention located on the roll film holder, which can be easily disengaged for multiple exposure photography.

The independent mirror release knob on the lens permits "mirror-up" photography. The mirror is brought into the 'up' position by tripping the shutter release button located on the side of the camera body. Actual exposure is then accomplished by using a cable release screwed into the hole in the center of the mirror cable release knob on the lens. A mirror-up cable release is available to help speed up this operation.

The Mamiya RB67 Pro-S double-exposure capability and mirror-up feature have helped elevate the entire system to a level of technical excellence and versatility similar to the view camera. Much of the credit for making the Mamiya RB67 Pro-S a unique camera with such a wide range of applications is due to not incorporating a quick-return mirror system.

Wide-angle Lenses

Three types of wide-angle lenses are available for the Mamiya RB67 Pro-S—the 37mm f/4.5, the 50mm f/4.5 and the 65mm f/4.5.

The 37mm f/4.5 lens is of the so-called 'diagonal plane' fisheye type. It is a lens that permits special effects and unusual graphic treatment of the subject. As the widest of the wide-angle lenses, it can also be used for general photography.

The 50mm f/4.5 lens is presently the most representative of the wide-angle lenses. Its picture angle corresponds to the 24mm and 28mm lenses for the 35mm camera. Its range of applications is extremely wide and its floating lens element system gives it superb performance for subjects close to the lens. It was the first medium-format lens of its type to use the floating element system.

The 65mm f/4.5 lens is equivalent to the 35mm lens used with the 35mm camera and may be termed a standard short focus lens. A fairly straightforward lens visually, it is appreciated by professional photographers as a moderate wide-angle lens. Distortion of the subject perspective is minimal, its picture angle is sufficiently wide, it has a great depth of field, and also features a floating element system.

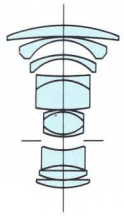
Photo by
Carmen Porto

37mm f/4.5 Fish eye

Construction:
9 elements in 6 groups
Angle of view: 180°
Minimum aperture: f/32
Minimum focus: 6.4mm
Filter size: 40.5mm
Hood: not required
Length: 93mm
Weight: 1,360g

50mm f/4.5

Construction:
11 elements in 8 groups
Angle of view: 82°
Minimum aperture: f/32
Minimum focus: 4.9cm
Filter size: 77mm
Hood: slip-on type
Length: 73mm
Weight: 920g



65mm f/4.5

Construction:
8 elements in 7 groups
Angle of view: 69°
Minimum aperture: f/32
Minimum focus: 8.5cm
Filter size: 77mm
Hood: slip-on type
Length: 69mm
Weight: 835g

Standard Lenses

The standard lenses available for the Mamiya RB67 Pro-S include a 90mm f/3.8, a 127mm f/3.8 and a 140mm f/4.5 lens for macro photography.

The 90mm lens is the equivalent of the 45mm lens used with 35mm cameras. It has a focal length which may be termed "normal" to the 6 × 7 format. While it may often be referred to as a standard lens among standard lenses, the fact that it can be used to obtain close-ups with a magnification of 1/2x without attachments amply demonstrates its versatility.

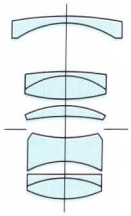
The 127mm f/3.8 corresponds to a 63.5mm lens in the 35mm format. It has a rather narrow picture angle for a standard lens, the result of a newly developed Mamiya concept. The fact that today there are 100-105mm lenses available for 6 × 6 cameras is because other companies have followed Mamiya's lead in this area. The 127mm f/3.8 can be used in the same way as the 90mm f/3.8 lens, and finds applications in close-ups, portraits and product photographs because it produces minimal subject distortion. For a test of the uniqueness of Mamiya's lenses, this is probably the best one to try.

The 140mm f/4.5 for macro photography is equivalent to a 70mm lens used on a 35mm camera. The utilization of the floating element system provides improved performance in macro photography. With the lens alone, sharp macro photographs of 1/3x magnification can be taken. Used in combination with Auto Extension Tubes No. 1 and No. 2 it makes close-ups from 0.91x to 1.23x magnification possible.

