



Civil Air Patrol 314



July 2019



Scanner Camera Basic Check List

Easy to Remember

“B A A M”

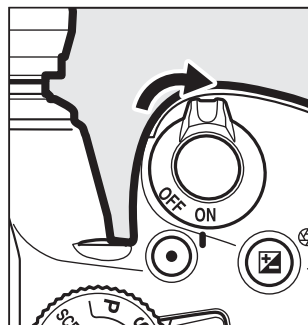
- **B**attery Charged / Battery Spare
- **A**UTO Everything /NO Flash & Focus.
(Auto Setting / Auto Focus)
- **A**djust View Finder Personal Focus
- **M**emory CARD

Just Remember “**B** A A M”

Turn Camera ON and Check

Battery

- 2 Camera: Turn the camera on.**
A language-selection dialog will be displayed; press ⬆ and ⬇ to highlight a language and press **OK** to select.

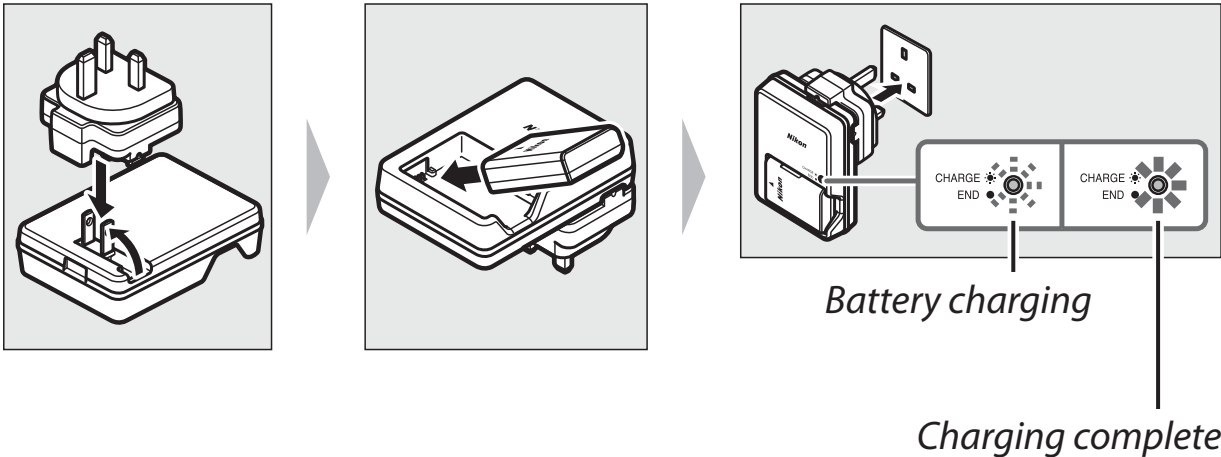


“B” Battery Charged + Spare +

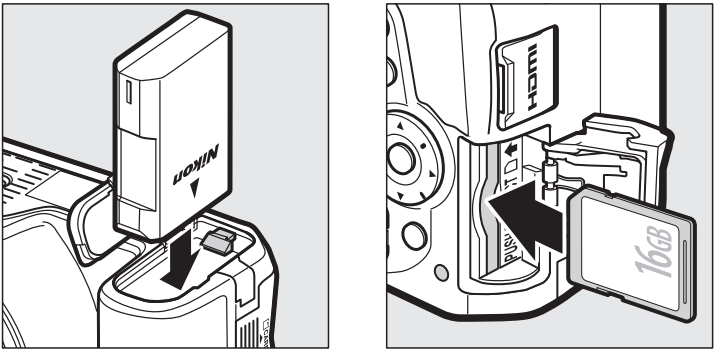
- Check for B attery’s / + Spare
- Check Battery meter on Camera to be sure battery is fully Charged

Charge the Battery

If a plug adapter is supplied, raise the wall plug and connect the plug adapter as shown below at left, making sure the plug is fully inserted. Insert the battery and plug the charger in.

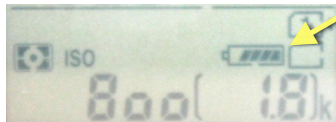


Insert the Battery and a Memory Card



Just Remember the “B A A M” Basics

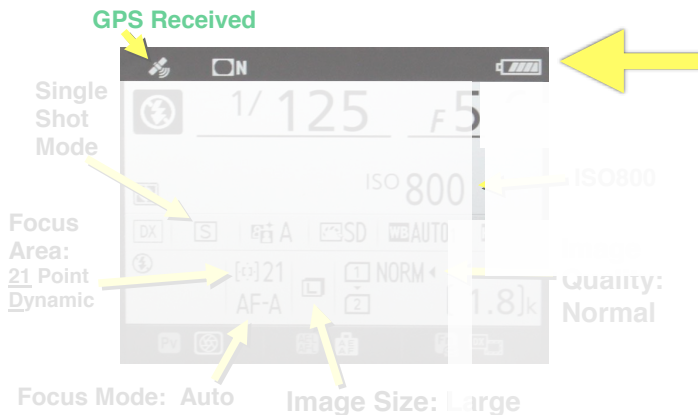
Check **Battery** Charge Level



Camera control panel display should look something like this when set up correctly (Note: No GPS indicator on this display)

Shooting Menu Settings:

Check **Battery** Charge Level



Focus Area:
(Reset every time after shooting mode change – press **Camera AF** button & change setting with front dial, see setting results on display) (Setting focus area to “d21” area)

Scanner Camera Basic Check List

Remember “B A A M”

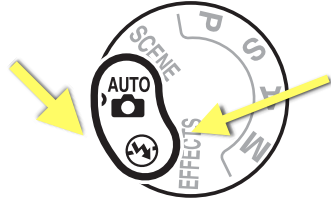
- **B**attery Charged / Battery Spare
- **A**UTO Everything /NO Flash & Focus.
(Auto Setting / Auto Focus)
- **A**djust View Finder Personal Focus
- **M**emory CARD -

Remember **A**uto

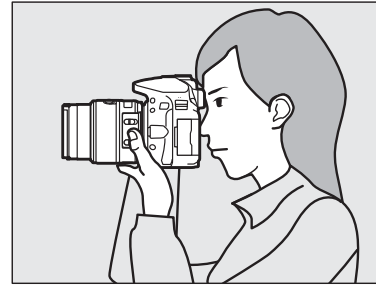
SET to AUTO / No Flash

C "Point-and-Shoot" Modes (^{AUTO} and)

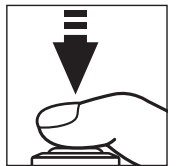
- 1 Rotate the mode dial to ^{AUTO} or .



