REPORT ON THE MAMIYA M645 from

MODERN PHOTOGRAPHY

Mamiya M645: 15 on 120 in a Compact SLR

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MAMIYA M645: 15 ON 120 IN A COMPACT SLR

MANUFACTURER'S SPECIFICATIONS: Mamiya M645 medium-format 120 roll-film single-lens reflex camera. Body No. J 10715. LENS: Interchangeable 80mm f/2.8 Mamiya-Sekor C with apertures to f/22, focusing to 2¼ ft. (0.7m). SHUTTER: Vertical-travel electronically controlled cloth focal-plane with speeds of 8 to 1/500 sec. plus B; X sync at 1/60, FP at all speeds; special speed setting for coupling through-lens meter prism. VIEWING: Interchangeable prism or waist-level finder with central microprism, fine-focusing collar and full focusing Fresnel screen. OTHER FEATURES: Multiple-exposure provision, mirror-lockup lever, shutter-release buttons at front bottom and front top, X-sync hot shoe, film identification clip, depth-of-field preview button, accepts 58 mm accessories, 120 and 220 film holders. PRICE: Camera body, $445; waist-level finder, $65; prism finder with case, $160; 80mm f/2.8 normal lens with hood, $190; deluxe grip holder, $40; pistol grip, $45.

55mm f/2.8 Mamiya/Sekor C lens in bayonet mount for Mamiya M645. FEATURES: Aperture to f/22, focusing to 1¾ ft. (0.55m), accepts 58mm accessories. PRICE: $250 with hood and case.

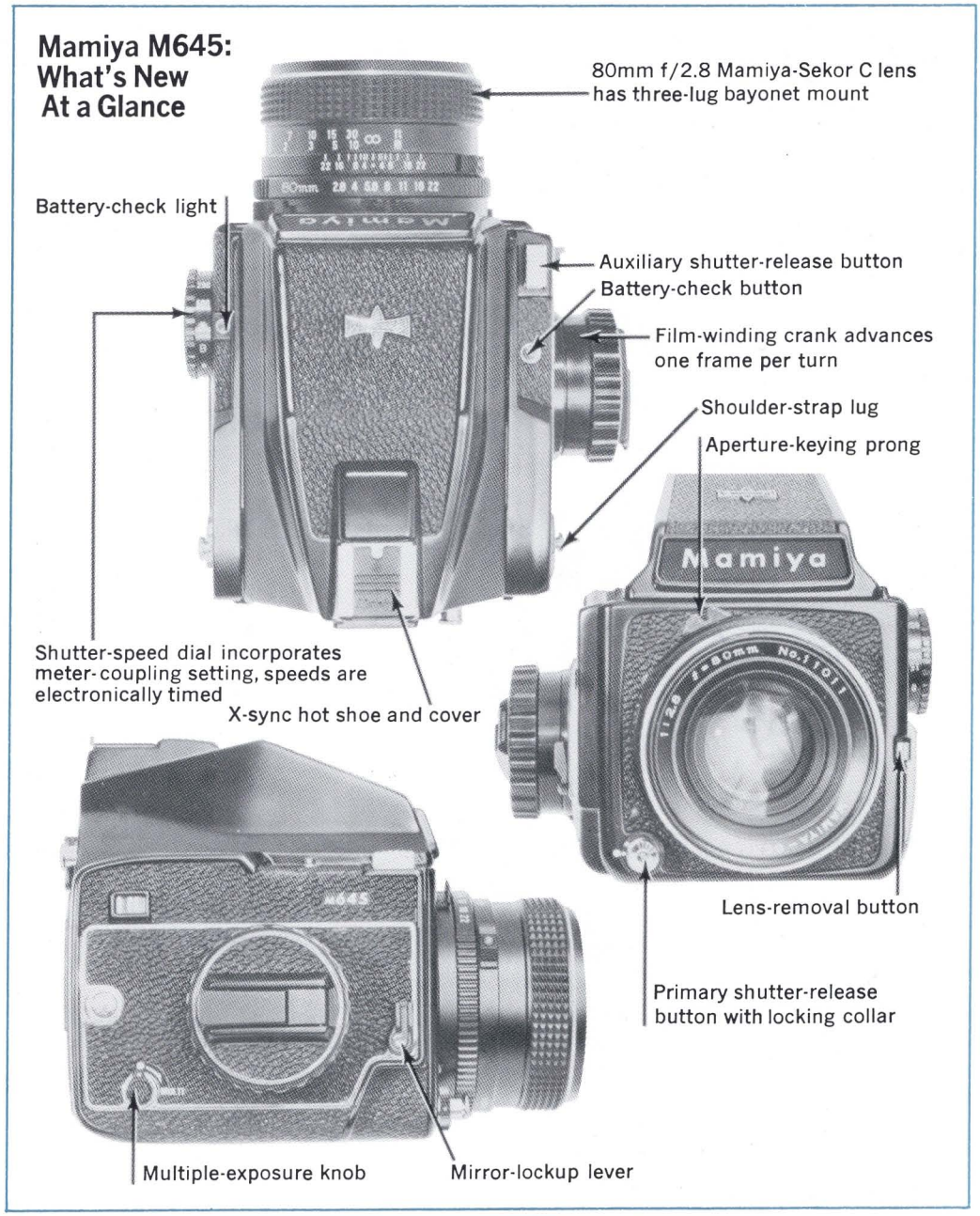
150mm f/4 Mamiya/Sekor C lens in bayonet mount for Mamiya M645. FEATURES: Aperture to f/32, focusing to 5 ft. (1.5m), accepts 58mm accessories. PRICE: $240 with case.

