

Manual SLRs

by Jack and Sue Drafa

Today's auto-everything 35mm SLRs are great for point-and-shooters, and even serious photographers can appreciate the speed and convenience of automation. But serious shooters understand focusing and exposure, and know when they need to override the automation. Point-and-shooters just get bad pictures in those situations.

There are a number of good (and low-priced) SLRs on the market that don't have a fully-auto (i.e., program) mode. They require you to set (and thus think about) focus, shutter speed and lens aperture. These cameras are therefore great learning devices, popular with photo schools. Sure, you can set focus, shutter speed and aperture manually with an AF SLR, but too many users don't, because it's so easy to use the camera in auto-everything mode. The manual SLRs force you to learn about focusing, exposure, and the effects of different shutter speeds and lens apertures on your photos.

Some of the cameras included here provide only manual exposure control. Others offer aperture-priority AE along with manual exposure control, but that's OK, because with aperture-priority, you have to set the lens aperture (and think about why you're setting that aperture). You have to learn about focus and exposure when using these cameras, and that's a good thing, even if you're going to use a fully automatic camera in the future.

The manual 35mm cameras included in this article offer the advantage of being mechanical rather than electronic devices. If the batteries die, you lose the built-in meter, but you can still shoot, with access to all your shutter speeds. With automatic electronic cameras, if the batteries die,



you either are limited to one shutter speed, or can't shoot at all. Of course, mechanical cameras don't have built-in motor drives, so you have to manually advance the film and recock the shutter after each shot, generally via a thumb-operated film-advance lever atop the camera. (Some of these cameras will accept accessory motor drives, and these are a handy option—but be aware that you can run through film very quickly in continuous advance mode. Use single-shot advance unless you have to shoot a rapid action sequence.) Most of these cameras also lack automatic DX film-speed setting, so you have to remember to set the film speed each time you change to a faster or slower film. Few photographers who learned on such cameras can say they've never forgotten to set the film speed correctly, or never missed a shot because they forgot to cock the camera after the previous shot.

Lenses for manual-focus cameras

usually have the same type of high-quality glass, but are in some cases more compact as they lack the autofocus motors and electronic contacts necessary to communicate with the camera body. With some camera manufacturers, their manual-focus and autofocus cameras use the same lenses. Manual cameras possess all the features necessary to produce prize-winning photos, but the key to it all is the knowledge and capability of the photographer behind the camera eyepiece.

The basis of photographic knowledge is achieving accurate focus and exposure. Sounds simple enough, huh? Let's tackle the easier one first: focus. Now, you might think that focusing a camera is almost a no-brainer. All you have to do is turn the ring on the lens until the subject is in focus and press the shutter, right? Well . . . not exactly.

There's depth of field to consider. Depth of field is the zone of acceptable sharpness in front of and beyond the focus point. Every time you change an f-stop setting, the depth of this "sharp" area changes.

Shooting at wide apertures produces minimal depth of field: Anything closer



Nikon FM10



Nikon FM2N

Low-cost learning tools can teach you a lot

to or farther from the camera than the point focused upon will appear out of focus. This is especially true when using long focal lengths, and close shooting distances.

Conversely, small apertures, wide-angle lens and great shooting distances increase depth of field.

Hyperfocal distance is a focus point for a given f-stop on a given lens that gives maximum depth of field. Each change in f-stop gives a proportional change in the hyperfocal distance. The depth of field for any hyperfocal distance runs from half the hyperfocal distance to infinity. It even gets more complicated since the zones of sharpness in front of and beyond the focus point is not equal. The actual ratio is $\frac{1}{3}$ in focus between the subject and camera to $\frac{2}{3}$ from the subject and beyond.

Once you understand this relationship better, you can shift your point of focus to a different position to get all the critical elements in your scene in focus. With a manual-focus camera you can practice manipulating this depth of field and hyperfocal focus combination by using the depth-of-field preview on the camera. Keep shifting your focus point until the focus is everything you ever wanted.

Now we come to the main reason the best of photographic intentions are lost to the round file. Obtaining good exposures has always been a problem for beginning photographers. Even some pros have come to rely on the popular auto-bracket feature. Color-negative films have a 6-7-stop latitude, so missing exposure is less likely. But if you wander too far

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from the correct exposure, even the quality of color-negative film deteriorates. Color slides usually have less than $\frac{1}{2}$ -stop latitude, so if you exceed that, the round file comes into play.

Exposure meters have become increasingly sophisticated and can analyze most lighting situations, but they still cannot read your mind. If you want to expose for a specific subject in a scene, autoexposure systems may not consider your subject important and give you an incorrect exposure level. With manual cameras you can't just point and shoot, you actually have to think about what you are doing! They force you to look at the shutter speed and f-stop combinations on your camera.

