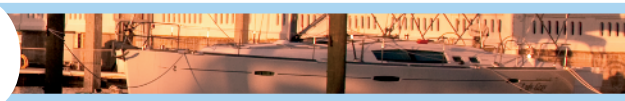
1



Exploring Your Canon EOS Rebel SL1/100D

In This Chapter

- Getting to know the camera controls
- Using the viewfinder
- Introducing the touchscreen
- Attaching and removing a lens
- Using image stabilization
- Using a zoom lens
- Changing camera settings
- Using SD cards
- Accessorizing your Canon EOS Rebel SL1/100D

This pint-sized dSLR comes with a shooting mode for every photographer. If you're new to digital photography, or you've graduated from a point-and-shoot digital camera, Canon gives you several modes to create great photographs automatically. Think of these as your training wheels. And if you're a seasoned photographer, Canon also gives you quite a few modes where you can take the reins and create the type of photograph you want. Add Creative Filters, in-camera editing, plus in-camera HDR, and you've got a potent tool for creating cool images.

Getting familiar with all this new technology might seem daunting, even to a seasoned photographer. I was impressed, albeit a tad flummoxed, when I saw the first reviews for this camera. Even though I'm a seasoned Canon dSLR user — my first digital SLR was the EOS 10D — I still had a bit of a learning curve when I first started experimenting with the SL1/100D. But it's my job to get down to brass tacks with new technology and show you how to master it. The fact that you're reading this probably means that you want to know how to use all the bells and whistles Canon has built into the camera. In this chapter, I begin at the beginning: the buttons, knobs, and other controls on the outside of the camera. Getting to know the camera controls like the back of your hand is the first step to taking gorgeous pictures with this new addition to Canon's line of dSLR cameras.

Getting in Touch with the Camera Controls

Think of the SL1/100D like a hybrid car: It has all the features, just not where you find them on your family sedan. Other Canon cameras have a plethora of controls on the outside of the camera. At first glance, it appears as though you've been shortchanged with the SL1/100D, but that's not the case. You do have to go to the menu to access some features typically provided by buttons on a Canon camera body, but access to menu options has never been easier thanks to the Quick Control button, which you push to display shooting settings on the LCD monitor. From this menu, you can specify settings with your finger on the touchscreen, or you can use the cross keys to navigate and specify settings.

The controls for this camera are easy to reach and give you access to many powerful camera features. Try to avoid becoming overwhelmed knowing which button does what. After you use the camera for a while, you'll automatically know which control gives you your desired result and then reach for it instinctively without taking your eye from the viewfinder. But first, you need to know what each control does. I explain the controls you find on the outside of the camera in the upcoming sections.

Exploring the top of the camera

The top of the camera (as shown in Figure 1-1) is where you find the controls you use most when creating images. The top of the camera is where you change settings like ISO (how sensitive the camera sensor is to light), aperture, and shutter speed; choose a shooting mode; and press the shutter button to take a picture. In my humble opinion, the top of the camera is the most important piece of real estate on the camera, except of course for the lens, which is your window to your world as you photograph it.

Figure 1-1: On top of your camera, all covered with dials and buttons.

The dial you use to change exposure settings when you use Canon's Creative modes is the Main dial, which I suggest you get to know by feel. The Main dial is just behind the shutter button, so you'll easily be able to find it when you're taking pictures. Here's the lay of the land on the top of the camera:

- **Power switch:** This switch powers the camera on and off. You also use it to capture video.
- **Shutter button:** This button prefocuses the camera and takes a picture. I discuss this button in greater detail in Chapter 2.
- **Main dial:** This dial changes a setting after you press a button. For example, after you press the ISO speed button, you move this dial to

change the ISO speed setting. I show you how to use this button as the need arises.

- **ISO speed-setting button:** This button sets the ISO speed setting. (See Chapter 6 for more on the ISO speed setting.) Canon has instituted a nice feature on this button. This is the only button on the top of the camera that's rounded on the top, which makes it easy to find this button by feel. The button is also right next to the Main dial, which makes it easy to find without taking your eye from the viewfinder.
- **Hot shoe:** Slide a compatible flash unit (a Canon flash unit is dubbed a *Speedlite*) into this slot. The contacts in the hot shoe communicate between the camera and the flash unit. (I discuss flash photography in Chapter 6.)
- **Mode dial:** This button determines which shooting mode the camera uses to take the picture. (I show you how to use this dial to choose specific shooting modes in Chapter 6; in Chapter 8, I show you how to choose optimal settings for specific picture-taking situations.)
- **Speaker (monaural):** Playback sound when previewing recorded video.
- **Microphone (monaural):** Record sound when capturing video.

Exploring the back of the camera

The back of the camera is also an important place. Here you find controls to access the camera menu, switch to Live View mode, and much more. The following is what you find on the back of your SL1/100D (see Figure 1-2):

- **Menu:** Press this button to display the last used camera menu on the LCD monitor. (I introduce you to the camera menu in Chapter 2 and refer to the menu throughout this book.)
- **Info button:** Press this button to display shooting information on the LCD monitor. You can choose from many different information screens. (Read about the different screens in Chapter 4.) When you're not in shooting mode, use the Info button to show other information, such as the amount of space remaining on the SD card, the color space, and other camera information.
- **Display Off sensor:** This device is a switch that turns the shooting setting display settings on the LCD monitor off when your eye nears the viewfinder and displays them again when you move your eye away from the viewfinder.
- **Viewfinder/eyepiece:** Use the viewfinder to compose your pictures. Shooting information, battery status, and the amount of shots that can be stored on the memory card are displayed in the viewfinder. The

eyepiece cushions your eye when you press it against the viewfinder and creates a seal that prevents ambient light from having an adverse effect on the exposure.

- **Dioptric adjustment knob:** Use this control to fine-tune the viewfinder to your eyesight (see Chapter 2).
- **Live View/Movie Start/Stop button:** Use this switch to engage Live View mode. When you press the Power switch to video shooting mode, this button starts and stops recording a movie (see Chapter 5).
- **AF Point Selection/Magnify button:** Change from multiple autofocus points to a single autofocus point (see Chapter 6). You can also magnify an image when you're reviewing images.
- **AE Lock/FE Lock button/Index/Reduce:** Locks exposure to a specific part of the scene you compose in the viewfinder, or on the LCD monitor (see Chapter 6). When used with a dedicated Canon flash, this button is used to lock flash exposure to a specific part of the scene you compose in the viewfinder. When reviewing images, use this button to display multiple images after you press the preview button and also to reduce magnification of an image you've previously magnified.
- **Aperture/Exposure Compensation button:** This button is also used in conjunction with the Main dial to set the aperture when shooting in Manual (M) mode. You also use this button with the Main dial to increase or decrease the exposure (Exposure Compensation).
- **Cross keys:** These keys are directional (up, down, left and right) and are used to navigate between menu settings. I mention these keys throughout the book as needed in conjunction with specific tasks. Read more about these in the following section.
- **Set/Quick Control button:** Press this button to confirm a task, such as erasing an image or setting a menu option. I show you how to use this button in conjunction with specific tasks throughout this book. When you're in shooting mode, this button is also used to access the Quick Control menu on the LCD monitor. (I show you how to use the Quick Control menu in Chapter 4.) You can also use the Quick Control button in conjunction with the SCN modes, Scene Intelligent Auto, and the CA (Creative Auto) mode.
- **Playback button:** This button displays the last image captured or the last image viewed.
- **Erase button:** Use this to delete a single image or multiple images. (I show you how to delete images in Chapter 4.)
- **Access lamp:** This indicator flashes when the camera writes data to a memory card.