In introducing the M645, the Mamiya Camera Co. has taken the bold step of reviving the ancient 4.5 x 6cm (1⅝ x 2¼-in.) format and placing it in a very contemporary electronic-shuttered helicoid-focusing "system" SLR. If you're wondering why they decided to slice the 2¼-square format this time, the answer is obvious. As capable a machine as the RB67 is, it's a relatively large, heavy (5 lb. 15 oz.) camera that's more at home atop a tripod in a studio than hanging around your neck at a grab-shooting session. And so, cleverly sidestepping the fiercely competitive 2¼-square SLR market (consisting of such stalwarts as Hasselblad, Rollei, Bronica and Kowa), Mamiya conceived the M645 as a scaled-down but still medium-format field camera, a kind of mini-Hasselblad to complement the well-established RB67 without competing with it directly.

Since the "semi-120" format is the M645's most evident distinguishing feature, let's discuss it a bit. This format dates back to (at least) the 20's, and was arrived at by simply halving the original 6 x 9cm (2¼ x 3¼-in.) format obtained with 120 roll film. Perhaps the most notable camera to espouse these film dimensions was the Dresden-produced Ermanox, a "candid camera" of the 20's, while the format's latest exponents (prior to the M645) were both folding roll-film cameras with coupled rangefinders, the Zeiss Super Ikonta A and Konica Pearl IV, both last manufactured in the late 50's.

In Japan this size is known as 6 x 4.5cm, and the name M645 has been derived from this designation. According to Mamiya, the actual picture area measures 56mm x 42mm (56.3 x 41.9mm according to our measurements in MODERN's laboratory). The advantage of this "oddball" size is that its negative area is 2.7X larger than 35mm, providing better picture quality, and, at the same time, it's smaller than 6 x 7cm or 2¼-in. square, resulting in a smaller, more portable camera. When you consider tha the 2¼ x 2¼ format is most often cropped in printing, 4.5 x 6cm offers a comparably large usable negative area in a more compact package, and you have the added benefit of more shots per roll (15 instead of 12 per roll of 120 film). Among the disadvantages of this format: there's presently no slide-mounting service available for this size; and, unlike 2¼-square cameras, you have to hold the camera vertically or horizontally depending on the composition of your intended picture.

Let's see how, and if, Mamiya capitalized on the advantages of this format and how they got around its inherent disadvan-



tages. Body for body, the M645 is just a tad smaller than the Hasselblad. The basic body, without the winding knob or other protruding parts, measures 3½ in. (9cm) high, 4½ in. (11.5cm) long and 3¾ in. (9.5 cm) wide. It's slightly shorter than the Hasselblad but otherwide almost identical. Its shape is also boxy, but the Mamiya's rear section is hinged; so there are no interchangeable film magazines, just two types of removable film inserts.

In our judgment, the chunky size and shape are not particularly good for shooting fast-moving subjects hand-held. In fact, when we tried the camera

Holding M645 requires a bit of practice. Tripping shutter with right index finger is easiest for those used to 35's.

for the first time, some editors didn't feel too comfortable with it. Fortunately, once we got used to it, we found the camera's shape to be rather well-thought-out.