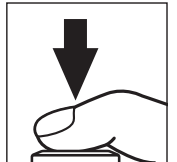
- 2 Frame the photograph.



- 3 Press the shutter-release button halfway to focus.



- 4 Smoothly press the shutter-release button the rest of the way down to take the photograph.



Auto

Everything

Just Remember the “B A A M”

1. Set MODE Switch to **AUTO** / NO Flash -
2. Set Lens **AF** (**A**uto **F**ocus)

*All the other details will come with practice or advanced AP Training

Camera Switch Settings

Lens AF: AF

Optical Stab.: On

Mode Sw
Set: Auto/No Flash

Camera AF: AF



Press unlock
to rotate

Shooting Speed Mode

D90 Camera Switch Settings

Lens AF: AF

Optical Stab.: On



Camera AF: AF

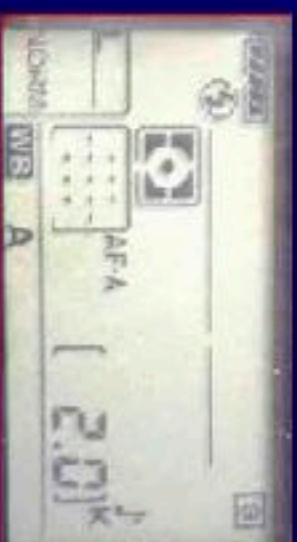
Camera display should look something like this when set up correctly

Mode Swr: Auto/No Flash



Power On

Shutter Release



More info on SQ website, or:
CAP D90 Op Manual:

Nikon D90 Op Manual

http://www.capmembers.com/emergency_services/operations_support/advanced-technologies/
https://support.nikonusa.com/app/answers/detail/a_id/16087

Scanner Camera Basic Check List

Remember “B A A M”

- **B**attery Charged / Battery Spare
- **A**UTO Everything /NO Flash & Focus.
(Auto Setting / Auto Focus)
- **A**adjust Personal Focus
- **M**emory CARD -

Adjust Personal View Finder Focus

Roll Diopter Knob for Sharpest Image



Viewfinder adjustment dial

Place Eye in View Finder

“B”

“A” Adjust View Finder Focus

“A” Auto Everything / No Flash

“M”

How to Check / Adjust

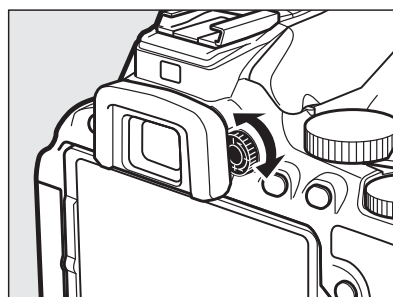
- Remove the lens cap from the front of the lens.
- Look through the viewfinder and press the shutter button halfway to display picture data at the bottom of the viewfinder.
In dim lighting, the built-in flash may pop up; ignore it for now and close the unit after you finish adjusting the viewfinder.
- Rotate the diopter adjustment dial until the viewfinder data appears sharpest to your eye.
As you rotate the dial, the bracket-like marks in the center of the viewfinder, which are related to autofocus, also become more or less sharp.
The Nikon manual warns you not to poke yourself in the eye as you perform this maneuver. This warning seems so obvious that you might laugh when you read it — just don't poke yourself in the eye as you perform this maneuver.

“A”

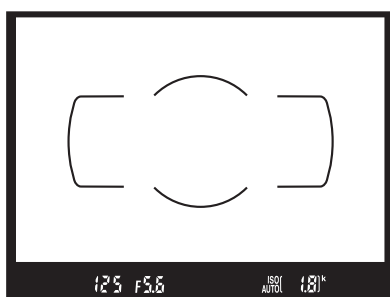
Adjust View Finder Focus

Focus the Viewfinder

After removing the lens cap, rotate the diopter adjustment control until the AF area brackets are in sharp focus. When operating the control with your eye to the viewfinder, be careful not to put your fingers or fingernails in your eye.



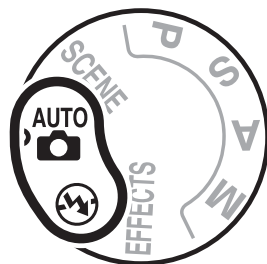
Viewfinder not in focus



Viewfinder in focus

C “Point-and-Shoot” Modes (AUTO and)

1 Rotate the mode dial to  or .



“A” Auto / No Flash + Adjust Focus

1. Set Camera to Auto Camera has many options “Auto” is good)

A. Set green camera icon on top Dial of Camera

2. Set Lens to AF - (This should never change !)

“B” Battery

“A” is Set Camera to Auto Everything - Including Lens to Auto

“A” is - Adjust your Personal View Finder Focus

“M” Memory

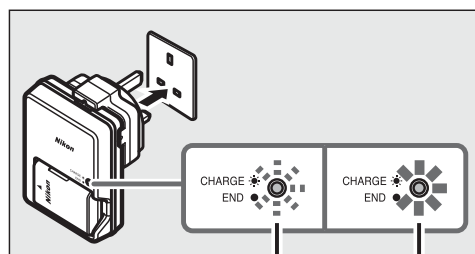
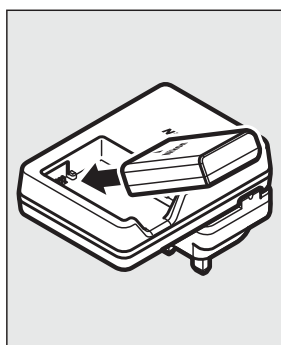
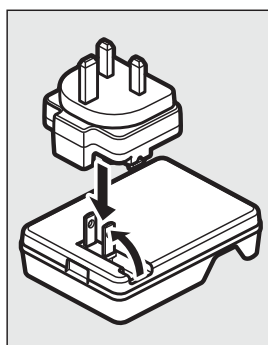
Scanner Camera Basic Check List