- **LCD monitor/touchscreen:** Use this to preview images after you take them, display information about the images, access menu settings, and apply menu settings. In addition, the LCD monitor on your camera has a touchscreen, similar to touchscreens on portable devices and smartphones. Here, you can make menu changes, apply shooting settings, and scroll between images as well as magnify them.

Figure 1-2: Buttons and dials and switches, oh my.

About the cross keys

Previous versions of Canon cameras have different dials that surround the Set button. Some full-size Canon dSLRs have two dials around the Set button, but the SL1/100D camera has only one dial, and it doesn't rotate. Instead, it sports four directional buttons — cross keys — on one dial. You use these cross keys in conjunction with the Quick Menu and also the menu you access when you press the Menu button.

Similar to a TV remote control or a video game controller, the cross keys are up (north), down (south), left (west), and right (east).

I instruct you to use cross keys when changing menu commands and choosing menu settings. ***Note:*** Sometimes the key you use depends on the last menu command you used so that, for example, only the up/down cross key will work in order to navigate vertically through a stack of menu commands. Similarly, in some instances, only the left/right cross key will work when you need to navigate horizontally from one menu tab to the next or to choose a setting, and sometimes only the left cross key will work, such as when you need to select OK to finalize a setting.

Exploring the front of the camera

The front of your camera (see Figure 1-3) has controls you can use and other gizmos that the camera uses. Here you'll find a few buttons that you use every time you use the camera as well as some features you'll rarely use.

The following are on the front of your camera:

- **Remote control sensor:** This feature senses the infrared beam from an RC-6 remote controller (sold separately) to actuate the shutter. ***Note:*** The RC-6 remote is line-of-sight only, meaning that you must point the remote at the front of the camera for it to work.
- **Grip:** Use this indentation to firmly grip the camera when you're shooting handheld. In spite of the small size of the SL1/100D, most adults can use the last three fingers of the right hand to grip the camera and use the forefinger to press the Shutter button.
- **Body cap:** Use the body cap to protect the interior of the camera when the lens isn't attached (not shown in Figure 1-3).
- **EF mount index:** The EF mount is red. Later in this chapter, I show you how to align an EF lens with this mark when attaching it to the camera (see the section, "Attaching a lens"). EF lenses will work on all Canon dSLRs.

Figure 1-3: The front of the camera is an ergonomic wonder.

- **EF-S mount index:** Your camera also accepts Canon EF-S lenses, which are specifically engineered for cameras with a cropped frame sensor (a sensor smaller than the frame of 35mm film). The EF-S mount index is white and is used when aligning EF-S lenses to the camera when mounting them.
- **Flash button:** Use this button to pop the on-camera flash into the upright and locked position. I show you how to flash your subjects in Chapter 7.
- **Red-Eye Reduction/Self-timer lamp:** When you enable the Red-Eye Reduction menu option, this lamp sends out a preflash (before you actually take the picture) to help reduce red-eye, the disease that made

flash photography famous. When not used in conjunction with flash photography, this button flashes when you enable the self-timer. The lamp flashes quicker just before the shutter is released.

- **Lens-release button:** Press this button when releasing a lens from the camera. I show you how to attach and remove lenses in the upcoming sections, "Attaching a Lens" and "Removing a Lens."
- **Depth of Field preview button:** Press this button to preview the *depth of field* (the amount of the image in front of and behind your subject that's in apparent focus) at the current f-stop.

Exploring the bottom of the camera

The underside of your camera (see Figure 1-4) has one door and one female thread socket.

- **Tripod socket:** This socket will accept a 3/8"-headed tripod.
- **Battery/SD card compartment:** A memory card and a battery live in this compartment.

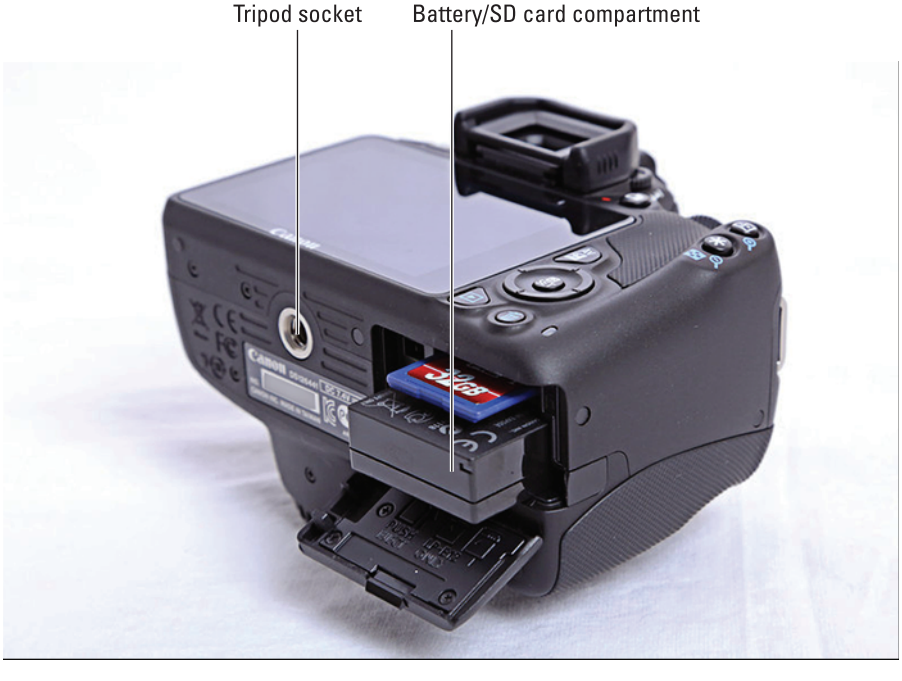


Figure 1-4: The bottom of the camera is not barren.

Peering into the viewfinder

The viewfinder — *Information Central,* as I like to call it — is another place to find a plethora of information. In the viewfinder, you see the image as it will be captured by your camera (see Figure 1-5). Use the viewfinder to compose your pictures and view camera settings while you change them. Figure 1-5 shows many of the icons that can be displayed while taking a picture and also all the autofocus points. You never see this much information displayed while you're taking a picture, though. When you peer into the viewfinder, you find the current shooting settings, ISO speed setting, shots remaining, and much more. Here's the info displayed (from left to right) in your viewfinder:

- **AE lock/AEB in progress:** You've locked the auto-exposure to a specific point in the frame or autoexposure bracketing is being performed (see Chapter 6).
- **Flash ready:** The flash has recycled to full power and is ready for use (see Chapter 7).