Photo by John Kasinger

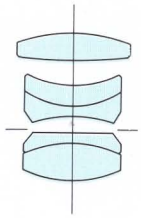
90mm f/3.8

Construction:
7 elements in 5 groups
Angle of view: 52°
Minimum aperture: f/32
Minimum focus: 20cm
Filter size: 77mm
Hood: screw-in type
Length: 73mm
Weight: 805g



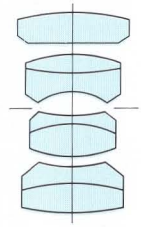
127mm f/3.8

Construction:
5 elements in 3 groups
Angle of view: 38°
Minimum aperture: f/32
Minimum focus: 43.4cm
Filter size: 77mm
Hood: screw-in type
Length: 66mm
Weight: 750g



140mm f/4.5 Macro

Construction:
7 elements in 4 groups
Angle of view: 35°
Minimum aperture: f/32
Minimum focus: 52cm
Filter size: 77mm
Hood: screw-in type
Length: 83mm
Weight: 900g



Telephoto Lenses

Including the variable diffusion (portrait) 150mm f/4 lens, there are 5 types of telephoto lens available for the Mamiya RB67 Pro-S.

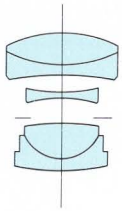
The variable diffusion 150mm f/4 lens is an open diaphragm soft focus lens that deliberately produces a beautiful flare. Several interchangeable diaphragms are available, including a honeycomb diaphragm, and it is possible to vary the flare by adjusting the aperture. It is ideal for portraits that are intended to convey a particular mood and for general special effects photography. Since it corresponds to the 35mm format 75mm lens, its picture angle permits it to be used even in small studios.

The 180mm f/4.5 lens is equivalent to the 90mm lens for 35mm photography. Its chief feature is its moderate feeling of perspective. The 180mm f/4.5 is a universal lens that is suitable for portraits, landscapes and product photography.

The 250mm f/4.5 lens corresponds to a 35mm camera's 125mm lens, but in fact, it is actually closer to the 135mm. This lens is suitable for any type of photography that requires a moderate telephoto lens. It has a maximum aperture of f/4.5, so it can be used for indoor as well as outdoor photography.

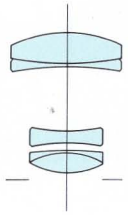
150mm f/4 Soft focus

Construction:
5 elements in 3 groups
Angle of view: 33°
Minimum aperture: f/32
Minimum focus: 61cm
Filter size: 77mm
Hood: screw-in type
Length: 84mm
Weight: 930g



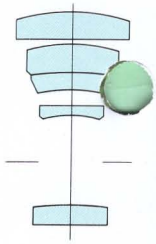
180mm f/4.5

Construction:
5 elements in 3 groups
Angle of view: 28°
Minimum aperture: f/45
Minimum focus: 85cm
Filter size: 77mm
Hood: screw-in type
Length: 102mm
Weight: 875g



