Moving Away From Full "Auto"

If you want to get the most out of your DSLR camera, it's best to learn its different shooting modes, rather than just using full Auto all the time. With all the letters and symbols surrounding the dial (like M, Av, Tv, and P), though, things can get a bit confusing. Here's a first-timer's guide to getting out of Auto mode and crafting better photos.

Canon

Nikon

Get to Know Your Camera's Dial

Let's start by talking about the most common modes you'll find on your camera, and how they work.

Manual Modes: M, Av, Tv, and P

The letters on the dial represent the different manual and "partially manual" modes–these are the ones you'll really want to familiarize yourself with if you're serious about photography.

They include:

Manual (M): Manual mode is, as the name implies, gives you full control of the camera. You have to enter the values for aperture, shutter speed and ISO. The camera takes an image with those values, whether or not they'll result in a good exposure.

Aperture Priority (Av or A): In Aperture Priority mode–denoted by either an Av or A, depending on your camera–you set the aperture and ISO. The camera picks the shutter speed automatically. You can use exposure compensation to make the camera underexpose or overexpose the shots you take.

Shutter Speed Priority (Tv or S): In Shutter Speed Priority mode, you set the shutter speed and ISO. The camera picks the aperture automatically. Like with Aperture Priority, you can use exposure compensation to underexpose or overexpose the shots.

Program (P): You set the ISO and exposure compensation while the camera takes care of shutter speed and aperture.

Automatic Modes: A+, CA, and Others

The rest of the items on the dial are automatic modes that optimize themselves for specific types of scenes. They can include, but are not limited to:

Auto (or A+): In full auto mode, the camera does everything for you. Push the shutter and it takes the best picture it can.

No Flash: The same as Auto, except the camera won't use the built-in flash.

Creative Auto: A mode found on some Canon cameras that lets you set how blurry you want the background to be. Otherwise, the camera controls everything.

Portrait: An automatic mode where the camera prioritizes a wide aperture to get a shallow depth of field.

Landscape: An automatic mode where the camera prioritises a narrow aperture to get a deep depth of field.

Close Up: Designed for close up objects, the camera sets everything, focuses to the closest distance possible, and won't fire the flash.

Sport: The camera prioritizes a fast shutter speed at the expense of other settings. It will use a higher ISO than Portrait mode.

Night Portrait: Designed for low light, the camera will allow longer shutter speeds and higher ISOs at the expense of image quality.

Guide: A mode found on some Nikon cameras that walks you through the process of taking a photograph.

Some cameras will also have other modes as well, although they are not as common. Professional cameras have custom modes where you can save settings you like. You might also find a video mode or HDR mode on the dial of your camera.

If you're not sure what a symbol means and it isn't in this list, check your camera's documentation.

Which Mode Should You Use?

Okay, so now you know what all those letters mean. But which mode should you use, and when? The answer is simpler than you might think.

Most of the Time, **Use Aperture Priority Mode**

When people first make the jump from automatic, they often go too far. They think they have to use manual mode all the time. They think if they're not dialling in the aperture, shutter speed, and ISO for each shot, it doesn't count.

But here's a little secret: professional photographers don't normally use manual. They use Aperture Priority mode (Av or A on the dial).

Unless you're shooting a moving object, shutter speeds from about 1/100th of a second to 1/8000th of a second look almost identical. The thing that really determines what your photos look like is the aperture. That's the main difference between a shallow depth of field portrait and a sweeping landscape with everything in focus. Why worry over something that doesn't matter?

Turn the dial to A or Av (depending on your model), set the aperture you want to use, and play around. Although you don't directly decide on the shutter speed, you still control it with exposure compensation.

When you take an image, your camera makes a best guess at the exposure. In Aperture Priority, it's just going to pick a shutter speed it thinks should work (and 90% of the time it'll be really close). If you want to use a slightly faster shutter speed, dial the exposure compensation back a little bit. This will make your image a bit darker. If your camera is underexposing the shot, dial the exposure compensation up a touch; you'll get a brighter image and a slower shutter speed.

In Aperture Priority mode, you don't just control the aperture; you also control the ISO. In general, you should shoot with the lowest ISO you can, however, you can increase it when you need to get a faster shutter speed without changing your aperture. We'll look at selecting values for all the settings in a bit.

There's a reason professional photographer normally shoot in Aperture Priority. You get most of the control of manual mode without the hassle and the chance of messing up. If you enter the wrong shutter speed in manual mode, you'll come away with images that are unusable.

When to Go Full Manual

Although it's normally not necessary, manual mode does have its uses. In general, you should use it:

- When want consistency between shots. The main reason to use manual mode is for consistency. If you're shooting in a situation that isn't going to change much—say, an indoor concert—and you want to make your post processing as easy as possible, use manual mode.
- When all the settings matter. For some photographs, all the settings actually matter. If you're shooting long exposure photographs, high dynamic range images, or composites, you'll want to manually enter everything.
- When you're shooting on a tripod. If you've gone to the effort of setting up a tripod and carefully composing your shot, you might as well spend the extra ten seconds to dial in a shutter speed too.

Of course, you can feel free to use manual whenever you want–but most of the time, Aperture Priority is going to be much simpler and just as good.

Why Not Shutter Speed Priority?

"But wait," I can hear you saying. "What about that Shutter Speed Priority mode you mentioned?" It works the same way as aperture priority, except that your camera controls the aperture and you control the shutter speed and ISO.