Remember “B A A M”

- **B**attery Charged / Battery Spare
- **A**UTO Everything /NO Flash & Focus.
(Auto Setting / Auto Focus)
- **A**djust Personal Focus
- **M**emory CARD

Charge the Battery

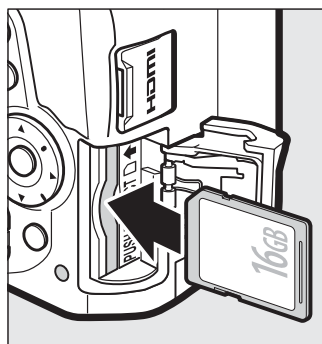
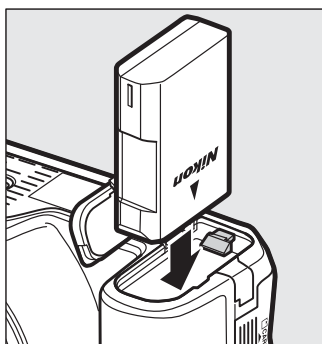
If a plug adapter is supplied, raise the wall plug and connect the plug adapter as shown below at left, making sure the plug is fully inserted. Insert the battery and plug the charger in.



Battery charging

Charging complete

Insert the Battery and a Memory Card



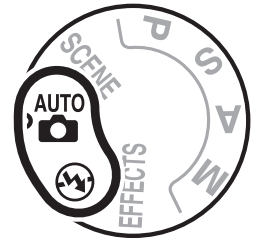
“M” Memory Card

- Memory Card Test *
- Always take practice test shot and review test pictures before Flight (This will ensure you have a Memory Card installed)
- Ask Questions
 - If needed you can always call a qualified AP or Senior Air Crew Member
(Have phone number ready before each flight)
- *Memory cards can hold 200 + Photo's however - be sure & make sure there is room on the card before each flight
- - Or- Format Card or Delete Photo's as needed -
*Size of Card may vary
- Best to always clear Memory after Photo's have been uploaded, backed up & sent to the customer after each flight. -
- **Don't Erase if No Copy has been Made - Copy to Squadron Laptop

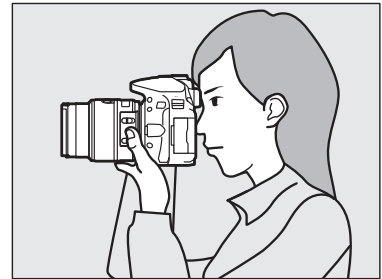
Create a Test Shot & Test **Memory**

C “Point-and-Shoot” Modes (AUTO and)

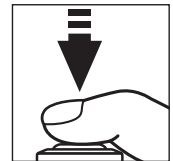
- 1 Rotate the mode dial to  or .



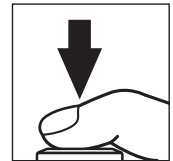
- 2 Frame the photograph.




- 3 Press the shutter-release button halfway to focus.

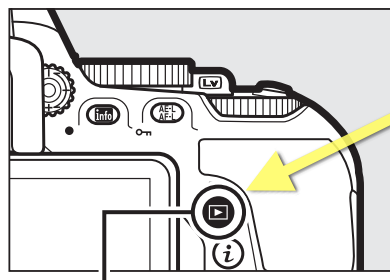


- 4 Smoothly press the shutter-release button the rest of the way down to take the photograph.



D Viewing Photographs




Pressing  displays a picture in the monitor.

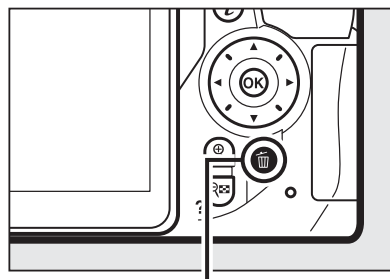


 button

E Deleting Unwanted Photographs

Note that photographs can not be recovered once deleted.

- Press the  button. A confirmation dialog will be displayed; press the  button again to delete the image and return to playback.
- To exit without deleting the picture, press .



 button

RECAP Starting OUT !

Auto Everything

Battery

Camera Switch Settings

Lens AF: AF

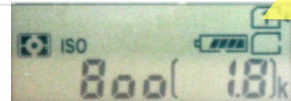
Optical Stab.: On

Mode Sw
Set: Auto/No Flash

Camera AF: AF

Press unlock
to rotate

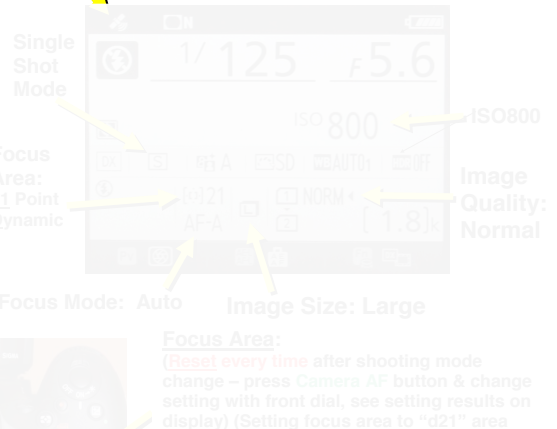
Shooting Speed Mode



Camera control panel display should look something like this when set up correctly
(Note: No GPS indicator on this display)

Shooting Menu Settings:

GPS Received **Advanced Details**



1. **B**attery's Check
3. **A**adjust view finder focus
2. **A**uto Everything - Camera Setting
4. **M**emory Card

***All the other details will come with practice & advanced AP Training**

Advanced Scanner or AP Check List

Nikon D5600 Ops – Setup Check List

(After - “B A A M” List Complete)

Review Current Sortie Photo SPINS / upload Instructions

***Each Flight May have Different Instructions (2018 Example Spins below)**

1. With Camera off - Connect GMAX GPS Accessory to Camera (See Page 38)

a. **Caution Connecting GPS Accessory Receiver to Camera**

b. Align Pins with Care

c. DO NOT FORCE ANYTHING !

d. Then Turn ON D5600 2nd

- Confirm GMAX GPS connection to Camera is Secure
- Confirm GPS Icon on Camera Display Screen

2. Top Dial – Set to “Auto / No Flash ” or per **Customer Specification**

Advanced Scanner or AP Check List

Nikon D5600 Ops – Setup Check List

(After - “B A A M” List Complete)

Review Current Sortie Photo SPINS / upload Instructions

3. On Side of Lens – 4 slide switches:

- Lens Zoom Lock Switch → *Unlock (when ready)*
- AF ON → Slide switch *Forward* (not MF)
- OS (Optical Stability) Forward → *ON*
- Check Lens Zoom Lock → OFF (*Check Lens Zoom Range*)

4. Go to Shooting Menu

- Image Quality – “Fine”
- Image Size – “Large”
- ISO Sensitivity → “800”
 - Auto ISO sensitivity → ON
 - Minimum shutter speed → “1/500”
- White Balance → “Auto”
- Release Mode – “Single Frame”

Advanced Scanner or AP Check List (cont.)

5. Autofocus → Custom Setting Menu

- “AF-A Focus Before Release ” → “Focus”
- “Number of focus points”
→ “11” (or “39” Points)
D5600

6. Date/Time Display Stamp → Recent Settings Tab

- → Set OFF

7. After Photo Upload / Customer Delivery Complete →
Go to Setup Menu

- Format Data Card
- Charge Batteries
- GMAX → GPS OFF & Charge
-

CAP Camera Models

Nikon D7200 (Newer also Dual Memory Cards)

Nikon D90 (Oldest)

Nikon D7100 (Very Common- Dual Memory Cards)

Nikon D5600 (Newer / Lightest - Only Touch Screen)

Key Controls Summary

Playback

Button:

- Press MSC up/down for Shooting Display screens
- Press MSC L/R to cycle thru photos

Menu Button

- Use MSC & OK Button to navigate thru screens and select settings



Shooting Display Screens



D90 Example

Shooting Menu

Screen

- **Multi-Selector (MSC) Control**
 - Up/Down
 - Left/Right
- **OK Button**
 - Selects a menu item or setting

(GPS data displayed if recorded)

Camera Manuals available on SQ302 website

D90 Camera Switch Settings

Lens AF: AF

Optical Slab: On

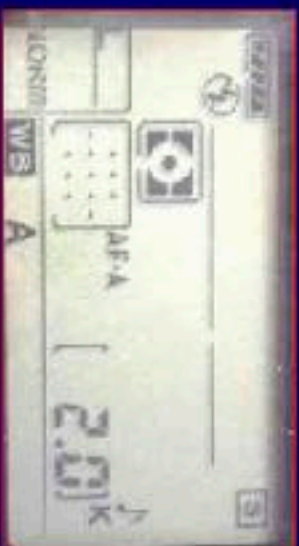
Camera AF: AF



Camera display should look something like this when set up correctly

Power On Shutter Release

Mode Sw: Auto/No Flash



More info on SQ website, or:

CAP D90 Op Manual:

http://www.capmembers.com/emergency_services/operations_support/advanced-technologies/

Nikon D90 Op Manual

https://support.nikonusa.com/app/answers/detail/a_id/16087

D7100 Shooting Menu Settings

Single Shot Mode **GPS Received**

Image Size: Large **Image Quality:** Normal

Focus & White Balance: Auto

Focus Area – set to 21 Point Dynamic Area
 (Reset every time after shooting mode change – press Camera AF button & change setting with front dial, see setting results on display)

ISO800

LOW !

Battery

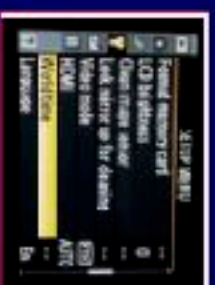
(Setting focus area to “d21” area per above should help get a better average image focus in center third. Using “Auto Area - AF” tends to spot focus at random locations.)

D90 Shooting Menu



Single Frame
(One release/press)

AF-Auto
(Focused before release)



Camera time set to ZULU TIME!



ISO: 800

Image Size:
Large

Image Quality:
Normal

Press Info for display

Focus Area Selector Lock: L

Use Shooting Menu to Reset to Above Settings If Necessary

D7100 Settings

D7100 Camera Settings Checklist

Camera Switch Settings

Lens AF: AF

Optical Stab.: On



Mode S/w
Set: Auto/No Flash Camera AF: AF



Press unlock
to rotate

Shooting Speed Mode

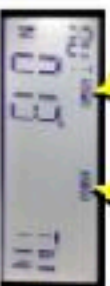
Camera time set to ZULU TIME!

GPS "Auto" Mode Displays:

w/GPS off: Auto w/GPS on: Direction

GPS Received

Display



Pressing "Enter" will
turn LCD back light on
& off **Turn it off**
when not needed
or when slowing
camera



Camera control panel display should look
something like this when set up correctly
(Note: No GPS indicator on this display)

Clear the memory card

Press the Menu button to bring up the Menu Display on the Monitor.

The Menu Display is navigated by pressing the up, down, left and right arrows on the Multi selector. The Multi Selector also has an "OK" button located in its center.