As you adjust your settings, you will be thinking of the depth of field created by the selected f-stop and which shutter speed will stop the action.

When working with any type of manual or autoexposure camera, you must understand the basic rules of exposure to become a competent photographer. One trick is to use the Sunny 16 rule. Simply take 1/film ISO as your shutter speed and $f/16$ as your f-stop and you'll have a correct exposure in full sunlight without using a meter. This exposure rule is the basis of the exposure charts found inside the boxes of most amateur films.

You also need to understand the photographic formula that making the lens aperture smaller or larger until the light doubles or halves creates another f-number. When you change your shutter speed by one click, or move the f-stop one direction or the other, you

either double or halve your exposure. Once you understand this relationship, you can achieve the best action-stopping shutter speed and still maximize your depth of field.

Too many photographers today set their automatic camera on program mode and start shooting. They don't even know what shutter speed or f-stop they are using for the shot. All your photographic creativity will be wasted if you lose the image due to bad focus or poor exposure. If you first learn how to use these controls on a manual camera system, you will have an even better photographic understanding when you purchase an automatic camera system. You will know when your automatic camera is doing something wrong, and you can confidently override the settings that it has selected. As you learn the basic controls and how they all interact,



your photography will improve because you are in control, not your camera.

To give you a head start selecting a manual SLR camera, here are a few examples of some camera models available today designed to help you develop your photo skills. We've intentionally omitted cameras that have a fully automatic exposure mode (i.e., program AE), or autofocus. These cameras force you to set focus and at least the aperture for each shot.

Minolta's mechanical, manual-focus X-series SLRs have long been the favorites of photography students. The X-370S features aperture-priority automatic exposure and manual focus capability. Its aperture-priority provides great exposures under a wide range of lighting conditions. Simply set

the aperture you need and the X-370S selects the shutter speed. You can also switch to manual and choose your own shutter speed and aperture. The film can be advanced manually, or automatically with the optional motor drive or auto winder.

Nikon offers the FM10, a great mechanical SLR camera for the beginning photographer on a budget. This is a fine learning tool because you do it all—focus, set the exposure, and advance the film. It features a TTL center-weighted exposure meter to provide accurate exposures, and accepts a wide range of the AF and AIS Nikkor lenses that have endeared the Nikon name to pro photographers for so many years. The FM10 has a dedicated hot-shoe, depth-of-field preview, self-timer and double-exposure capability.

The next step up from Nikon is the FM2N, featuring a fully mechanical shutter with a top speed of $\frac{1}{4000}$. This is often a backup camera for professionals as it is ruggedly built, not dependent on battery

power, and accepts all Nikkor lenses. Like its FM10 counterpart, it also has a center-weighted full-aperture exposure measuring system.

The FM2N has a built-in hot-shoe, but also features a PC terminal for off-camera or multiple-flash photography. It features manual film transport, but a 5-fps motor drive is available as an accessory.

For the student photographer, Olympus offers the affordable OM2000 mechanical-shutter SLR. It features center-weighted average light metering, which is switchable to spot



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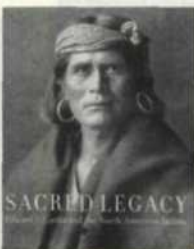
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by Art Wolfe

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Yashica FX-3 Super 2000

metering for greater exposure control. Its mechanical shutter provides speeds from one second to 1/2000, plus Bulb, even if the battery fails. This is a solid camera with die-cast aluminum body that even features a depth-of-field preview.

Phoenix offers two SLR camera models for the photographer trying to learn the ropes. The P1 is fully manual and the P2 offers aperture-priority automatic exposure control. Both provide TTL center-weighted metering and manual film advance. Both models accept a variety of K-mount lenses and have a hot-shoe for flash synchronization. The P2 also features an electronically controlled self-timer. The P1 comes in black or a black-and-titanium finish, while the P2 only comes in black with a gold trim.

Vivitar offers the V4000 as its affordable camera for first-time SLR users. This camera is manual-everything. It is the perfect learning tool since it has no autofocus, no autoexposure, no motor drive and no built-in flash. It does feature an accurate center-weighted, TTL metering system, hot-shoe, mechanical shutter speeds from one second to 1/2000 (plus B) and a self-timer.

Yashica's FX-3 Super 2000 gets its name from the fact that its mechanical shutter has a top speed of 1/2000. This is a basic manual-focus 35mm SLR with center-weighted TTL metering, manual focusing, manual exposure control and manual film transport. It accepts all Yashica/Contax-mount lenses, including the excellent Carl Zeiss T* line. ■