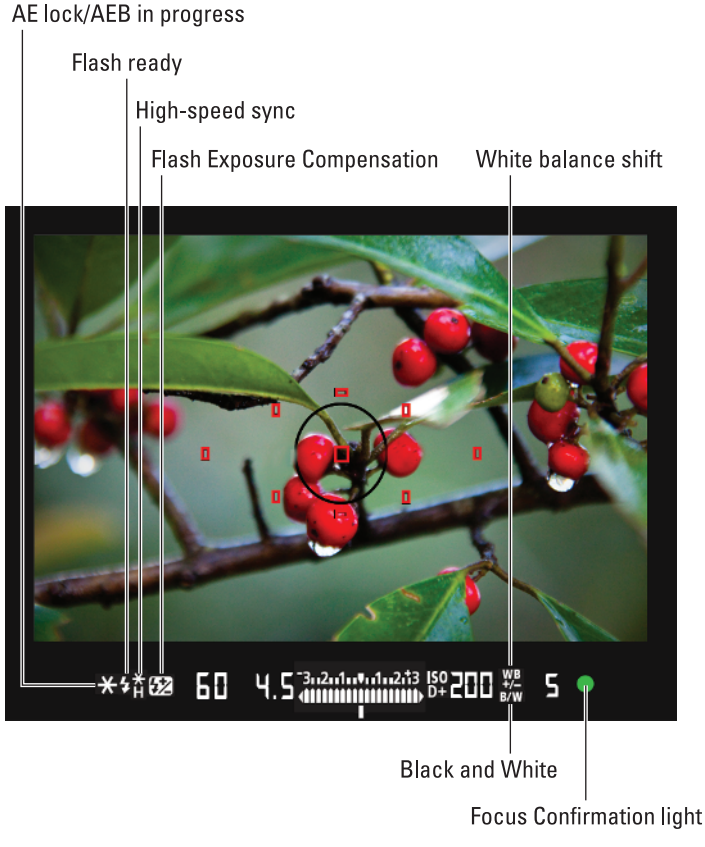


Figure 1-5: Lots of useful information is in the viewfinder.

- **High-speed sync:** You've changed the Flash mode to high speed sync (see Chapter 7).
- **FE (flash exposure) lock/FEB in progress:** You've locked the flash exposure to a specific point in the frame or flash exposure bracketing is being performed (see Chapter 7).
- **Flash Exposure Compensation:** You've employed Flash Exposure Compensation (see Chapter 7).
- **Shutter speed:** This number indicates how long the shutter remains open to take your picture. You can also use this information to manually set the shutter speed when shooting in Shutter Priority mode or Manual mode (see Chapter 6).
- **Aperture:** Displays the f-stop used to take your next picture. You can use this information to manually set the aperture when shooting in Aperture Priority mode or Manual mode (see Chapter 6).
- **Exposure Level indicator:** This tool indicates whether exposure compensation or autoexposure bracketing has been enabled; it's also used to set flash compensation and when you manually set the shutter speed and aperture when shooting in M (Manual) mode. (See Chapter 6 for more on autoexposure bracketing; see Chapter 7 for flash exposure compensation.)
- **Highlight Tone priority:** This icon displays when you enable Highlight Tone priority (see Chapter 6).
- **ISO speed setting:** See your currently selected ISO speed setting (how sensitive the camera sensor is to light). You can also use this information when setting the ISO speed (see Chapter 7).
- **B/W/Monochrome shooting:** This icon is displayed when you enable the B/W/Monochrome option as an Ambience setting. You can change image ambience when shooting in Creative, Portrait, Landscape, Macro, Sports, or any of the SCN modes as I show you in Chapter 2.
- **Max burst:** See the maximum number of shots you can take when shooting in Continuous mode. If fewer shots are remaining on the card than the maximum burst, the shots remaining display.
- **Focus confirmation light:** This indication lights up when you achieve focus.

Introducing the touchscreen

The touchscreen on your camera is very similar to a touchscreen on an iPod or iPad, and similar devices. The touchscreen just gives you another way to navigate between menu commands instead of always using the cross keys.

Just tap a menu command with your finger to see the options, swipe your finger across the screen to change settings, and pinch in (or out) to zoom in (or out) on an image.

- **Tap:** Gently tap or touch your finger on an option or icon to select it. For example, if you press the camera's Menu button, you see the shooting and settings menus denoted by the camera and wrench icons along the top. Switch to another menu by tapping the icon of another menu.

  A gesture you only rarely need to use is the *double-tap,* two taps in quick succession. One instance that calls for the double-tap is when you want to select an image for deletion.

- **Swipe:** Flick your finger quickly to move to a new screen or the next image.

  In some instances, I might also instruct you to *drag* with your finger, a slower gesture that's useful for certain tasks, such as fine-tuning settings.

- **Pinch in/pinch out:** You use both your thumb and your index finger for these gestures. To pinch in, position your thumb and finger in opposite corners of the touchscreen, and then pinch them together. To pinch out, position your thumb and finger close to each other and spread them away from each other.

The touchscreen is available when you're using the Quick Menu mode. Throughout the book, I cover the touchscreen in conjunction with various tasks you perform. Chapter 4 covers the LCD monitor, for example, and there I describe using touchscreen gestures to review images, navigate settings, and more.

Using the touchscreen to adjust menu settings

The touchscreen is extremely versatile if a little small — only three inches wide. To make changes in a menu using the touchscreen, press the Menu button and then let your fingers do the walking. Because of the screen's small size, I can use the touchscreen to navigate the menu and make changes, but sometimes I inadvertently press the wrong menu command. (I don't have the most slender fingers.) So pay attention when you're tapping and swiping to ensure you're choosing the buttons and settings you mean to. The following steps show you generally how to adjust menu settings through the touchscreen:

1. **Press the Menu button.**
2. **Tap the icon of the desired menu tab.**

   Commands for the selected menu appear under the tab you tapped.

3. **Tap the desired menu command.**

This opens the menu and displays the choices. This is the equivalent of pressing the Set button after using the cross keys to select a menu command.

4. **Drag your finger left or right to choose a setting from a scale, such as setting the LCD brightness.**
5. **Tap OK to apply a setting or command.**

If you think using the touchscreen to set menu commands is your cup of tea, I suggest you experiment without a memory card in the camera.

The camera LCD monitor is not pressure sensitive, so don't use sharp instruments (your fingernail or the tip of a ballpoint pen) for touchscreen operations, and don't even press too hard. Use your fingertip. Having said that, *do not* use the touchscreen with wet fingers.

Modifying touch control

Touch control is enabled by default. You can adjust the sensitivity of touch control — or if you don't like the feature, you can disable it. To modify touch control on your camera

1. **Press the Menu button.**
2. **Navigate to the Camera Settings 3 tab, using the cross keys or just tapping its icon.**
3. **Highlight Touch Control (see the left image in Figure 1-6).**

4. **Press the Set button.**

   The Touch Control settings are displayed (see the right image in Figure 1-6).

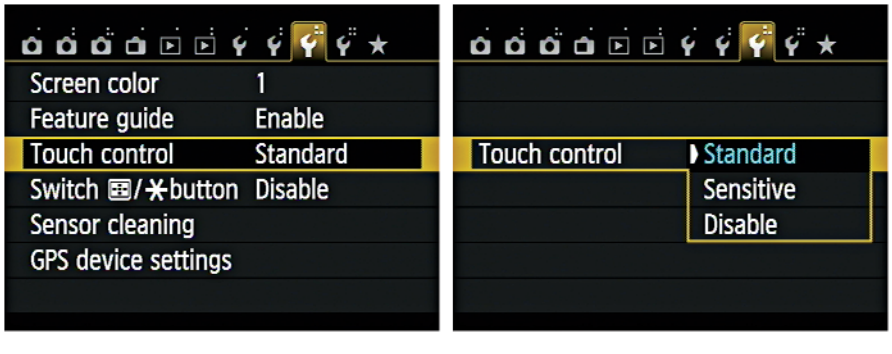


Figure 1-6: Modify Touch Control settings here.