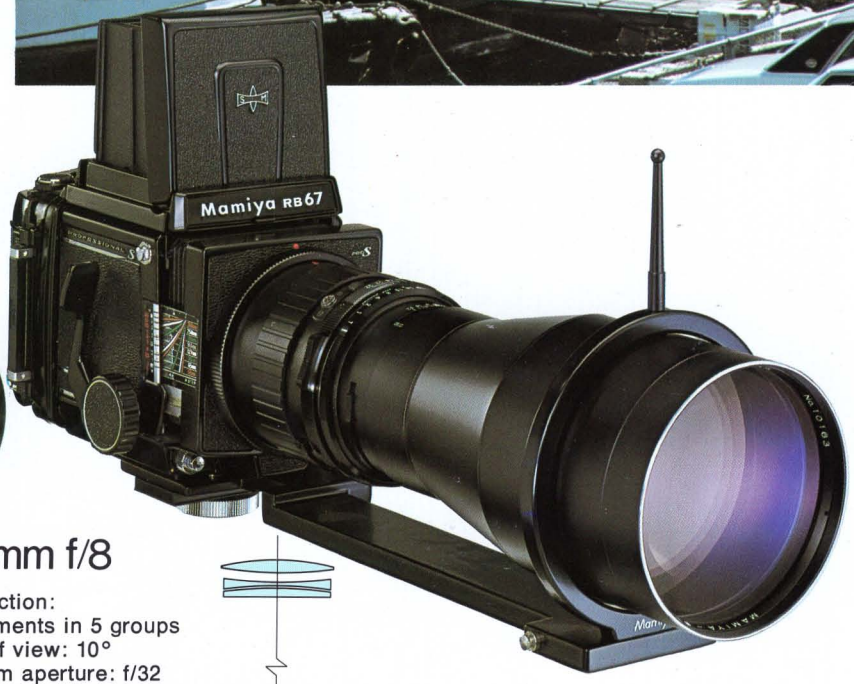
250mm f/4.5

Construction:
5 elements in 4 groups
Angle of view: 20°
Minimum aperture: f/45
Minimum focus: 160cm
Filter size: 77mm
Hood: screw-in type
Length: 143mm
Weight: 1,310g



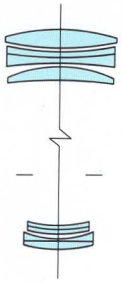
Although the 360mm f/6.3 corresponds to the 180mm lens used by the 35mm camera, it is closer to the 200mm in practical terms. Its telescopic effect is particularly effective for landscape and sports photography. Its maximum aperture is f/6.3, but it is a compact lens, very similar in size and weight to the 250mm.

The 500mm f/8 lens is the equivalent of the 250mm lens used by 35mm cameras, but in fact it rivals the 300mm as a long telephoto lens. It is indispensable when taking photographs of subjects that are difficult to approach, such as action sports and wild animals. Despite its speed of f/8 and excellent performance, it is a light lens that weighs only 1.9kg.



360mm f/6.3

Construction:
8 elements in 5 groups
Angle of view: 14°
Minimum aperture: f/45
Minimum focus: 346cm
Filter size: 77mm
Hood: screw-in type
Length: 164mm
Weight: 1,230g



500mm f/8

Construction:
6 elements in 5 groups
Angle of view: 10°
Minimum aperture: f/32
Minimum focus: 658cm
Filter size: 105mm
Hood: slip-on type
Length: 306mm
Weight: 2,140g

The System

Systematization is a prerequisite for any modern top quality camera, and the Mamiya RB67 Pro-S has a wide range of versatile accessories.

True system cameras, however, do not compete simply on the basis of the number of accessories available. The accessories must also be capable of being combined together to meet different types of photographic requirements. They should be able to help improve the versatility of the camera itself.

Here are two representative variations of the Mamiya RB67 Pro-S system.

First, let us equip a Mamiya RB67 Pro-S as a complete technical camera.

The CdS Magnifying Hood Finder has a built-in open-aperture TTL spot metering system and its magnification with a 90mm lens is 0.9x. The light metering section is a 6mm diameter spot in the center of the picture, a mere 0.74% of the entire picture area, which makes it a selective spot meter for professionals.

The bellows lens hood can be used with all the lenses from the 90mm f/3.8 to the 360mm f/6.3. Its use minimizes internal reflection to produce a clearer image. The rear part of the hood is fitted with a 3-inch square gelatin filter holder slot. Inexpensive gelatin filters are frequently required to either provide color correction for different emulsions of color transparency films or for special color effects.

The rubber lens hoods supplied with each lens are very effective, and may be used together with the accessory sun shield. Since the sun shield's angle and direction can easily be changed at will, bright, extraneous light can be prevented from entering the lens.

The focusing knob adapter *(not visible in this photograph since it is on the other side of the camera)* is a large rubber knob that can be attached to the focusing knob. It increases the knob diameter, making focusing more precise and rapid. Since it is rubber, it prevents fingers from slipping and speeds up the focusing process.