I've skipped it because…well, it's just not that useful in most situations. There isn't that much difference between fast shutter speeds and if you're using a slow shutter speed, manual is usually better than Shutter Speed Priority.

Makes things easy, doesn't it?

What Aperture, Shutter, and ISO Values Should You Use?

Now that you've started to actually take control of your camera, what values should you use for those different settings? Let's take a look.

Aperture

Aperture is the most important setting to control. More than shutter speed or ISO, it determines how the majority of your images are going to look. You've got a lot of freedom when picking an aperture. Any value can work well, it just depends what you want.

If you want a blurry background or a fast shutter speed, the wider the aperture, the better. Somewhere between f/1.8 and f/5.6 (depending on what your lens allows) is perfect. This will give you a nice out of focus background and the fastest shutter speed possible.

If you're looking for an image that's pretty much in focus everywhere without sacrificing too much shutter speed, pick something between f/8 and f/16. The wider apertures in this range will have slightly shallower depths of field but faster shutter speeds, and the narrower apertures will have more depth of field but slower shutter speeds.

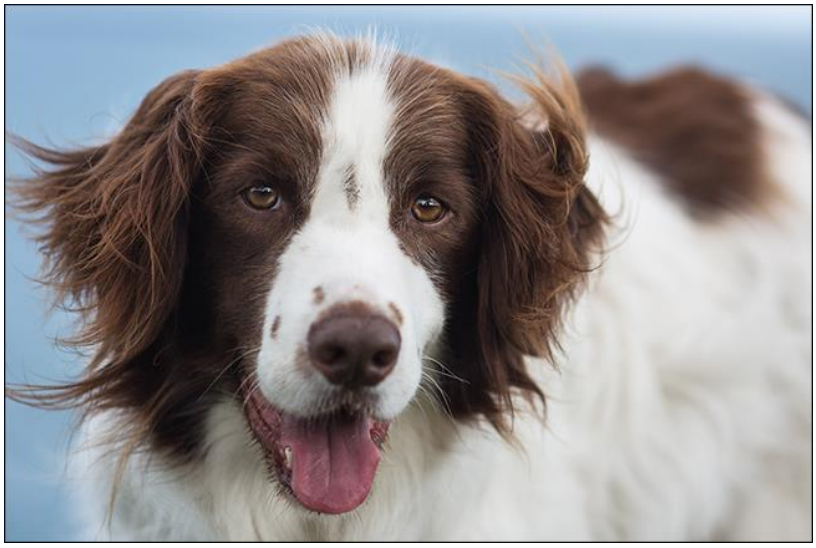
If you want absolutely everything in focus or a really slow shutter speed, you can use an aperture narrower than f/16. The only thing to be careful with is that most lenses aren't at their best at their extreme apertures, so you might start to see some weird effects once you hit f/22.

Shutter Speed

Shutter speed isn't normally as critical as aperture, but it still plays an important role in how your images will turn out.

Any shutter speed faster than 1/1000th of a second is going to freeze motion. If you want to see sweat fly off a soccer player as they kick the ball or capture a sharp shot of a skier backflipping, shoot with a shutter speed in the thousandths of a second.

Between about 1/100th of a second and 1/1000th of a second, you won't get the same motion freezing. If you shoot something moving at 60 miles per hour with a shutter speed of 1/500th of a second, it's going to move five centimetres during the shot. That's enough for motion blur. Instead, this range is perfect for shooting slow moving objects (think people or pets) with a handheld camera. Nothing is moving quick enough to cause problems. Most of the portraits I take fall in this range.



From 1/100th of a second up to about 1/10th of a second is kind of a dead zone. You can just about get away with handholding a camera if you have to, but the images won't be as clear. Slow moving objects will blur, but not enough to look good. You might shoot some landscapes or night shots with these shutter speeds, but they're generally worth avoiding.

Anything from 1/10th of a second to 30 seconds is tripod time. You won't be able to hold the camera in your hand without serious issues. This is where you start getting into long exposure photography and deliberate motion blur. You can shoot nice pictures at night. Photos of water and clouds take on a serene look as all the individual ripples run into each other. Lots of stunning photos are taken with these slow shutter speeds.

With shutter speeds slower than 30 seconds, you get into extreme long exposure photography. Moving objects don't even appear in your images. You can shoot a street scene and everyone is reduced to a swirling mass of colour.

ISO

ISO is kind of strange because for the most part, it matters very little…until all of a sudden it ruins your photos. As I mentioned above, you want to use the lowest ISO possible.

On a modern DSLR, photos taken with an ISO of between 100 and 400 will be pretty much indistinguishable. There'll be no almost noise in the photos. Although 100 is better, anything in this range will give you great photos.

Between 400 and 1600, you'll still get good photos, but you will start to see some noise. Newer (and higher end) cameras will keep reasonably clean photos up to about 1600; they just won't look as good as photos shot with lower ISO settings.

From 1600 to 3200 (around 6400 on a professional camera) you get photos that are still technically usable, but will have very visible noise. It probably won't ruin the photos, but you want to avoid using ISOs this high unless you really can't avoid it. Below is a cropped close up of my face at ISO 6400.

Above that, it's a free for all. Your photos will have really visible noise, to the point that it'll start to obscure details. The only time to use an ISO this high is when capturing any photo is more important than getting a good one.