5. **Using the cross keys or by tapping, select one of the following options:**
   - *Standard:* This default setting enables touch control.
   - *Sensitive:* This setting makes the touchscreen more sensitive. If you find that you like touch control, this option may make more sense for you. Experiment with both settings to see which one suits your needs.
   - *Disable:* Choose this option to disable the touch screen.
6. **After highlighting the desired option, press the Set button.**

Exploring Camera Connections

On the left side of the camera (with the viewfinder facing you) is a weather-resistant flap. Under the flap are a plethora of connections, where you connect sundry connectors to your camera, as shown in Figure 1-7.

You have the following connections available on your camera:

- **Microphone:** Connect an external microphone to this port to capture audio with your video. When you connect a microphone to this port, the onboard microphone is disabled. This port will capture stereo sound from a stereo microphone.
- **Remote control:** Connect an RS 60-E3 remote control device to this port, and you can trigger the shutter remotely. The device comes with a 2" cord, which enables you to move away from the camera and view the LCD monitor when shooting in Live View mode.
- **A/V Out and Digital:** Connect an A/V out cord to this port to view video on a TV set that doesn't have an HDMI port. The optional Canon AVC-DC 400ST A/V out cord has three color-coded connectors that plug into color-coded ports on your TV for video plus left and right channel audio. Connect the cord with the Digital plug to a male USB port on a printer, and you can print directly from the camera to your printer. This port can also be used to download images and movies directly from your camera to computer using the EOS Utility software supplied with your camera.
- **HDMI Out:** Connect an HDMI cable from this port to an HDMI port on your TV to watch HD video on your TV that you captured on your camera.

Figure 1-7: Ports just looking to be plugged.

Modifying Basic Camera Settings

Your camera ships with default settings for the country where the camera was purchased. You also have default settings for the amount of time it takes the camera to power off when no picture taking or menu activity has occurred. You can modify these settings to suit your taste, as I show you in the upcoming sections.

Adjusting the date and time

Adjusting your camera to the current date and time is important because your camera records the date and time of every picture you take. The time is based on a 24-hour military clock. You can also consider this to be your baptism by fire on how to use the camera menus, which I discuss in detail in Chapter 2. To set the date and time:

1. **Press the Menu button.**

   The last used menu appears on the LCD monitor.

2. **Navigate to the Camera Settings 2 tab (shown at the left of Figure 1-8).**

   Use the cross keys to navigate to the Camera Settings 2 icon, or tap it. Either way you choose, the menu with the date and time options displays on your LCD monitor.

   The cross keys enable you to navigate left, right, up or down. The key(s) you use depend on the last menu command you used.

3. **Highlight Date/Time/Zone and then press the Set button.**

   The Date/Time/Zone dialog box displays, and the month is selected (shown at the right of Figure 1-8).

4. **Press Set.**

   Up and down arrows appear above the current setting.

5. **Set the month and then press Set.**

   The change is applied, and the up and down arrows disappear.

6. **Navigate to the date setting (use the right cross key) and then repeat Steps 4 and 5 to set the date.**

Sometimes only one cross key will work. Moving through fields on a setting screen, like Date/Time/Zone, is one of those times. You need to use the right cross key to advance through these fields.

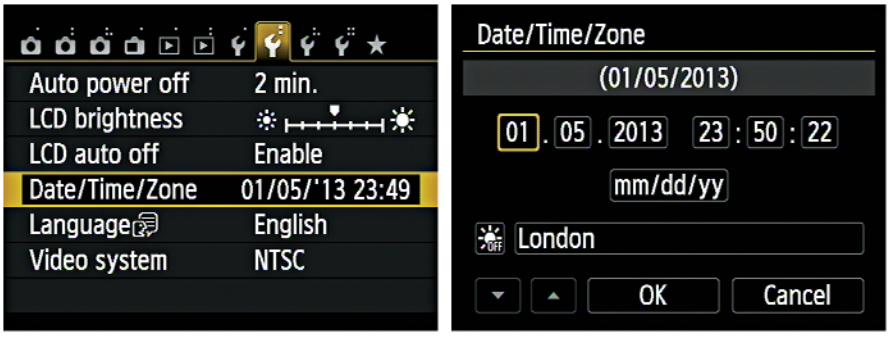


Figure 1-8: Adjusting the date and time.

7. **Set the time: year, hour, minute, and second.**
8. **Set the date format.**

   The default setting is in mm/dd/yy format. If you prefer a different format, press Set to display up and down arrows, and then highlight the method you want. Then press Set to apply the changes.

9. **Navigate to the Daylight Saving option box.**

   Daylight Saving Time changes are disabled by default. If the time zone in which you live observes Daylight Saving Time, press Set to display up and down arrows and then select the Daylight Saving Time option (its icon looks like the sun).

10. **Set the Time Zone.**

    a. Press Set to display an up and down arrow around the Time Zone box.

    b. Select the desired time zone and then press Set.

    The time zones are listed as cities. The default time zone when the camera ships is "London time" (GMT, or Greenwich Mean Time).

11. **Review the settings to make sure you have everything as you want.**

    If you goofed on a setting, use the cross keys to navigate to the setting and change it.

12. **Highlight OK (or tap OK) and then press Set.**

    The Date/Time/Zone changes are applied. Figure 1-9 shows the settings for your friendly author's SL1/100D.

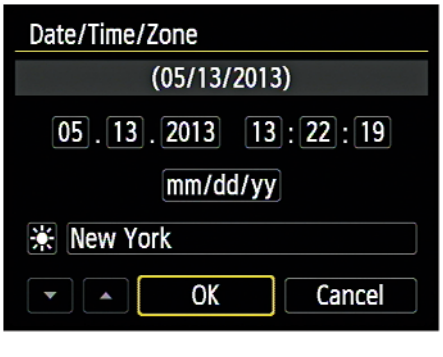


Figure 1-9: Time has come today.

If you photograph events with another photographer, make sure the time and dates are the same on both cameras. That way, when you combine images from the photo shoot and edit them, you'll be able to accurately sort them by time and date.

Modifying the auto–power off time

Your camera powers off automatically after 1 minute of non-operation. You can specify a period of time from 30 seconds to 15 minutes for auto–power off, or you can disable the feature. However, your camera will automatically power off after 15 minutes of non-activity even if you choose to disable this feature. Naturally, choosing a short power-off time helps conserve your battery. After your camera powers off, press the shutter, Info, or Menu button to make the camera power on again. Here's how to change the power-off time:

1. **Press the Menu button.**

   The previously used menu appears on the LCD monitor.

2. **Navigate to the Camera Settings 2 tab (left image, Figure 1-10).**
3. **Highlight Auto Power Off (left image in Figure 1-10) and then press the Set button.**

   The Auto Power Off options display (see the right image in Figure 1-10).

4. **Highlight the desired setting and then press Set.**

   The change is applied.

To restore the camera to its default settings, press the Menu button and then navigate to the Camera Settings 4 tab. Highlight Clear Camera Settings, press Set, highlight Clear All Camera Settings, and then press Set.