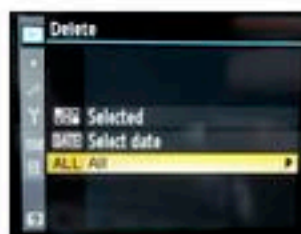
Note: Page 197 in the instruction manual D7100



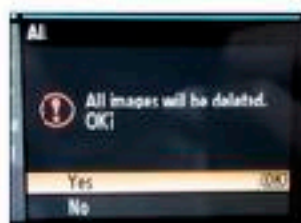
Press the left arrow key on the Multi Selector in order to



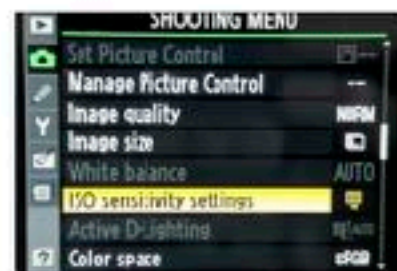
navigate the various Menu screens. Press the up and down keys to find the "Play Back" menu. Press the right key and then the up and/or down keys to select the Delete Menu. Press the right key to select the Delete Page and then move the up and/or



down keys to select All All. Push the right key and then the up and/or down key to select "Yes" on the Delete All screen and then push the OK button. All images on the memory card will be erased.



Set the sensitivity of the imaging receptor by adjusting its ISO value.



Press the Menu Button to bring up the Menu Screen. Press the left arrow key on the Multi-Selector in order to navigate the various Menu screens. Press the up and down keys to find the "Shooting Menu". Press the right key and then the up and/or down

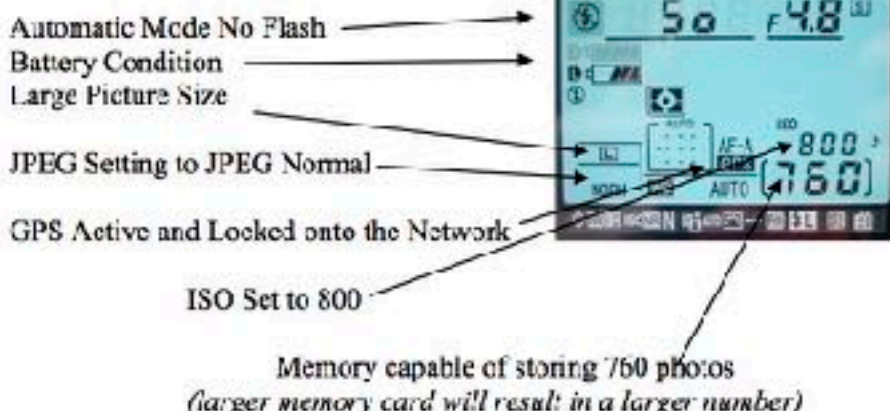


keys to select ISO sensitivity setting. Press the right key to go to the ISO selection screen. Press the up and/or down keys to select the ISO value; a setting of 800 is suggested for aerial photography. Click OK.

GPS Setup: Go to the settings menu. Scroll down to Setup Menu. Highlight the GPS tab. Move to the right.

Check Camera Settings

Press the Info button to bring up the Monitor Screen. The screen should look similar the one shown here.



1.4 Photo Check

The following is best done outside. Take the camera and the Geotagger Pro 2 GPS receiver.

Take a photo of anything; scenery, airplane, automobile, people...etc. Hold the shutter button down half way for a second to allow the lens to auto-focus. Press the shutter button all the way down to take the photo.

Note: Page 185 in the instruction manual D7160

Check the results.

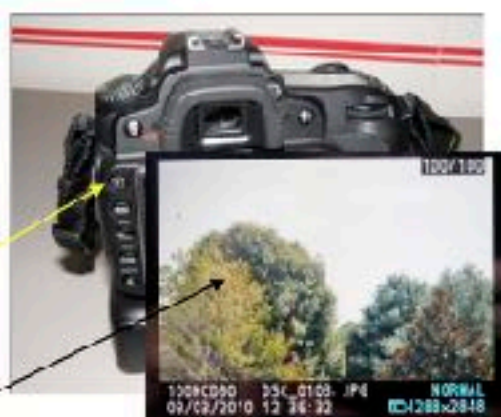
Press the Playback button.

The picture will appear on the Monitor.

The photo should be sharp and properly exposed.

Note: Page 185 in the instruction manual D7160

Push the Multi Selector "up" button to see the shooting data display. The display shows the f-stop, shutter speed, ISO value, lens focal length and an icon confirming the camera is set to the auto mode with no flash.



Press the Multi Selector "up" button one more time to view the latitude, longitude, altitude, and time and date. Presence of this data shows that the GP-1A GPS is working correctly. Note that altitude is in meters.

Delete the Photo

Press the Delete Button twice to delete the photo just taken.



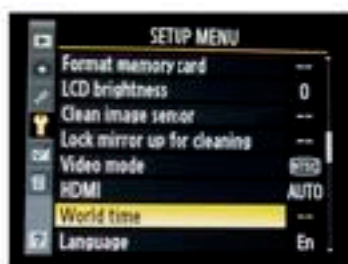
Note: Page 197 in the instruction manual D7100

1.5 Set the Camera Clock

The track log recorded by the AMOD Data Logger (assuming one is in the kit or available) may be coordinated with the photographs during post-processing of mission data. The coordination is done by matching photo time and Data Logger time.

Confirm the D7100 camera is set to Coordinated Universal Time in London, England (UTC 0).

Push the camera menu button. Press the Multi Selector left button and then press the up and/or down buttons until the "Time Zone and Date" appears. Press the right button. Press the up and/or down buttons until "World Time" is highlighted. Press the right button to bring up the "Time Zone and Date" screen. Make sure daylight savings time is off and UTC 0 is selected. Now select "Date and Time". Press the right button to bring up the "Time Zone and Date, Date and Time" screen. Use the right button to scroll through the settings while using the up and down buttons to set Year, Month and Day and then Hour, Minutes and Seconds. Set the time (hours) to that currently in London, England. The hour offset will depend upon where you are.