The M645 has two shutter-release buttons, and you can use either for horizontal shooting; you press the bottom button with your left index finger and the top one with your right index finger. Focusing is accomplished with your left hand and film winding is done with your right hand. To make a vertical shot, in most cases, you must change to a left-handed grip, supporting the camera from the bottom with the left hand while you press the shutter-release button with your right index finger.

Without a crank, film winding with the knob alone would have been extremely inconvenient. Fortunately, the knob incorporates a well-designed fold-out crank which stops at the same position each time you wind the film to the next exposure. The proper film-winding technique is to cradle the handle between your fingers or against the middle of your palm and simply turn the crank 360°. It automatically stops exactly where it started. While the winding force required is not appreciably less than similar cameras, its action is definitely smoother than most. Of course, positioning a large mirror and tensioning a medium-sized focal-plane shutter mechanism requires a bit of force, particularly towards the end of the winding sequence, and as a result, the 645's film-advance crank has a slightly heavier feeling toward the very end of each wind. However, the difference is so slight, most people probably won't notice it.

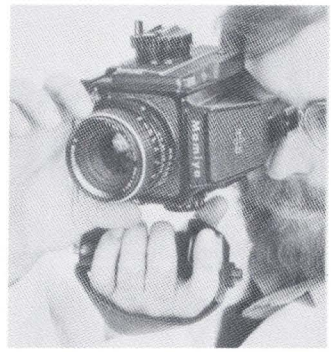
Shutter noise and shock are also present in moderate amounts—about average for a camera of this type. As you press the shutter release you hear a fairly high-pitched metallic noise; then, as the mirror comes back after the exposure, you hear a low-pitched "clunk." Obviously, the former sound originates mostly from the shutter mechanism, while the low sound is produced by the mirror. You can prove this to your satisfaction by locking up the mirror with a 90° counterclockwise turn of the mirror-lockup lever (on the right-hand side of the camera body). If your fire the camera with the mirror locked up, both the "clunk" and its resulting shock are absent. It is also evident that most of the shock comes when the mirror returns to the viewing position after the exposure has already been made. The best proof of this were the uniformly sharp pictures we were able to shoot hand-held at shutter speeds as low as 1/30 sec.

We judge these shooting characteristics to be essential in an "action camera" and, on the whole, we conclude that the basic design of the M645 is quite acceptably executed and very well-conceived. But we've got to admit that some of our editors still demanded some sort of auxiliary grip to simplify hand-holding.

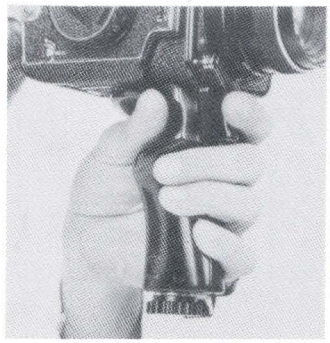
As luck would have it, two grips were available at test time. First, there's a side-mounted grip which looks exactly like the Mamiya grip for the RB67. This popular configuration is great when the camera's in the horizontal position. However, when you hold the camera vertically your gripping arm is unavoidably bent into a somewhat uncomfortable position, and inevitably, steadiness suffers if you hold it that way for long. Then, there's the pistol grip, which is worse.

Surprisingly, vertical shooting is more comfortable than horizontal. Winding film by holding crank between your fingers is best.

You can also trip shutter with left index finger. Camera body contour helps you hold camera firmly.



Shooting verticals isn't Deluxe Grip Holder's forte, but it offers very good horizontal stability.



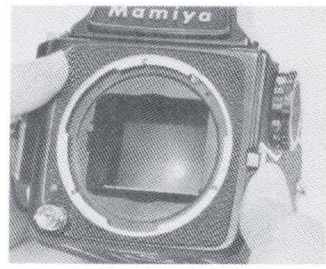
Too much wrist twisting's required with pistol grip, and it's uncomfortable in either mode.

Even if you keep it in the horizontal position, it twists your wrist so badly that holding the camera isn't comfortable at all. We judged, therefore, that unless Mamiya comes up with something better, actually grabbing the M645 with your digits is the best way of using the camera.

Turning to the viewfinder, we found that it provided bright and very comfortable viewing. Even eyeglass wearers were able to see the entire finder screen and its surrounding area. This finder visibility is quite important, because planned accessories for the M645 (not tested) include a finder prism with a built-in exposure meter featuring match-needle-type operation and LED light-level readouts. For photographers with vision problems, eyepiece correction lenses are also available, covering a −3 to +3 diopter range.