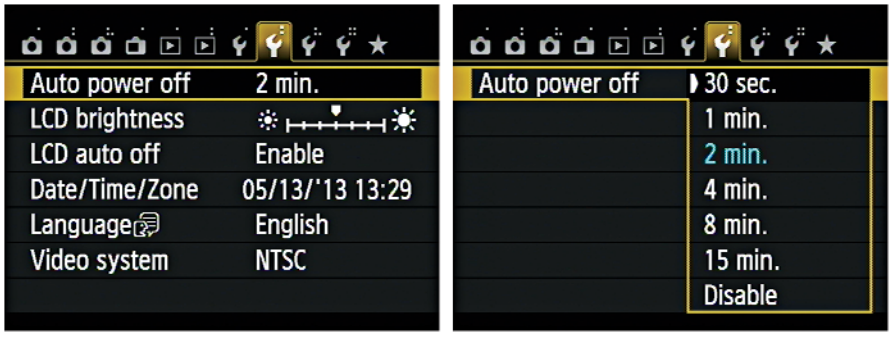


Figure 1-10: Change the power-off time here.

Adjusting the Viewfinder for Maximum Clarity

If you wear glasses or your vision's not perfect, you can adjust the viewfinder clarity, which makes it easier to compose your images and focus manually. After all, if what you see in the viewfinder isn't what you get, you won't be a happy camper. To adjust viewfinder clarity

1. **Attach a lens to the camera and point the camera at a wall.**

   I tell you in the following section how to attach a lens.

   A wall with solid light color and no texture is best. In a pinch, you can point the camera at a concrete sidewalk.

2. **Look into the viewfinder and turn the dioptric adjuster knob (see Figure 1-11) left or right until the autofocus points look sharp and clear.**

Check your viewfinder clarity every time you go on a new photo shoot. It's easy to accidentally turn the dioptric adjuster knob when putting the camera in a case or camera bag.

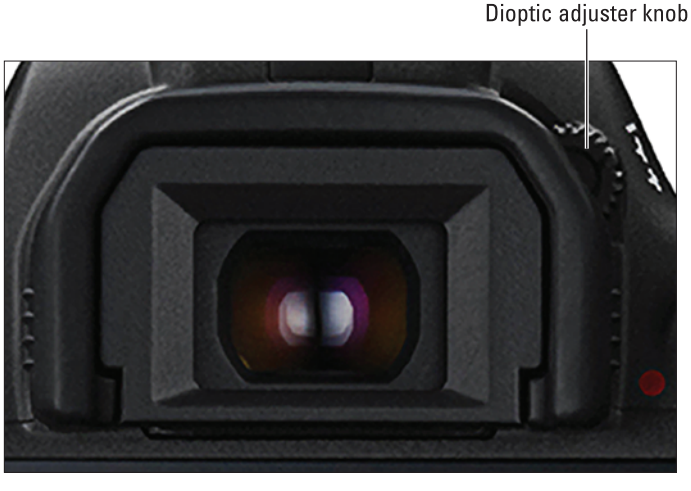


Figure 1-11: I can see clearly now.

Working with Lenses

One of the beautiful things about a dSLR is that you can attach lenses with different focal lengths to achieve different effects. Your SL1/100D accepts a wide range of lenses from super–wide angle lenses to long telephoto lenses that let you fill the frame with far-away objects. If you purchased your SL1/100D as a kit, the included lens is the 18–55mm IS STM lens zoom lens. You can purchase additional Canon or third-party zoom lenses from your favorite

camera supplier. Too, you can use Canon EF and EF-S lenses on your camera. In the following sections I show you how to attach and remove lenses.

Attaching a lens

Hey, I bet you're chomping at the bit to attach a lens on your new camera. I show you how in this section. Remember, you can use Canon EF and EF-S lenses on your camera.

To attach a lens to your camera, start by taking off the body cap (the following steps) or the lens that's already attached (see "Removing a lens").

1. **Remove the body cap from the camera.**

   Twist the cap counterclockwise to remove it. Alternatively, you'll remove the lens currently on the camera with the steps I outline in the upcoming "Removing a Lens" section.

2. **Remove the rear cap from the lens you're attaching to the camera.**

   Twist the cap clockwise to remove it.

3. **Align the dot on the lens with the mounting dot on the camera body (see Figure 1-12).**

   - *EF lens:* Align the red dot on your lens with the red dot on the camera body.
   - *EF-S lens:* Align the white square on your lens with the white square on the body.

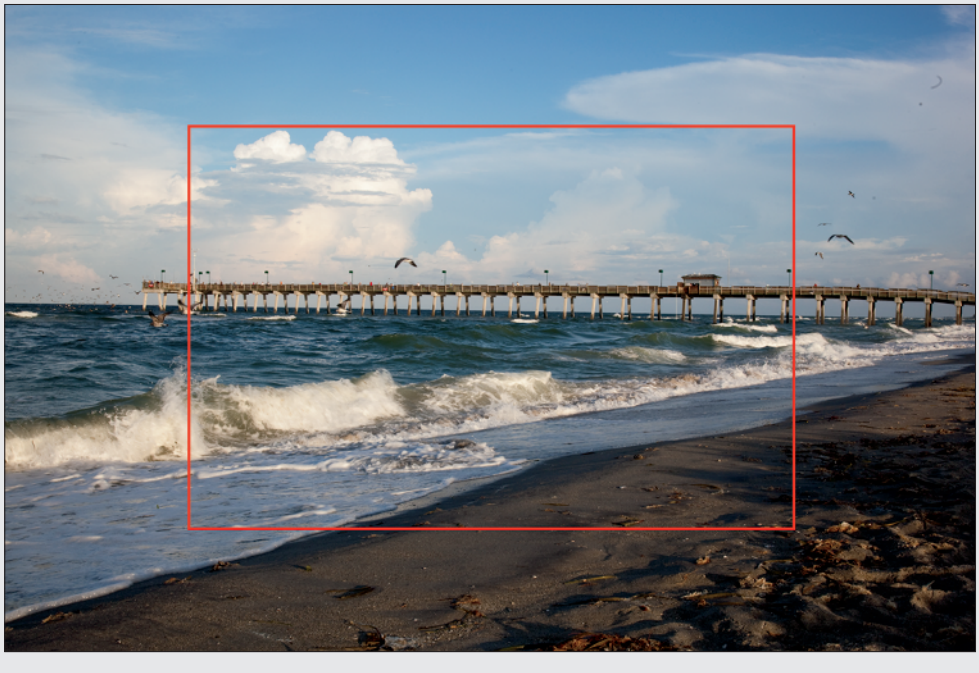
Figure 1-12: Align the lens to attach it.

4. **Twist the lens clockwise until it locks into place.**

   Don't force the lens. If the lens doesn't lock into place with a gentle twist, you may not have aligned it properly.

What's my focal length multiplier?