Daylight Savings Time Off and UTC 0 selected

Photos of equipment located in the D7100 System Case



D7100 camera with attachments



Battery pack



note: lens shield not used



This Cable May
Ride Loose

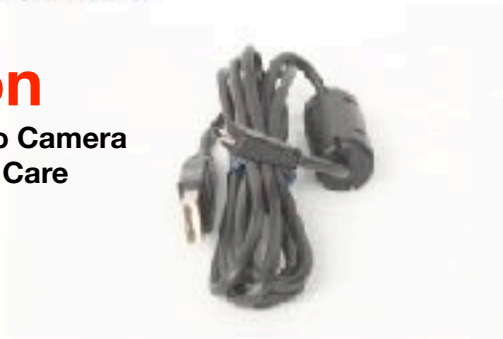


Geotagger Pro 2 GPS receiver



Caution

Connecting Cable to Camera
Align Pin's With Care



**** Note D5600 Camera Has Similar Items. - Contents May Differ Per Squadron**

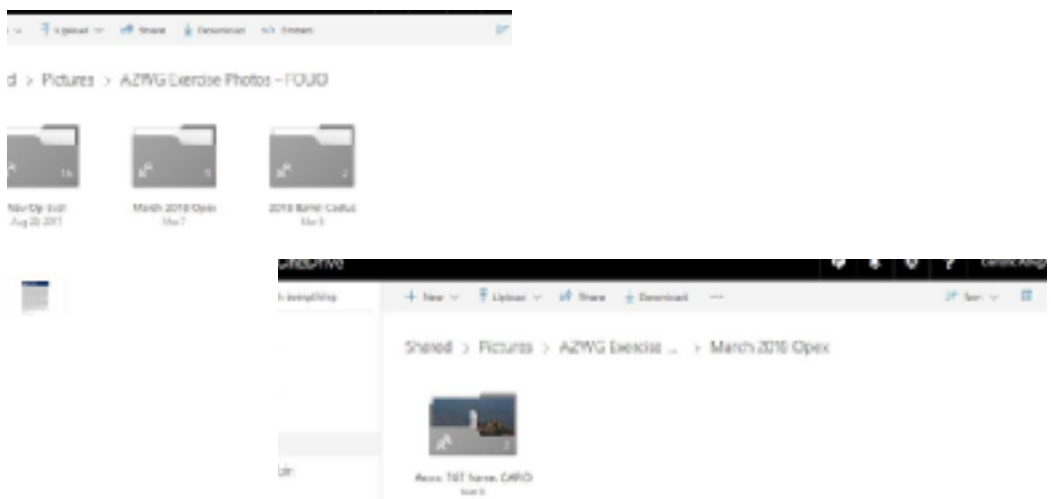
Example 2018 **Basic Photo SPINS - Photo plan:**

- 1) All sorties that are assigned photography tasking by AZWG will proceed as normal thru the photography portion of the sortie.
 - a) Unless otherwise directed, fly a 4-Square photo pattern around the target (see attached). Orientation of the pattern can be aligned with significant features of the target.
 - b) Airborne Photography must meet AZWG standard image framing requirements:
 - i) Zoom levels are from wide angle to 130mm Best zoom. (Caution Full Zoom May Cause Distortion)
 - ii) Wider angle Overview shot will include nearby landmarks and the target somewhere in the frame.
 - iii) Target shots should have the target centered & fill 75% of the frame (within 130mm max zoom). Ensure the airplane is safely positioned to enable this framing requirement.
- **2) Upon landing the crew will review the photos and (unless otherwise directed) select 5 photos**
- 1 Overview Picture &
- 4 Target shots) that best fulfill the tasking requirements and meet the following standard geotagging requirements:
 - a) All OPEX photos are to be geo-tagged with the Lat Lon location (aircraft LL is OK) and photo heading data (i.e. saved within the photo EXIF data).
 - The standard AZWG tool for this work is the Nikon ViewNXi application. Please refer to the AZWG website, Member's login,
 - ES page, MS or AP training material if you need more information on using the Nikon ViewNXi tool.
 - b) Note that the former ViewNX2 is no longer supported by Nikon –
 - please update to the View NXi, version 1.2.11 or later. The maps won't work in previous NXi versions. Direct link for ViewNXi download:
<https://www.nikonusa.com/en/nikon-products/product/imaging-software/viewnx-i.html>

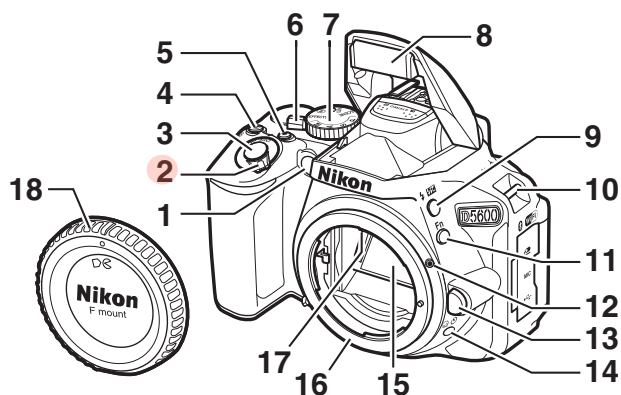
Example 2018 **Basic Photo SPINS - Photo plan Cont:**