According to our measurements, the non-meterized prism finder provides a virtual image at an apparent distance of about 4 ft. Finder distortion caused by the eyepiece configuration is remarkably low and you can observe straight lines as unbowed straight lines even toward the edges of the finder field. This low finder distortion (for a large-format camera) is partially due to a relatively low finder magnification, which we measured to be approximately 0.82X life-size with the 80mm lens focused at infinity. The percentage of the on-film image observable in the finder was measured at about 94 percent vertically and 93 percent horizontally, which is certainly adequate but not quite as good as the M645's predecessor, the RB67, which shows 97 percent of the recorded image in both dimensions. Nevertheless, when compared with most 35mm SLR's, the M645's performance is quite good, especially considering that it's a medium-format camera. Of course, one unavoidable difficulty with rectangular-format roll-film SLR's like the M645 arises when you fit the waist-level finder hood and then attempt to take vertical pictures. The focusing image will then be upside-down. Our conclusion is that, unless you have a pressing need to use a waist-level finder, you're better off "permanently" mounting the prism finder.

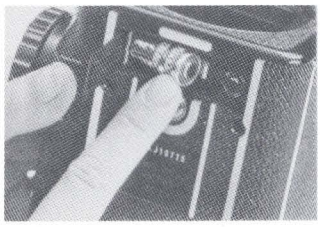
To interchange lenses on the M645, you push inward on a small, squarish chrome-plated button on the left side of the camera's front plate. You then turn the lens barrel counterclockwise approximately 60° and lift out the lens. Three large lugs retain the lens in its 68mm-diameter mount. With the lens removed you can observe the action of the mirror, which swings back slightly as it flips up to allow more room for deep-set rear lens elements. There will consequently be very little mirror cutoff even when you mount a 500mm lens on the camera.



With lens removal button on right, and large three-lug lens mount and crank-shaped auto diaphragm inside left side of mount, the M645 looks like a scaled-up Nikon but surely isn't.

Let's now take a look at the shutter. Mamiya developed a new electronically timed, vertically traveling, cloth focal-plane shutter for this new camera. Unlike most electronically controlled shutters, this one doesn't retain the second shutter curtain by means of an electromagnet. Instead, the second curtain, which determines the actual exposure time, is held back (until the timing mechanism triggers it) by normal mechanical means. Only after the

timing interval has elapsed does a moving coil system or reversed solenoid (an electric coil that moves longitudinally along a centrally placed magnetic bar when the electric current is turned on) activate the holding mechanism. This type of electronic timing system is quite simple in concept, but so far hasn't proven too popular. Among the system's advantages is its low power consumption, since no electric power is required to hold the second shutter curtain. In fact, electric power



Mallory PX-28 or equivalent battery is loaded into bottom-front-mounted receptacle. It lasts over a year with normal usage.

is employed only to *release* the second shutter curtain, an instantaneous operation consuming little power. We frankly didn't have enough time to evaluate Mamiya's claim that the M645's battery lasts for about 100,000 shutter operations, but, obviously, even professional photographers don't have much to worry about in terms of exhausted batteries, and most amateurs have even less cause for concern. As long as you change the battery once a year (which is normally understood to be the average shelf life for a Mallory PX-28 battery or its equivalent), you should have no problems.

But Mamiya's new electronically controlled shutter is good news for photographers only if it works satisfactorily. In this regard, the results obtained on our Kyoritsu shutter tester were really amazing. We recorded no more than 4 percent shutter-speed error throughout the entire range from 8 to 1/250 sec. Even at the 1/500 sec. setting, the maximum error went up to only 13 percent slower (toward overexposure). That means a maximum error of less than 1/6 stop, which will be absolutely undetectable in your color transparencies. The Mamiya M645's shutter-speed accuracy is, therefore, far better than that obtainable with most 35mm SLR's. Nevertheless, we wouldn't be quite as impressed with the Mamiya's shutter if we had taken readings only at the start of our tests. We did, however, operate the camera at least a thousand times, and at the end of this extensive use, the Mamiya's shutter performed in almost precisely the same manner as it did when it was brand-new. In fact, the largest error recorded in our second test was 15 percent at 1/500 sec. Remarkable.

The synchronization speed with electronic flash is given as 1/60 sec., a relatively fast speed for a medium-format camera. The FP sync is also rather fast at 8 millisec. (normally it's around 11 millisec). Therefore, if you'd like to use M-type bulbs with this camera, you'd better stick to 1/30 sec. to make sure you get the full flash output.