The sensor on your SL1/100D is smaller than the frame size of 35mm film. Therefore, the resulting image is a smaller area than what you'd capture using a 35mm film camera or a dSLR with a sensor that's the same size as a frame of 35mm film (a *full-frame* sensor). When you use a camera with a sensor smaller than the frame size of 35mm film, you can zoom in closer with a telephoto than would be possible with a camera with a full-frame sensor. Photographers who are experienced shooting with 35mm cameras like to know how lenses will behave on a camera without a full-frame sensor. They find out by multiplying their camera's focal length multiplier by the focal length of the lens. The focal length multiplier for the SL1/100D is 1.6. Therefore, a dSLR 50mm lens captures the same field of view as an 80mm (50mm × 1.6) lens does on a 35mm film camera or full-frame digital SLR. When I suggest a focal length, I refer to it as the 35mm equivalent. For example, if I specify a telephoto focal length that's the 35mm equivalent of 80mm, this is a 50mm lens on the SL1/100D.



When the lens you have on your camera isn't suited for your subject — say, you have a wide angle lens on but you want to photograph a bird far away — you can quickly change to a lens of a different focal length.

Removing a lens

When you want to use a different lens or store the camera body, you need to remove the lens. Removing a lens and attaching another lens can be a bit of a juggling act. To remove a lens from your camera:

1. **Power off the camera.**

   Never change lenses with the power on because the charge of electricity can turn your sensor into a dust magnet.

2. **Press the lens-release button.**

   This button unlocks the lens from the camera.

3. **Twist the lens counterclockwise until it stops. Then gently pull the lens away from the body.**

4. **Attach another lens to the camera as soon as you can.**

   When you remove a lens, the inside of your camera is exposed to the elements. Dust can adhere to the sensor.

Do not change lenses in a dusty environment because dust may inadvertently blow into your camera. I also recommend pointing the camera body down when changing lenses. Dust on the sensor shows up as little black specks on your images, which is not a good thing.

Never store a camera without a lens or body cap attached because pollutants may accidentally get into the camera, harming the delicate mechanical parts, and possibly fouling the sensor.

Using image stabilization lenses

Many Canon and third-party lenses that fit your camera offer *image stabilization* — a feature that enables you to shoot at a slower shutter speed than you normally are able to use and still get a blur-free image. The actual number of stops you can gain depends on how steady you are when handling the camera. ***Note:*** Image stabilization stabilizes the camera for any motion you transmit to the camera. If you photograph a fast moving object using image stabilization, the subject may be blurred because of the slow shutter speed, even though the camera is stable. To enable image stabilization

1. **Locate the Stabilizer switch on the side of your lens.**

   On Canon lenses, you'll find the switch on the left side of the lens when the camera is pointed toward your subject (see Figure 1-13). If you're

using a third-party lens, look for a switch marked IS, or refer to the lens manual.

2. **Push the Stabilizer switch to On to enable image stabilization.**

   Image stabilization uses the camera battery to compensate for operator movement. Therefore, shut off this feature when you need to conserve battery power and don't need image stabilization. Note that some lenses have two image stabilization switches. The second switch changes between stabilizer modes. Mode 1 stabilizes the lens in a horizontal and vertical plane, and Mode 2 and Mode 3 (on super-telephotos) stabilize the lens when you pan to follow a moving object (panning).

Figure 1-13: Slide the Stabilizer switch to enable image stabilization.

When you take pictures with your camera mounted on a tripod, disable image stabilization. If you don't disable this feature, you may get a less-than-crystal-clear shot because the lens is trying to stabilize motion that is not present (the tripod stabilizes the camera).

Using a zoom lens

Zoom lenses come in two flavors: twist to zoom, or push/pull to zoom in or out, respectively. The lens that comes with the SL1/100D kit is the 18–55mm IS STM lens zoom lens. You twist the lens barrel to zoom in or out. (You can purchase additional Canon or third-party zoom lenses from your favorite camera supplier.)

To use a zoom lens with a barrel that twists to change focal length

1. **Grasp the lens barrel with your fingers.**
2. **Twist the barrel to zoom in or out.**

To use a push/pull zoom lens

1. **Grasp the lens barrel with your fingers.**

2. **Push the barrel away from the camera to zoom in, and pull the barrel toward the camera to zoom out.**

About STM lenses

The Canon STM (Stepper Motor) lens series sport a motor that the camera uses to auto-focus on your subjects. The technology employed in STM lenses allows for silent focusing. When you use an STM lens, you won't hear any mechanical noise from the lens like you would with a non-STM lens. Your camera can auto-focus when you record movies, which is another reason why Canon created this line of lenses. Comparatively, the mechanical noise of a non-STM lens is recorded with the soundtrack of any movie you create.

As of this writing, Canon makes the following models of STM lenses that are compatible with your camera:

- **18–55mm f/3.5–5.6 IS STM:** This is the kit lens for the SL1/100D. It covers a focal length range that enables you to create a wide assortment of images from wide-angle landscapes to up-close-and-personal head-and-shoulders portraits.
- **18–135mm f/3.5–5.6 IS STM:** This lens covers a long focal length range and features image stabilization. The wider focal lengths of this lens are ideal for creating landscape images. The range from 50mm to 80mm is ideal for creating portraits, and the longer focal lengths enable you to zoom in on wildlife, like wading birds.
- **40mm f/2.8 STM:** This lens may be the ideal walkabout lens for your camera. The body and lens combine for a very small footprint, helping make you look relatively innocuous when photographing city and street scenes. The 35mm equivalent focal length for this lens is 64mm, which is close to the area that the human eye can perceive. With a maximum aperture of f/2.8, it's also a *fast* lens, meaning you can more easily create images in dim light without a flash.

Using Digital Film

Okay, so it's not really "film." Instead of those celluloid negatives you've come to know and love (or not), the devices you store your digital images on are memory cards. Memory cards are way better than film because you can reuse them thousands of times before they self-destruct. Well, they don't self-destruct, but like any device, they don't last forever. At least they don't get scratched like film often does. I bring you up to speed on the memory cards your camera uses in the upcoming sections.

Working with SD cards

Your camera uses SD (Secure Digital) cards to store the pictures you take. Note that your camera does not come with a memory card. If your friendly camera salesman did not sell you one, you'll have to purchase a card before using the camera. I recommend starting with a 16 GB card. An *SD Card* is an electrical device similar to a flash drive. You insert a new SD card when you begin shooting and remove the card when it's full.

To insert an SD card

1. **Open the battery/SD card compartment cover on the bottom of the camera. (Refer to Figure 1-4.)**

   To open the cover, push the latch toward the front of the camera. I find it's easier to change cards with the back of the camera facing me.

2. **Insert the card in the slot.**

   As shown in Figure 1-14, the card label should face you, and the end with the contacts should face the front of the camera.

3. **Gently push the card into the slot — and I do mean gently.**

   Never force a card because you could damage the contacts in the camera and the card. The card slides easily into the camera when aligned properly.

4. **Close the battery/SD card compartment cover.**

   You're ready to shoot up a storm.

Figure 1-14: Insert a SD card like this.

When you see a note in the viewfinder that your SD card is full, remove it from the camera and insert a new one. To remove an SD card

1. **Turn the camera power switch to Off.**
2. **Open the battery/SD card compartment cover by pushing the latch toward the front of the camera.**

3. **Gently push the card in, and then let go to eject it.**

   The SD card pops loose from the card mechanism.

4. **Gently pull the SD card from the slot.**

   You're now ready to insert a new SD card and start shooting.