Once focusing is adjusted for maximum sharpness, the focusing mechanism can be locked by means of the focusing knob locking lever. This makes it possible to lock in an accurately focused image of a still subject.

The mirror-up release is an exclusive double cable release for the Mamiya RB67 Pro-S. First match the colors at the cable ends, one with the camera shutter release button, the other with the center of the independent mirror release operating knob on the lens. The initial pressure causes the mirror and light baffle to snap up, and continuing to squeeze it releases the shutter. Both functions may be carried out in one continuous operation.

The quick shoe speeds up mounting and removing the camera from a tripod. An adapter attached to the base of the camera permits the user to quickly and easily fix the quick shoe to the tripod.

Now, let us set up the Mamiya RB67 Pro-S for photographing moving subjects.

The CdS prism finder incorporates an open aperture, centerweighted light metering TTL system and the image in the pentaprism is upright and laterally correct. This TTL system is perfect for photographing moving subjects. A correct exposure can be obtained by simply adjusting the exposure meter needle to match the fixed point in the small window at the top of the field of vision. The eyepiece of the finder is tilted at a convenient 30° angle and the view seen in the finder with a 90mm lens is a big, clear 0.93x magnification.

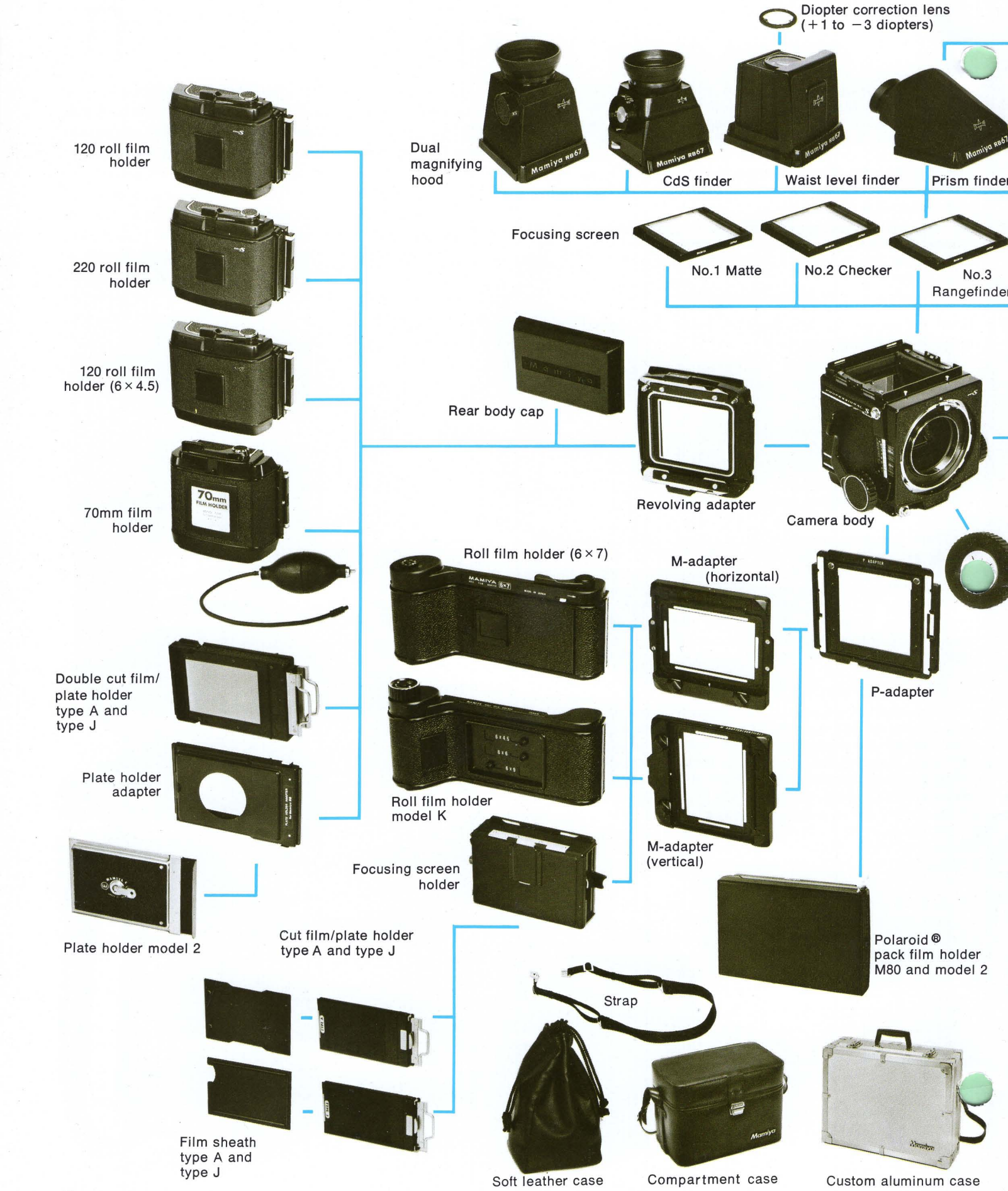
The camera's revolving back adapter can be removed easily by means of the lever at the base of the camera. Using a P adapter, a Polaroid® pack film holder can be attached. The M80 type uses Polaroid® Land type 80 packs while holder #2 uses type 100 or 600 packs. The picture size produced by either type of holder is 7×7 cm square. Black and white photographs can be obtained in 15 seconds and color photographs in 60 seconds. With Polaroid® Land film type 665, negatives may also be obtained at the same time as the Polaroid® positive proofs.