- 3) Until further notice, we will be uploading selected OPEX photos to the AZWG **Microsoft OneDrive** (very similar to Google Drive) per the following requirements:
 - a) The OneDrive drive website link is now on the AZWG website, Member's login, ES page, at the bottom of the page – click on the link “Arizona Wing OneDrive”. Direct link is: <https://1drv.ms/f/s!AvLS90e78Z2kdDk6uvwLEQS3yLM>
 - b) **If not already logged in, click on the upper right icon to log in with the AZWG MS account using the following credentials: username: msacct@azwg.org pwd: azwg1234**
 - c) Once open - click to open the appropriate month's exercise
 -
 - d) Select the “+ New” button (Fig 3) & click “Folder” to open a new sortie target folder for each target, named with your full sortie number
 - (e.g. Axxxx), target name and CAP ID of photographer - then click “Create” to create the new Sortie Target folder
 - e) Click on your new Sortie Target folder to open it. Upload your selected photos into that **newly created Sortie Target folder**
 - (Caution Please don't upload your photos into the monthly OPEX folder).
 - f) Go back and check that your photos are in the correctly named sortie folder per the above instructions. If it isn't right, you will be contacted to fix it ☺.
-

- 4) After the photos uploaded to OneDrive per step 3 above:
 - a) Go back to the sortie folder within the month's exercise folder
- (Fig 2) b) Right click on the folder, click Share, click email
 - c) Enter email address: photos@azwg.org**
 - d) Enter the target photo objectives in the message space.
 - e) Click "Share" to send the email
- 5) Repeat steps 3 & 4 for each target if you photographed more than one target in your sortie.
- 6) After photo link email(s) is sent per above,
- a member of the AZWG AP staff will review your photos and post feedback on the eWing APR website.
- A copy of this review will be emailed to the photographer (per their email address in eServices) and to selected SQ & AZWG personnel.



A The Camera Body



1 AF-assist illuminator
Self-timer lamp
Red-eye reduction lamp

2 Power switch

3 Shutter-release button

4 / button

5 Movie-record button

6 Live view switch

7 Mode dial

8 Built-in flash

9 / button

10 Eyelets for camera strap

11 Fn button

12 Mounting mark

13 Lens release button

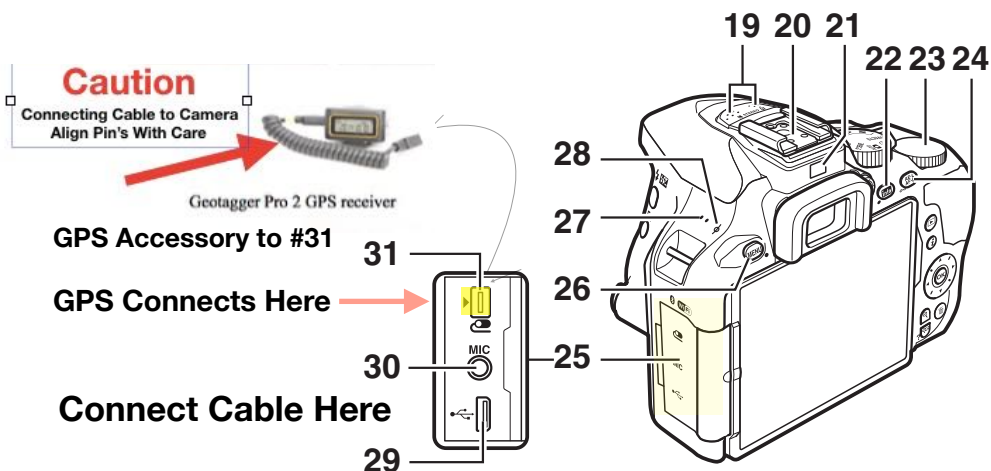
14 / button

15 Mirror

16 Lens mount

17 CPU contacts

18 Body cap

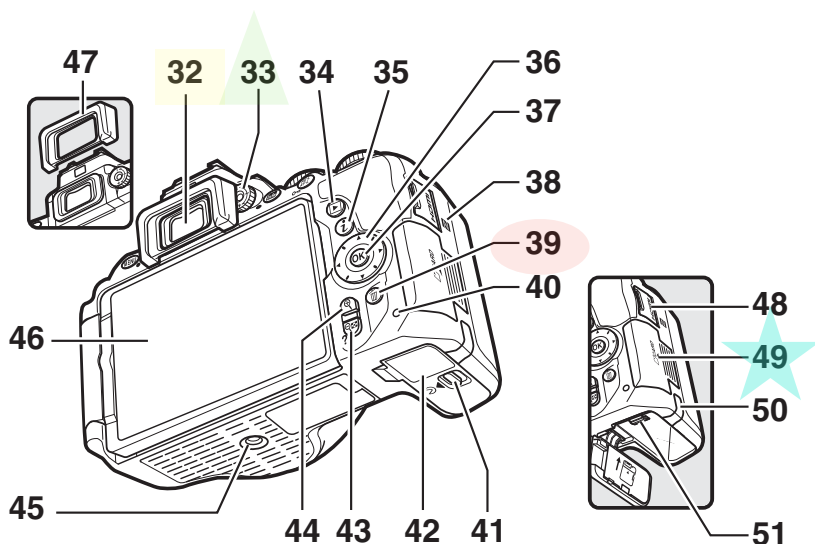


19	Stereo microphone
20	Accessory shoe (for optional flash units)
21	Eye sensor
22	info (information) button
23	Command dial
24	AE-L/AF-L/ key button
25	Connector cover

26	MENU button
27	Speaker
28	Focal plane mark (\ominus)
29	USB connector
30	Connector for external microphone
31	Accessory terminal

Connect GPS Accessory to #31



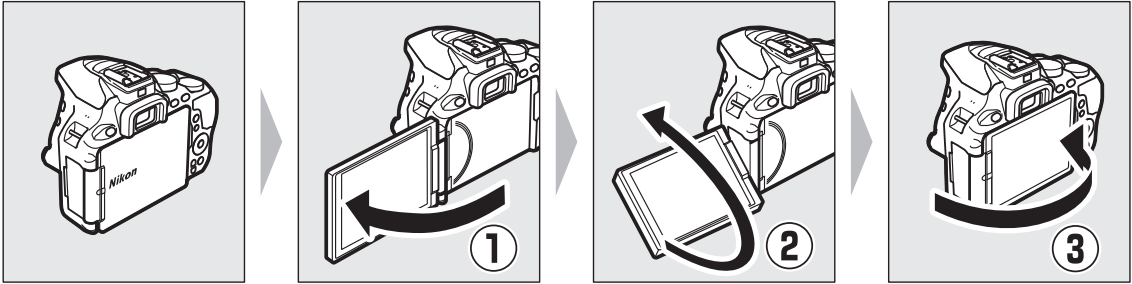


32	Viewfinder eyepiece
33	Diopter adjustment control
34	▶ button Review Photo's
35	i button
36	Multi selector
37	Ⓞ (OK) button
38	N-Mark (NFC antenna)
39	🗑 button Delete Photo's
40	Memory card access lamp
41	Battery-chamber cover latch
42	Battery-chamber cover