The shutter-speed dial on this camera turns continuously in either direction—there's no "stop" at the lowest or highest marked speed. Also, all speed-setting detents are spaced equally apart. Therefore, when you take pictures in very low light, you'd better be careful not to select a non-hand-holdable speed. While all numbers are relatively large and clearly visible under normal lighting conditions, you might have some trouble reading the numbers in very dim light.

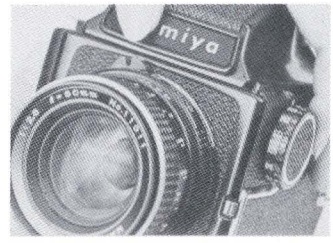
The "B" setting on the M645's shutter dial is positioned next to the slowest (8-sec.) setting. Between B and the fastest (1/500-sec.) speed is a red circle with a red dot in the middle. This setting is used in conjunction with the coupled match-needle meter finder, as you'll see.

Set body shutter dial to dot-in-circle mark and mount meter finder; now meter's shutter dial takes over via terminals at right-hand top corner. Bottom right terminals provide sync.

At test time the PD metering prism wasn't available, but this accessory will definitely incorporate silicon photo diodes and have its own shutter-speed and ASA-setting dials. It will also read out the light level by means of light-emitting diodes (LED's) visible in the finder.

To couple the meter head, you set the body shutter-speed dial to the red-dot-in-the-circle mark. Then the meter's separate shutter-speed dial is activated for the match-needle (actually "match-diode") metering. One complaint we have about this coupling system is that, if you mistakenly set the "body dial" to this meter-coupling index without mounting the meter prism, and you fire the shutter, it remains open (as if you had selected a "T" setting) until you push the battery-check button. The shutter also closes if you turn the shutter-speed dial to another setting. But this method is not recommended. During our lengthy field test period, this accidental "T" exposure occurred a couple of times. We suggest that Mamiya build a safety lock-out into the body shutter-speed dial at this setting, so it can't be selected until a button is pressed.

Incidentally, if you're thinking of using the meter-coupling index mark as an auxiliary "T" setting, don't. When we tried it and kept the shutter open for a prolonged period of time (more than a couple of hours), the shutter refused to close afterwards. Since the battery was not exhausted after this post-test torture, we assumed that some mechanical shutter component couldn't cope with such extreme usage. Since few camera users shoot extremely long exposures even at the obvious settings, we don't anticipate much trouble will result from our findings, but Mamiya's engineers should obviously investigate this problem.

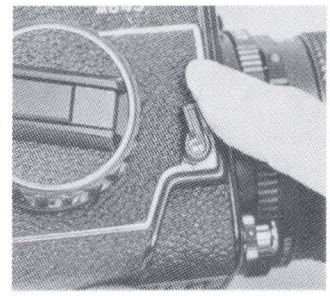


Have you seen this aperture-keying tab somewhere before? Yep, but Nikon-style prong has reversed indexing direction.

As with the Nikon F and F2, coupling the meter to the camera is only half the battle; you have to key the lens aperture into the metering system as well. Unlike the shutter-speed coupling, which is accomplished through electric connectors, the M645's aperture coupling is effected through a mechanical prong and pin *à la* Nikon. The prong on the lens looks exactly the same as the one on Nikkor lenses. We assume that this coupling system also requires a back-and-forth indexing turn of the lens aperture ring to key in the lens's maximum aperture when you mount it.

Before we discuss lens performance, let's take a look at the camera's multiple-exposure knob and mirror-lockup lever. By turning the multi-exposure knob (located below and behind the film-winding knob) clockwise, you can cock the shutter without winding film to the next frame, and you can select this multi-exposure mode either before or after you cock the shutter. A slight amount of play remains in the film-winding gear inside the film chamber, but you don't have to worry about film shift or overlapping images. However, the multi-exposure knob remains in the position set even after you're through using it, so you must remember to return the knob to the normal mode. Incidentally, the self-zeroing frame counter stays at the same frame position during the multiple-exposure sequence, so you don't have to wonder how many unexposed frames remain on the roll.

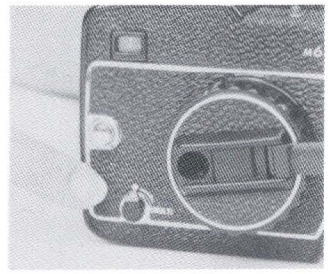
To lock up the mirror, you simply turn the lever located directly in front of the film-winding knob counterclockwise. If you don't push the lever fully until it clicks, the mirror sometimes stops halfway up the mirror box.