The multi-angle grip is the deluxe type of L-grip holder, and allows the left hand to simultaneously hold the camera and operate the shutter release. This frees the right hand to wind the film and set the shutter, thereby speeding up the picture taking. The upper part of the grip features an swiveling accessory shoe which adjusts to any angle for bounce flash.

Only a few of the system accessories available for the Mamiya RB67 Pro-S have been mentioned here. A full range of convenient finders, including the universal sports finder, two prism finders, and the dual power magnifying finder are also available. However, to begin using the RB67 system, it is not necessary to purchase all of these accessories. Each user should put together his own camera system to match his photographic needs.

We suggest that the accessory system chart be studied carefully so the features of the Mamiya RB67 Pro-S can be modified to suit the photographic requirements of each individual photographer.

Mamiya RB67 Pro-S Interchangeable Accessories System




Diopter correction lens
(+3 to −4 diopters)
Rear filter
(Y2, R60
and LB-A)
Sun shield
Universal
sports finder
37mm f/4.5
Fish-eye
50mm f/4.5
65mm f/4.5
CdS prism finder
Bellows lens hood model 2
with Gelatin filter holder
Lens hood (80mmφ)
No.4
Microprism
spot
No.5
Cross-hair
No.6
Micro/Split 45°
90mm f/3.8
Gelatin filter holder
(77mmφ)
Front body cap
Auto extension tubes
No.2
No.1
127mm f/3.8
Lens hood
(77mmφ)
Focusing
knob with
distance scale
150mm f/4.0
Variable
diffusion
140mm f/4.5
Macro
Filter (77mmφ) Y2, O2,
UV, YG, SL, ND16, PL,
81C and 82C
Quick-shoe
model 2
180mm f/4.5
Front lens cap
Flashgun adapter
250mm f/4.5
Lens hood for 360mm lens
(77mmφ)
Mirror-up cable release
360mm f/6.3
500mm f/8
Filter (105mmφ)
Y2, O2, UV, YG
and SL
Pistol grip
model 2
Grip holder
Multi-angle grip
Rear lens cap
Lens holder for 500mm

Mamiya's History

Mamiya began producing cameras in 1940. Today, Mamiya is one of Japan's leading traditional manufacturers of photographic equipment. Its long history, and the experience it has gained over the years, are some of the factors that enable Mamiya to produce cameras that are ahead of their time. It is no exaggeration to say that Mamiya is one of the companies that has contributed greatly to the quality and status Japanese cameras enjoy today.