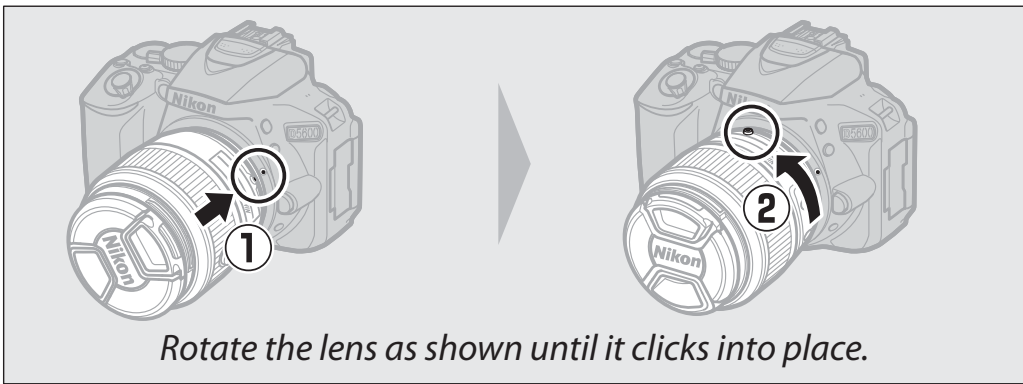
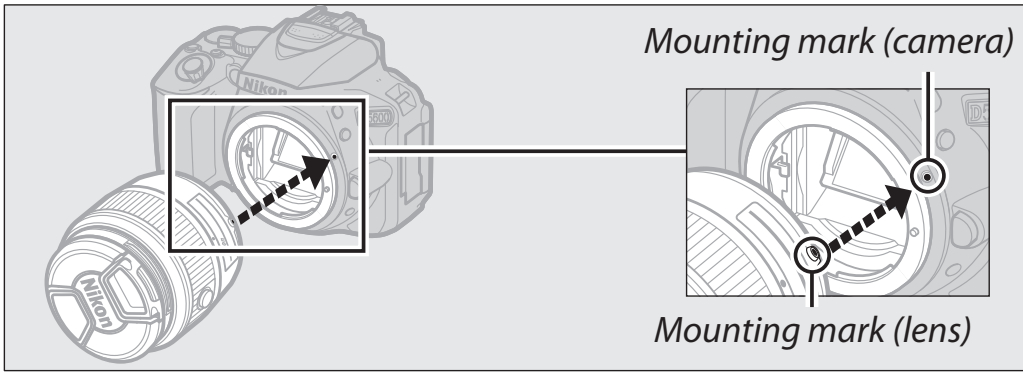
43	🔍/? button
44	🔍 button
45	Tripod socket
46	Touch-sensitive vari-angle monitor
47	Rubber eyecup
48	HDMI connector cover
49	Memory card slot cover
50	Power connector cover for optional power connector
51	Battery latch

Open the Monitor

Open the monitor as shown. *Do not use force.*

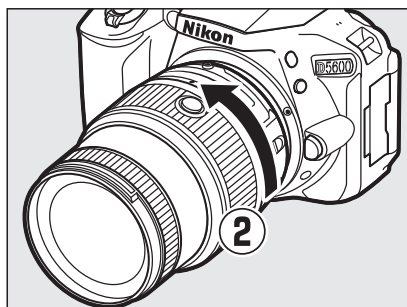
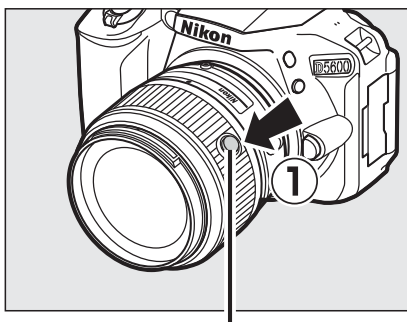


Attach a Lens



Lenses with Retractable Lens Barrel Buttons

Before using the camera, unlock and extend the lens. Keeping the retractable lens barrel button pressed (①), rotate the zoom ring as shown (②).



Retractable lens barrel button

Pictures can not be taken when the lens is retracted; if an error message is displayed as a result of the camera having been turned on with the lens retracted, rotate the zoom ring until the message is no longer displayed.



Removing Lenses

To remove the lens, turn the camera off and press and hold the lens-release button on the front of the camera while rotating the lens in the direction opposite that shown above.

Nikon D5600 Inventory Equipment List:

1. Nikon 5600 Camera w/Sigma 18-200 mm stabilized lens
2. Gmax GPS Accessory Geo Tagger Receiver
3. Gmax GPS Receiver cable (Connects Camera to Receiver)
4. Gmax GPS USB Charging Cable (Only used to Charge GMAX)
5. SD Card “4 Gig”
6. Nikon Charger – MH24
7. Nikon Battery: 7.2 1230mAh
8. Nikon Battery: 7.2 1230mAh w/ Clear Covers (Spare)
9. Voltzen ITE Power Supply – USB
10. Lens Cloth (Soft) to clean Lens
11. Front Lens Cap
12. Front Lens Cap (Spare)
13. Lens Cap – Nikon (Rear) (Only used if Sigma Lens Removed)
14. User Manual – D5600
15. User Manual GMax - Geo Tagger Receiver
16. Back Pack – Black Case for Camera