5. **Pop the full SD card in the protective case from which you removed the blank card.**

You may be tempted to pick up a 32GB or 64GB card, thinking you can store a gazillion images on one card and not worry about running out of room. The truth is, though, that memory cards are simply electrical devices that are subject to failure — and will fail when you least expect it. And if a large card fails, you lose lots of images. The very definition of not good. I carry a couple 16GB SD cards in my camera bag. Although I hate to lose any images, I'd rather lose 16GB worth of images than 32GB or 64GB. I advise you to purchase smaller memory cards.

It bears repeating: A memory card is a mechanical device that can and will fail when you least expect. If the worst happens and your computer cannot read a card, however, you can purchase a data recovery program to retrieve the data from the card. Data recovery programs also work if you accidentally erase the card before downloading the images to your computer. (Chapter 4 covers deleting images.) A program called CardRecovery, which works with Windows applications, retails for $39.99 (`www.cardrecovery.com`), or you can purchase CardRescue for the Mac, which retails for $39.99 (`www.cardrescue.com`). Both applications offer trial versions, which you can use to scan a corrupted card for recoverable data. After you perform a preview scan, you can purchase the applicable application for your operating system to recover the data.

Formatting an SD Card

After you download images to your computer and back them up (see Chapter 9), I strongly recommend formatting your cards before using them again, even if you didn't fill them. Doing this ensures that

- You'll have a full card to work with.
- You won't download duplicate images the next time you download the contents of the card to your computer.

The only way you can restore images from a card that's been formatted is with a data recovery program. Make sure you download all images to your computer before you format a card.

To format an SD card

1. **Insert the card into the camera, as I outline in the preceding section.**

2. **Press the Menu button.**

   The last used camera menu displays on the LCD monitor.

3. **Navigate to the Camera Settings 1 tab.**

   As I discuss earlier in the chapter, you can use the cross keys or tap the icon.

4. **Highlight Format.**

   The Format Card option is selected (see the left image in Figure 1-15).

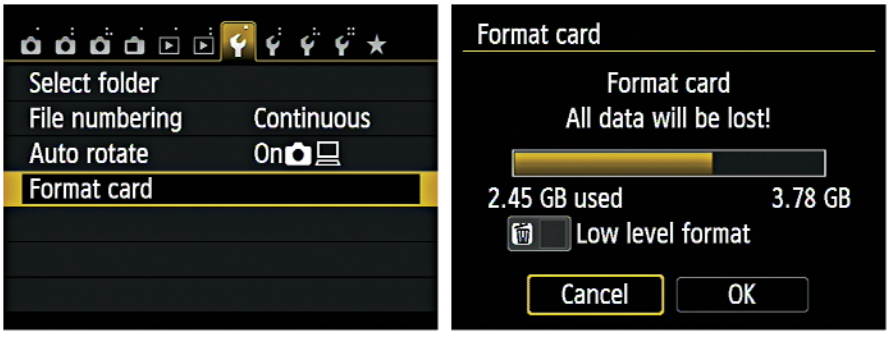


Figure 1-15: Format a card here.

5. **Press the Set button.**

   The menu changes to show the amount of data on the card and displays a warning that all data will be lost (see the right image in Figure 1-15).

6. **Highlight OK and then press Set.**

   Again, use the cross keys to navigate to OK or just tap OK.

   The card is formatted. Now you have a blank card that's ready to capture images from the camera.

The Low-Level format totally erases all data on the card and resets it to its default condition. To enable Low-Level format, follow Steps 1–5 of the previous steps, press the Erase button (the trash can icon) to enable the feature, and then perform Step 6. I recommend doing a Low-Level format every now and again to restore your cards to an almost-new condition.

7. **Press the Shutter button halfway to exit the menu and resume taking pictures.**

About Eye-Fi cards

Another type of memory card you can use is an Eye-Fi SD card. (This doesn't come with your camera.) An Eye-Fi card comes with software that you install on your computer. With an Eye-Fi card, you can download images to your computer wirelessly through a LAN (local area network). Some Eye-Fi card manufacturers have options you can purchase that automatically upload images to a storage *cloud,* which is storage supplied by the card manufacturer, when the card is almost full. Some Eye-Fi cards will also geo-tag images. When an image is geo-tagged, the coordinates are added to the image metadata. You can also use an Eye-Fi card to upload images from your camera to social media sites, such as Facebook. For more information, contact your favorite camera retailer.

Powering Your Camera

Your camera is powered by a sophisticated lithium ion (Li-ion) battery, which enables you to capture hundreds of images before it totally discharges. In addition, Li-ion batteries have a long life. In the upcoming sections, I show you everything you need to know about the battery that powers your camera, and then some.

About your camera battery

The LP-E12 battery in your SL1/100D, a rechargeable Li-ion battery engineered for a long life, enables you to capture about 380 images (with 50 percent flash usage) when you use the camera in warm weather or at room temperature. When you photograph in colder climates, the amount of images you can capture decreases. Here are some recommendations for getting the best performance from your camera battery:

- **After you charge a battery, replace the cover.** See how to charge the battery in the following section.
- **Remove the battery from the camera after you finish shooting for the day.** The battery loses a bit of its charge if you store it in the camera.
- **Keep the camera power-off time to the absolute minimum.** If you choose a longer time than the default 30 seconds, the battery drains quicker. I show you how to set the power-off time in the earlier section, "Modifying the auto–power off time."
- **Keep the image review time to an absolute minimum.** The default image review time of 2 seconds gives you plenty of time to review an image. If

you choose a longer time, your battery will not last as long. I show you how to set the image review time in Chapter 4.

- **In cold conditions, place the spare battery in your coat pocket.** Your body heat keeps the battery warm and extends the life of the battery charge.
- **Replace the battery immediately when you see the low battery warning.** If you deplete the power completely when your camera is writing data to the memory card, the card may become corrupted.
- **Never remove the battery when the data access light is blinking.** This indicates your camera is writing data to the card. Removing the battery prematurely can damage the memory card and cause loss of data.

Charging your camera battery

When you notice the battery status icon is blinking, charge the battery, using the charger supplied with the camera.

When you purchase your camera, the battery is not fully charged. Run your battery through one recharge cycle before using the camera.

To recharge the battery, follow these steps:

1. **Plug the battery charger into a wall outlet.**

   You can use the battery charger in foreign countries as well as the United States. The battery charger works with 110 and 240 volt AC 50/60 Hz power sources.

2. **Insert the battery (see Figure 1-16).**

   After you insert the battery, the charging light glows orange.

3. **Continue charging the battery until the light is green.**

4. **After the battery is fully charged, remove the battery charger from the wall socket and then remove the battery.**

   After removing the battery charger from the wall socket, do not touch the prongs for at least 3 seconds.

5. **Replace the protective cover over the battery.**

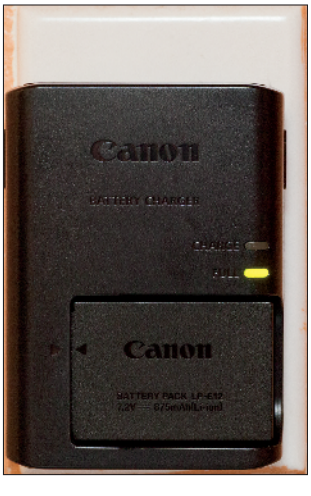


Figure 1-16: Charging the battery.

About Sensor Cleaning

When you power off your SL1/100D, the sensor is automatically cleaned (see Figure 1-17). The camera accomplishes this by jiggling the sensor to dislodge any dust particles. Sometimes, though, stubborn particles of dust don't fall off the sensor with the automatic cleaning. You can, however, manually clean your sensor as outlined in the next section.