Long lever at front locks up mirror when you push it counterclockwise until it clicks. This prevents mirror from hanging up midway inside mirror box.

While it looks precarious in this position, you needn't worry about it. Even if you fire the shutter while it's in this position, the mirror moves out of the light path without affecting the picture. Still, we recommend that you lock the mirror completely by turning the lever fully, since incomplete locking of the mirror could conceivably cause mechanical trouble if done repeatedly.

One more significant point before we delve into a discussion of the M645's optical capabilities. The M645 doesn't have an interchangeable magazine. Since the camera is otherwise in the Hasselblad class, perhaps a non-interchangeable magazine strikes you as a serious omission. But, when you consider that the M645 is primarily an action camera rather than a studio camera, it's quite understandable. Furthermore, the 2¼ x 1⅝-in. format offers you an inherently greater number of pictures per roll than



Multiple-exposure knob can be set before or after film winding. It has to be returned manually to advance film to next frame.

the more common 2¼ x 2¼ format, and interchangeable magazines are thus less important. Yet, there remains one peculiar character of the M645 that's less readily explainable—it takes only 15 pictures per roll of 120 film instead of 16 shots, long the standard for this format. Not surprisingly, the M645 also takes 30 frames on 220 instead of 32. Our guess is that the film holders' winding mechanism simply doesn't allow 16 or 32 pictures per roll of 120 or 220 respectively, and it's a characteristic that you'll simply have to learn to live with. Doubtless, this somewhat contradicts the basic concept of this camera, whose design goal was clearly a larger-format camera with capabilities as close as possible to a modern 35mm.

Of course, loading a roll of film into the M645's holders is rather simple. It's very similar to the loading procedure used with a Hasselblad or Bronica. Once a film holder is set to the starting arrow on the film's paper backing or leader and is inserted into the camera back, the first frame automatically stops and the frame counter automatically indicates "1." As we mentioned, the counter automatically zeroes as you open the camera back.

The new Mamiya/Sekor C 80mm f/2.8 lens consists of six elements in five groups in a modified Gauss formula (which is very similar to the normal lens on many 35mm cameras). The angle of coverage is also very close to that of a 35mm camera's normal lens. In fact, the equivalent focal length of the M645's 80mm lens—translated into 35mm terms—would be 49mm, only 1mm shy of the standard 50mm lens. Mamiya's new multicoating is characterized by low-intensity dark magenta and dark green reflections. Spectral transmission measurements of this lens showed that very good performance levels have been attained.

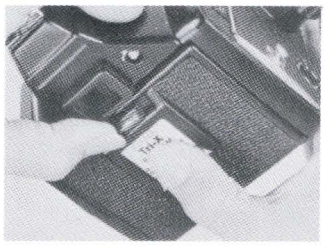
To focus the 80mm Mamiya/Sekor, you turn a rubberized, diamond-pattern focusing ring 180° to obtain the minimum distance of 2¼ ft. Distance scales are large and very clearly marked in orange (ft.) and white (m). All aperture numbers from f/2.8 to f/22 are marked in white-on-black and have detents at each full stop. The automatic diaphragm can be switched to manual mode (to preview depth-of-field) by pushing up a slightly protruding lever which emerges from the left side of the lens barrel. When the lens is attached to the camera body, it isn't very easy to operate this lever, but since the M645 is designed to be a hand-held action camera, depth-of-field checking is not quite as important as it is with the Mamiya RB67 or similar studio cameras. Consequently we judged this to be only a slight inconvenience.

The following are the results of our lab and field tests conducted on the 80mm f/2.8.

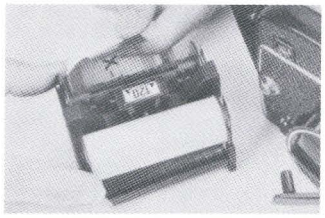
Central image quality: Central color fringing was noticeable on the optical bench, and a red fringe persisted until f/5.6. Since it was relatively small in size, the fringe was barely visible on our field test transparencies, however. Flare caused by spherical aberration was minuscule, and the consequent focus shift was also gratifyingly small. Too, decentering of the lens elements was extremely minute, a much better than average overall performance.

Edge image quality: Lateral color was observable in the red, yet was small enough to be almost insignificant in our transparencies. Astigmatism was well controlled and skew-ray flare was low throughout. Both aberrations were almost entirely eliminated at f/5.6 or smaller apertures. On our transparencies, streaks caused by these aberrations were virtually absent. Across the entire format, the image retained a very sharp core (visible as a highly concentrated dot of light on the bench), indicating a high overall sharpness level. This optical bench observation was borne out in our resolving power tests and field test transparencies.