Mamiya Six I

Mamiya 35

Mamiya 16

Mamiyaflex Automat A

The first camera manufactured by Mamiya was the **Mamiya Six I**, a 6×6 cm format folding camera. Focusing was not accomplished with the lens but through a back-focus system in which the film plane was moved, and an 'exposure completed' mark was visible in the viewfinder. Up until that time, Japanese camera manufacturers had either imitated exactly the designs of foreign cameras, or simply rearranged their different features. This Mamiya camera was therefore the first Japanese camera to utilize an original design concept.

In October 1948, the first **Mamiya 35** camera was produced. Among cameras that employed a lens-shutter system, it was the first to be fitted with a self-cocking system and a shutter charge (cocked) display. This camera also used the back-focus system.

The **Mamiyaflex Automat A**, introduced in July 1949, was the first automatic twin lens reflex camera in the world to feature a simplified film loading system. Rollei had actually produced an automatic type camera in 1937, but it was necessary to insert the film between the rollers. The automatic film counter zero reset system also dates from the Automat A.

In September 1949, Mamiya announced the 16mm format **Mamiya 16**, a precision camera with a compact body, to be followed in September 1950 by the **Super**. It possessed a built-in filter, a rarity on miniature cameras. Other cameras designed by Mamiya over the years include:

February 1956	The **Mamiya Magazine 35**, with interchangeable film backs.
October 1956	The **Mamiyaflex C Professional**, the first twin lens reflex camera to have interchangeable lenses.
April 1961	The **Mamiya Automatic EEF**, an EE camera with a built-in AG bulb flashgun.
October 1967	The **Mamiya/Sekor 1000DTL**, a TTL 35mm single lens reflex camera which could switch from spot to average metering.

Mamiya Magazine 35

Mamiyaflex C Professional

Mamiya Automatic EEF

Mamiya/Sekor 1000DTL

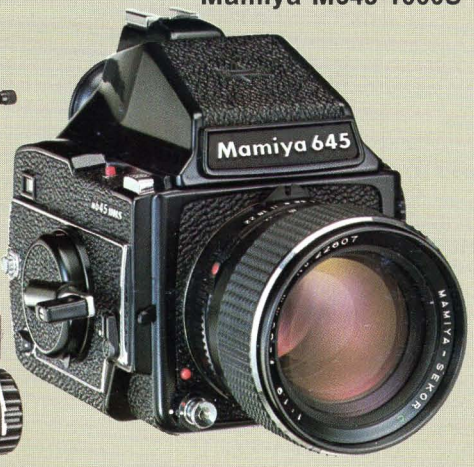
Mamiya has consistently produced noteworthy advanced cameras one after another, and it is easy to see the influence of these historic cameras in the world of cameras today.

As the crowning point of this developmental process, the Mamiya RB67 Professional was introduced in March 1970. This was the forerunner of the present model, the Pro-S which appeared in September 1974. Mamiya is thus not merely progressing steadily; it is constantly trying to anticipate the demands of the times. And in the future, too, Mamiya and the RB67 Pro-S will continue to strive for better photographic products and more versatile accessories.

Mamiya RB67

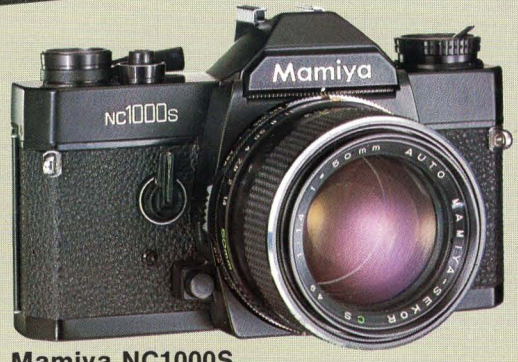
Mamiya C330f

Mamiya M645 1000S



Mamiya Universal Press

Mamiya 135



Mamiya NC1000S

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