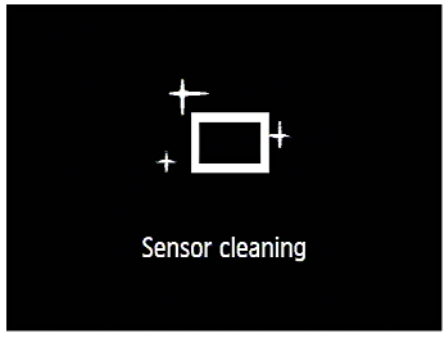


Figure 1-17: Shake it up baby, now. Shake it up, baby. Clean me off.

Cleaning your sensor on command

If you notice black specks in areas of your image that are one solid color (say, in a patch of sky), you have dust on your sensor. Your camera will automatically clean the sensor when you power it off. However, sometimes that's not enough. If you consistently see dust spots in the same area on several images, there's a jiffy menu command you can use to clean your sensor, whenever you feel the need, by following these steps:

1. **Press the camera Menu button.**

   The camera menu is displayed on the LCD monitor.

2. **Navigate to Camera Settings 3 tab (see the left image in Figure 1-18).**

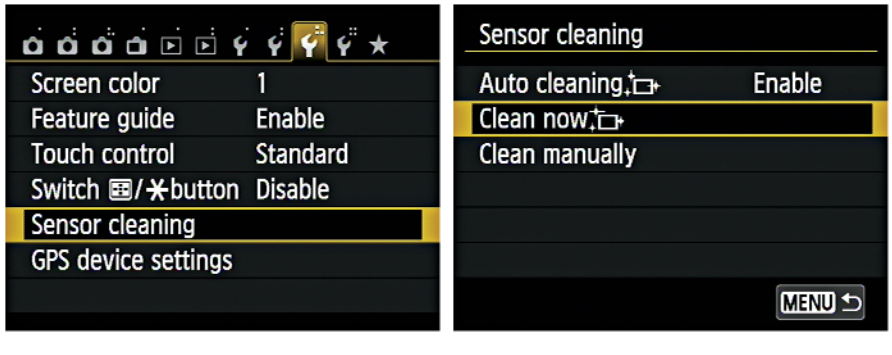


Figure 1-18: Cleaning the camera sensor.

3. **Highlight Sensor Cleaning and then press Set.**

   The Sensor Cleaning options are displayed.

4. **Highlight Clean Now (see the right image in Figure 1-18), and then press Set.**

5. **A dialog box appears, asking you whether you want to clean your sensor now.**

   OK is selected by default.

6. **Press Set.**

   Your camera performs a sensor-cleaning cycle.

After using the Clean Now menu command, put a lens on your camera, manually set the focus to the closest distance at which the lens will focus, and then take a picture of the clear blue sky. Open the image in your image-editing program and zoom in to 100 percent magnification. Sensor dust shows as dark spots. If you have stubborn specks of sensor dust on your camera, run the Clean Now menu command a couple of times.

Keeping your sensor clean

The best way to keep your sensor clean is to never change a lens. However, this defeats the purpose of a dSLR. But if you are meticulous about changing lenses and follow a bit of sage advice, you'll keep your sensor as squeaky-clean as possible. I first learned about sensor dust when I owned my first dSLR, a Canon EOS 10D. I was on a business trip/vacation to California. When I was reviewing some images of the Golden Gate Bridge, I noticed some horrible dust specks on the image. Then I read the manual and learned how to clean the sensor. Since then, I've learned that doing the following minimizes the chances of dust adhering to the sensor:

- **Power off the camera before changing lenses.** If you leave the power on, the sensor maintains a charge that can attract dust.
- **Never change lenses in a dusty environment.** If you're photographing in a dry, dusty environment, find a sheltered area in which to change lenses. When all else fails, the inside of your car is a better place to change lenses than in a dry, dusty area.
- **Never change lenses when it's windy.** In windy conditions, find a sheltered environment in which to change lenses.
- **Point the camera down when changing lenses.** This minimizes the chances of dust blowing into the sensor.
- **Have the other lens ready.** When I change lenses, it's a juggling act. I keep the lens I'm going to put on the camera in one hand with the rear

cap off. I point the camera at the ground and grasp the lens I'm going to remove with one hand, and press the lens release button with a finger from the other hand. I then quickly remove one lens and replace it with the other. With practice, you can do this quickly and minimize the chance of dust fouling your sensor.

The sensor chamber of your camera is lubricated, and sometimes that lubricant can get on the sensor and cause a spot to appear on your images. If conventional methods of cleaning the sensor don't work, send the camera to Canon for sensor cleaning, or go to a local camera shop that offers this service.

Accessorizing Your SL1/100D

Your SL1/100D is a mechanical and technological masterpiece. The camera comes with a nice cardboard box — great for shipping the camera but not so great for storing the camera on a day-to-day basis. And the camera ships with this nice strap that tells the world you're shooting with a Canon EOS camera, but the strap is thin. If you're using a long telephoto lens, that strap makes you feel like you're carrying a brick on your neck. So, first and foremost, you need a decent camera case and a good strap. There are lots of other goodies you can invest in that will make using your camera more enjoyable.

I discuss a few useful Canon accessories here and list several third-party camera and video accessories in this book's eCheat Sheet, online at `www.dummies.com/cheatsheet/canoneosrebelsl1100d`.

Canon sells lots of goodies in its online store that may also be available from other sources such as your local camera retailer or your favorite online camera store. Here are a couple of items you may consider purchasing:

- **Extra LP-E12 battery pack:** Like everything else on this camera, the battery is smaller than you'd find on other dSLR cameras, which means you won't get as many shots on a fully charged battery as you would on a camera with a larger more powerful battery. If you shoot lots of pictures, having an extra fully charged battery in your camera bag can save the day.
- **Remote RC-6 wireless controller:** This accessory enables you to trigger the shutter of your SL1/100D wirelessly.
- **Dedicated Canon flash:** Your SL1/100D has an onboard pop-up flash unit. The camera also has a hot shoe in which you can insert a dedicated, more powerful external flash unit. The beauty of using a dedicated flash is that the camera communicates with the flash unit. The following flash units will work with your SL1/100D: 90EX, 270EX, 320EX, 430EXII, 600EX, and 600EX-RT. Macro Ring light models MR-14EX and MT-24EX are also compatible with your camera. I discuss flash photography with your SL1/100D in Chapter 7.

The Care and Feeding of Your SL1/100D

You've invested a considerable amount of money in your SL1/100D (and accessories, likely). To maintain your investment and keep the camera in top operating condition, you need to take care of your purchase.

As I mention previously, you can clean your lenses with a lens-cleaning fluid and microfiber cloth. However, you should never use a solvent on your camera body. When you want to clean your camera body, wet a soft cloth, and then wring it almost dry. Gently rub the cloth over the camera body to remove any residue from skin oil or airborne pollutants.

Some areas of your camera have ridges that are traps for dirt and debris from your skin. You can clean these areas with a soft toothbrush. It is also recommended that you clean your camera body with a soft, almost-dry cloth whenever you're photographing near the ocean when there's a salty mist in the air. Clean the camera LCD monitor with a microfiber cloth.