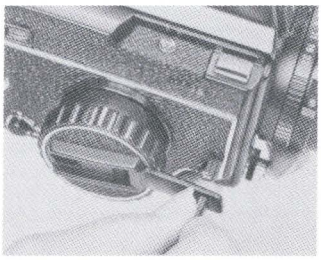
Residual ghosts and flare: The lens manifested little flare and a below-average level of ghost images, even when the lens was aimed directly at the sun from a shaded camera position. Apparent linear distortion was measured at about one percent (of the pincushion type), which is about average for a normal lens. All in all, we concluded that the 80mm f/2.8 Mamiya/Sekor C is a very fine performer as a normal lens in this format.



Press in film identification clip as you slide arrow-shaped prong, and camera back swings open.



M645 lacks Hasselblad-type magazines, but loading film inserts is a breeze.



Film-advance crank stops in same forward position at end of each 360° film wind.

Here are the test results of the 55mm f/2.8 wide-angle lens.

Since it is a reversed-telephoto-type optic, the lens barrel tends to be longer than the marked focal length. As a result, it's about twice as long as the normal 80mm lens, extending 2 ¾ in. (70mm) at infinity and weighing almost 14 oz. Surprisingly, all the control rings and knobs are in almost exactly the same relationship, with respect to the camera body, as they are with the 80. So, despite its substantial length, handling the 55 on camera isn't significantly different from shooting with the normal lens.

Central image quality: Fairly strong-intensity orange fringing was observable on the optical bench, but since the size of this aberration was small, no fringes were seen in the picture even at maximum aperture. Spherical flare was also noticeable wide open, but was gone by f/5.6. Some decentering of the lens elements was noted and, consequently, a slightly irregular flare pattern of moderate size was observed at f/2.8. Fortunately, it was mostly gone by f/5.6. Images at the center of the picture area retained their sharpness well despite the decentering.

Edge image quality: A significant amount of lateral color fringing was visible on the bench and also in our field tests transparencies. However, we judged this defect to be better corrected than in most wide-angle lenses of similar coverage. Inward-type coma flare was observable in the zonal area, and weak skew-ray flare was also seen in the corners of the field. Both these aberrations are very common in lenses of this type, and they disappeared at f/5.6 and smaller apertures.

Residual ghosts and flare: A normal amount of flare and ghosting were discernible when we shot against a strong light source. This is about par for the course for a medium-format wide angle.

And now let's examine the longest of the three lenses we tested on the M645. This 150mm f/4 lens isn't significantly larger or heavier than the normal 80mm lens. In fact, it's only 3½ in. (90mm) long and 2¾ in. (69mm) in diameter. The latter dimension is the same as that of the normal lens and, as a result, the 150 accepts the same filters. Handheld, there's almost no difference in "feel" shooting with this lens or

Would you like to test your own lens? Get MODERN'S Lens Test Kit, $4.50. Write to Lens Test Kit, MODERN PHOTOGRAPHY, 2160 Patterson Street, Cincinnati, Ohio 45214.

Resolution Power

80mm f/2.8 Mamiya/Sekor C No. 11011 At 1:33 Magnification

f/no.	Center	Lines/mm	Corner	Lines/mm
2.8	Exc.	52	Exc.	37
4	Exc.	52	Exc.	37
5.6	V/Good	52	Exc.	41
8	V/Good	52	Exc.	46
11	Exc.	58	Exc.	46
16	V/Good	52	Exc.	46
22	Good	46	Exc.	46

Actual Focal Length: 80.5mm

55mm f/2.8 Mamiya/Sekor No. 10020 At 1:33 Magnification

f/no.	Center	Lines/mm	Corner	Lines/mm
2.8	Exc.	74	Exc.	37
4	Exc.	74	Exc.	37
5.6	Exc.	74	Exc.	42
8	Exc.	83	Exc.	42
11	Exc.	74	Exc.	46
16	V/Good	66	Exc.	46
22	V/Good	52	V/Good	37

Actual Focal Length: 55.1mm

150mm f/4 Mamiya/Sekor No. 10076 At 1:37 Magnification

f/no.	Center	Lines/mm	Corner	Lines/mm
4	Exc.	52	Good	29
5.6	V/Good	46	Good	29
8	V/Good	52	Good	33
11	V/Good	52	V/Good	37
16	V/Good	52	V/Good	37
22	Good	46	V/Good	37
32	Accept.	41	Good	33

Actual Focal Length: 154.0mm

modern tests

with the other two (normal and wide-angle) lenses. However, with the tele, there's obviously more weight hanging farther out from the camera body than with the 80. So, extra care in holding the camera is required to prevent camera shake.

