TTL FLASH & OCF

The basic theory & practice!

- Who owns a speedlight/ flashgun?
- Who regularly uses their speedlight?
- Who uses TTL with their speedlight?
- When do you use your speedlight?
- Who is disappointed with the results?
- Who uses their speedlight off camera?

What is TTL & OCF?

- TTL is THROUGH THE LENS metering.
- OCF is OFF CAMERA FLASH.

TTL?

- TTL came about when photographers needed to know exactly what QUANTITY of light was going through their lenses when using speed lights. Regardless as to where the speed light was.

OCF?

- Off Camera Flash is when the flash (Speedlight) is not attached directly to the cameras hotshoe.
- When you use a cable, optical sensor or radio trigger and the speedlight (or light source) is not actually directly attached to the hotshoe it is **OCF!**

How does TTL work?

- When the shutter is pressed, the speedlight sends out a pre-flash, to measure the amount of light required.

- The reflection of light from the pre-flash goes Through The Lens and tell the camera how much light the flash needs to send out.

- The speedlight then sends out the flash of light at the same time as the shutter curtain opens and exposes the subject correctly.

When to use TTL?

- When the distance between the **LIGHT SOURCE** and **SUBJECT** is **CHANGING** between shots.
- When the **LIGHT CONDITIONS** are changing between shots.
- When the **TIME REQUIRED** between shots is too short.

How to use TTL?

- Cameras are STUPID!!
- They only do what they are told to do.
- They struggle to second guess what you want it to do.
- The more you “help” the camera the more likely you will get the correct result.

The setting for TTL!

- **<u>DON’T USE PROGRAM OR FULLY AUTOMATIC!</u>**
- Use Aperture priority to control the amount of light, but be careful to raise the ISO when the shutter speed falls too low.
- Use Shutter priority when you want to control the amount of Ambient light but be careful to keep within the limits of you flash power.
- IF POSSIBLE ALWAYS USE MANUAL! Use the light meter to control both the amount of light from the flash (Aperture) and the Ambient light (Shutter speed).

- ISO 100 or minimum level (if possible?). Raise it if the flash is on full power and not powerful enough to light the scene.

- Shutter speed 1/125s or camera flash sync speed. (can be slower - 1/60-1/15s if needed)The slower the shutter speed the more Ambient light comes into the photo.

- Aperture f5.6-f11 (f8 normally?). This controls how much light the flash sends out, but can mean Ambient light can come in too at lower apertures (f2.8-f4)

- When using Aperture or Shutter priority, use exposure compensation when shooting into the sun or large light sources (windows). In Manual mode use the light meter to expose for the background and the flash will expose for the subject (hopefully!).

Flash compensation?

- This can be used to fine adjust the desired result. i.e. too dark or too light in ⅓ stops. This increases or decreases the amount of light the flash sends out. NOT the exposure the camera thinks it needs. This is when the camera isn't 2nd guessing what look you want.

- You might have to decrease the flash in a wide angled shot at night because it doesn't know you want to only illuminate the subjects and not the whole sky.

- In a portrait close up you might have to increase the flash to compensate for light skin or blond hair because of the reflected light in the pre-flash.

When to use a speed light on a camera and when OCF?

- On camera flash is when you and the light source are moving around a lot.
- On camera is used when it is not possible to have the light source separated from the camera.
- On camera is for when there is no way of connecting the speed light externally with the camera. (i.e. radio triggers, optical or cables)

When to use the speed light off camera?

- When you don’t want red eye or rabbit in the head lights look!
- When you don’t have anything to bounce the flash off. (walls, ceilings, reflectors)
- When you want to shape the light to produce flattering shadows etc.
- When the light source is too big to fit on the camera. (Soft boxes etc)

OCF & TTL?

- Up until recently TTL was only possible OCF with a cable attached between the speed light and the camera.
- Wirelessly it is now possible using optical or radio triggers.
- These can be built in or placed on the hotshoe of the camera.

OCF triggers?

- Some Nikon & Canon DSLRs have built in optical and radio triggers that work with specific own branded speedlights. These can be expensive and mainly for the top models.

- Optical triggers have limitations. Line of sight! With-in or behind a sofbox and they won't work. Indoors only up to 10M, outdoors even less and sometimes not at all! But they are quicker as light travels faster than radio waves!

- Radio triggers can be used anywhere but also can have issues with radio interference (WiFi, other digital radio transmitters).This can be fixed by using different channels. The range can be between 30 -100M!

Different makes of speed lights and triggers

- Canon and Nikon make their own but they tend to be expensive if you want all the functions and power. (£400-£500+ each!) AND you will have to match up the flash to get the functions with your particular model of camera!