Following are the performance results obtained with this lens in our lab and field examinations:

Central image quality: A relatively large amount of purple spherochromatic flare was observed at maxiumum aperture on the bench and in the pictures as well. It disappeared almost entirely at f/8. Focus shift was quite small, while decentering of the lens elements was virtually absent.

Edge image quality: An intense but very small red color fringe was noticeable in the pictures taken at f/4. This lateral color fringe was sufficiently small, however, so that images at the corners of the field maintained their sharpness at all apertures. Coma flare was large in size but very low in intensity, while astigmatic streaks at the corners were moderate, both in the pictures and on the bench.

Residual ghosts and flare: Thanks to efficient multicoating, flare was low, even in pictures which were shot against the sun at the most critical angles.

Image Contrast

80mm f/2.8 Mamiya/Sekor C No. 11011 At 30 lines/mm

f/no.	Center Percentage		Corner Percentage	
2.8	High	51	High	34
4	High	62	High	44
5.6	High	64	High	60
8	High	64	High	62
11	High	66	High	60
16	High	58	High	51
22	High	48	High	44

55mm f/2.8 Mamiya/Sekor No. 10020 At 30 Lines/mm

f/no.	Center Percentage		Corner Percentage	
2.8	High	48	High	34
4	High	60	High	36
5.6	High	64	High	48
8	High	64	High	49
11	High	62	High	48
16	High	56	High	43
22	Medium	44	High	40

150mm f/4 Mamiya/Sekor No. 10076 At 30 Lines/mm

f/no.	Center Percentage		Corner Percentage	
4	High	62	High	38
5.6	High	64	High	38
8	High	62	Medium	33
11	High	55	Medium	32
16	Medium	46	Low	30
22	Low	38	Low	26
32	V. Low	34	Low	28

While such good performance at wide apertures is unusual, as you can clearly see in the resolution and contrast charts, it suggests that the 150 will provide the best results if you use fast shutter speeds and relatively large lens openings. This is especially true with this lens since it exhibited smooth out-of-focus image quality that was free of double-line effects. However, if you need maximum depth of field, don't hesitate to stop down the 150. Its good optical centering will assure your getting sharp pictures at all apertures.

To remove prism head, turn knurled button clockwise; then push it in and lift prism off. To put the finder back on, just align two pins and push it into position.

As of this writing, Mamiya is initially planning to offer seven lenses for the M645. These include a 45mm f/2.8, 110mm f/2.8, 210mm f/4, 500mm f/5.6, plus the three lenses we tested. All of these optics have automatic diaphragms and are multicoated. Their equivalent focal lengths in the 35mm camera format range from 28mm to 300mm. In addition, Mamiya plans to offer a comprehensive group of accessories for the M645, including grips, focusing screens, focusing levers, extension rings, 120 and 220 film inserts flash brackets, angle finders and, of course, the aforementioned meter prism.

While the list is still not quite as extensive as those for today's leading 35mm SLR's, it's more than adequate for a medium-format camera. Furthermore, the M645 offers more than a conventional, well-thought-out camera system, for this camera has the potential of blossoming into an aperture-preferred (you set the lens, the camera selects the shutter speed), fully auto-exposure camera. By merely changing the finder prism for a fully automatic meter finder (not yet listed), all the camera body mechanisms are capable of being automated or keyed into the meter system. We very much doubt if we're mistaken about this future development of the M645.

Frankly, it's too soon to judge whether this "new ideal" format will prove to be suitable for professional photographer's requirements. Indeed, the capabilities of today's 35's are so advanced, in many cases, that larger-format cameras are less of a necessity. But still, in many applications, larger-format negatives offer discernible advantages over smaller ones, and the M645's relatively moderate price (compared to its competitors) is sure to tempt some amateurs as well—especially those shooting with color negative material.

After all is said and done, we find the M645 to be an exciting camera with great potential, providing it's properly used for the right type of photography.

The article "Mamiya M645: 15 on 120 in a compact SLR." is reprinted through the courtesy of Modern Photography Magazine, 130 East 59th St., New York, New York 10022.