- Vivitar, Metz, Sunpak, Yungnuo, Nissin, Godox, Neewer are some of the well known 3rd party speed light manufactures. Not all of them will be 100% compatible with your camera. It might not recognise the zoom or white balance.

- Own brand speed lights are well built but can be expensive especially if you are not going to be using them on a daily basis.

- 3rd Party flashes and triggers are great for occasional use and will come with all the features you will need, for a fraction of the price.

- Yungnuo, Nissin, Neewer and Godox are Chinese makes. A lot of their models are copies of the big brands speedlghts.

- Depending on what you want to do with them depends on which make to buy.

- Yungnuo, Nissin & Neewer all have built in triggers (depending on model?) and can be remotely fired either by optical or radio triggers. But they all only produce speed lights.

- Godox produces speed lights and studio lights that can be triggered from the same controller. If you get serious this might be the way to start because if will give you more options in the future.

- Not all 3rd party manufactures are brand inter-compatible. Nissan & Godox will fire a Canon & Nikon (& Fujifilm or Olympus) versions simultaneously in TTL and manual. Useful when you change brand or borrow a friends speedlight.

COST?

- Canon 430EXii will cost £259.48, 600EXii £539
- Nikon SB700 £259, SB5000 £504.28
- Nissin Di 700 £163, with Transmitter £199
- Yungnuo YN600EX-RTii for Canon £99, with trigger £157
- Yungnuo YN685-i for Nikon £84, with Trigger £117
- Godox TT685ii (Nikon,Canon,Sony,Fujifilm,Olympus) with built-in Trigger and receiver £96, with Trigger X1T £136, a XPRO trigger costs £60 alone.
- Godox AD200 £269 3 times the power of a speed light and with barebulb!
- Or simple manual triggers like the Yungnuo YN603ii £25 for a pair!

Mounting the speed light Off Camera?

- Simple hotshoe mount on a tripod. Flimsy and little options for adding a light modifier. But quick! (Free with speed light.)

- On a stand with an umbrella adapter. You can only use umbrella style softboxes and it puts excessive stress on the hotshoe. £13

- An S Bracket mount on a stand or tripod. The most stable mount with lots of possibilities. (Bowens mount softboxes) £13 or £33 with Softbox.

- Light stands can cost from £10 to £120 with a boom arm.

When to use TTL off camera and when to use manual?

- TTL Off Camera is quick but the TTL measures the reflected light coming off the subject. Every time you or the subject moves the reflected light is different.

- To have consistent results manual settings are required! If it is only one or two shots done from the same spot without the subject moving (considerably) then TTL is the way to go.

- For model shoots **USE MANUAL!**

How to use TTL on and OCF!

- If photographing individuals shooting into the sun, using flash to fill their faces and bodies with a balanced light, meter for the background. Either over, under, or correctly for a balanced look. The TTL will meter for the people and produce the desired look.

- If you are inside, bounce the flash off a wall (beside or behind you) or ceiling with a bounce card or stofen. Use sometimes a lower shutter speed to bring in the ambient light (1/30-1/60).

- Outside under shadow meter for the shadow accordingly and, with the exposure compensation, balance the results.

How to use OCF in manual without a flash meter?

- If possible set the speed light to a middle value. ¼ power is a good start. ISO 100, SS1/125, f8.

- Take a test shot and look at the photo or histogram to see if the photo is under or over exposed. Adjust the power of the speed light in full stops first. ¼ to ½ or ⅛ . For small adjustments move the stand a foot forward or back to compensate. Further back for overexposed, towards for under exposed.

- Normally with-in 2-3 shots the lighting will be good! Now as long as the SUBJECT doesn't change their distance between themselves and the LIGHT SOURCE (speed light) you can move around and they can pose in different positions without the lighting changing. (Unless the outside lighting changes considerably like at sunrise or sunset!)

Softboxes or light modifiers

- Softboxes or light-modifiers provide softer or more directional light sources. They also require more power from your speedlight. It will limit you in bright sunshine or shooting into the light.

- Umbrellas are cheapest and can have multiple uses. They are good to start with. They do have disadvantages. They can act as sails, so weigh down the stand/Tripod!

- Softboxes give more directional light and less hotspots but can be more cumbersome to carry. They can be heavy too, so extra ballast is often needed!

- Modifiers give very directional light for special effects.

How to improve?

- You-Tube provides 1000s of hours of tuition courses mostly which are free!
- Creative Live has many courses that start with the basics and work up. Speedlights 101 is an excellent course. They often have sales on. You can get a course at 25% the normal price!
- Practice with a dummy or your teddy at home and outside in the garden. Your family pet might model or your children, partner or friends.