**SPECIFICATIONS**

Guide Number 28m (ISO 100)

Angle of Coverage 28mm - 70° x 55°, 85mm - 32° x 21°

Colour Temperature Close to daylight (5700K)

Flash Duration 1/1000 sec to 1/14,000 sec

Recycling Time 0.5 - 6 sec

Power Source 2 x 3.5 V AA Alkaline battery

Special Features Automatic AF Illuminator (range up to 5m)

Rating Life 120 - 200 flashes depending on distance

Weight 276g

Dimensions 106 x 87 x 122 mm

**Attaching and Removing Flash Unit**

1. Before attaching or removing the flash unit on the camera, be sure to turn off the main switch.
2. To attach: Slide the flash shoe into the accessory shoe of the camera and tighten the locking wheel.
3. To remove: Loosen the locking wheel, grasp base of flash unit and slide the flash unit off.

**Auto OK Indicator**

When the flash is fired and there is sufficient light output for a proper exposure, the Auto OK indicator will glow for approximately one to two seconds.

**Test Button**

The test flash button is only served to ensure the flash functions properly. **PLEASE NOTE THAT TEST BUTTON OPERATES INDEPENDENTLY OF TTL AUTO MECHANISM AND CANNOT BE USED AS AN EXPOSURE TEST.**

**Aperture/Program Distance Scale**

The Aperture/Program Distance Scale on the rear of the unit shows the combinations of maximum operating distance and lens apertures for different film speeds. This combination will assist you in selecting the lens aperture with the Aperture Priority mode camera operation.

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1. Set the lens aperture based on TTL flash exposure just as you would when using the Aperture Priority (AV) mode. Make sure the lens aperture selected permits TTL auto exposure within the range of the object distance.
2. Look in the viewfinder and note the lighting symbol, which indicates the flash is ready. The camera and flash are now ready for automatic TTL flash photography.
3. Place the AF frame located in the viewfinder on the object. Press the shutter release button all the way to take the picture.
4. If the output power was sufficient, Auto OK indicator will on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

**Slow- Shutter Synchronization**

Slow-shutter synchronization means flash operation with shutter speeds slower than ordinary X-sync speed. This can increase background exposure while maintaining proper exposure on the main subject.

**Motor Drive Operation**

The flash unit can be used with motor drives or automatically add light in bursts of three to four shots. New flash head is recommended. Rastered sequence shots can be made in the Aperture Priority mode using a very wide aperture.

**CANON - Operating Instruction**

P-Mode Operation (Program)

1. Set camera to "Program".
2. Turn the flash on. Then wait for the ready light to glow. When pressing the shutter release button halfway, flash indicator in the viewfinder lights up, as well as the selected aperture and shutter speed are being displayed in viewfinder.
3. Make sure the subject is within the automatic operating range and press the shutter release button all the way to shoot.
4. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

**TV Mode Operation**

1. Set the camera to TV mode.
2. Turn the flash on. Then wait for the ready light to glow. Make sure the object is within the flash coverage range.
3. Look in the viewfinder and note the lighting symbol, which indicates the flash is ready and the shutter speed for flash has been set. The camera and flash are now ready for automatic TTL flash photography.
4. Place the AF frame located in the viewfinder on the object. Press the shutter release button all the way to take the picture.
5. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

**Av Mode Operation**

1. Set camera to the AV mode and set the desired lens aperture (fstop).
2. Turn on the flash, wait for the ready light to glow. Make sure the object is within the flash coverage range. Then set the shutter speed for flash.
3. Look in the viewfinder and note the lighting symbol, which indicates the flash is ready and the shutter speed for flash has been set. The camera and flash are now ready for automatic TTL flash photography.
4. Place the AF frame located in the viewfinder on the object. Press the shutter release button all the way to take the picture.
5. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

**Manual Camera Mode Operation**

1. In the Manual Camera mode, you select both the shutter and fstop but the exposure is still automatic TTL. This capability permits you to selectively balance ambient (non-flash) light with light from the flash unit.

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2. Set the lens aperture based on TTL flash exposure just as you would when using the Aperture Priority (AV) mode. Make sure the lens aperture selected permits TTL auto exposure within the range of the object distance.
3. Look in the viewfinder and note the lighting symbol, which indicates the flash is ready. The camera and flash are now ready for automatic TTL flash photography.
4. Place the AF frame located in the viewfinder on the object. Press the shutter release button all the way to take the picture.
5. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

**Nikon - Operating Instruction**

1. Set camera to either one of P (Program) modes and lens aperture to its minimum aperture.
2. Turn on the flash, wait for the ready light to glow. Check to confirm that the ready light in the viewfinder is on.
3. After making sure the object is within the TTL auto range, press shutter release button in the viewfinder. The operating shutter speed will be displayed in the viewfinder. Press the shutter release button all the way to shoot.
4. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

**TTL Auto Flash Operation**

1. Set camera to 'A' (Aperture priority) mode or select my shutter speed slower than X-sync of the camera in use.
2. Select the lens aperture by considering TTL auto coverage range, and set the lens aperture accordingly.
3. Follow 2) to 4) in case of TTL-program auto flash operation.

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2. Set the lens aperture based on TTL flash exposure just as you would when using the Aperture Priority (AV) mode. Make sure the lens aperture selected permits TTL auto exposure within the range of the object distance.
3. Look in the viewfinder and note the lighting symbol, which indicates the flash is ready and the shutter speed for flash has been set. The camera and flash are now ready for automatic TTL flash photography.
4. Place the AF frame located in the viewfinder on the object. Press the shutter release button all the way to take the picture.
5. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

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**MINOLTA - Operating Instruction**

TTL Program Auto Flash Operation

1. Set camera in either one of the P (Program) modes and the lens aperture to its minimum aperture.
2. Turn on the flash, wait for the ready light to glow. Confirm that the ready light in the viewfinder is on.
3. After making sure the object is within the TTL auto range, press shutter release button in the viewfinder. The operating shutter speed will be displayed in the viewfinder. Press the shutter release button all the way to shoot.
4. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to TTL auto mode operation and use a wider aperture (smaller number).

**TTL Auto Flash Operation**

1. Set camera to 'A' (Aperture priority) mode or select any shutter speed slower than the X-sync of the camera in use.
2. Select the lens aperture by referring to the TTL auto coverage range and set the lens aperture accordingly.
3. Follow 2) to 4) in case of TTL-program auto flash operation.

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**Manual Camera Mode Operation**

1. In the Manual Camera mode, you select both the shutter and fstop but the exposure is still automatic TTL. This capability permits you to selectively balance ambient (non-flash) light with light from the flash unit.
2. Set the lens aperture based on TTL flash exposure just as you would when using the Aperture Priority (AV) mode. Make sure the lens aperture selected permits TTL auto exposure within the range of the object distance.
3. Look in the viewfinder and note the lighting symbol, which indicates the flash is ready and the shutter speed for flash has been set. The camera and flash are now ready for automatic TTL flash photography.
4. Place the AF frame located in the viewfinder on the object. Press the shutter release button all the way to take the picture.
5. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV-mode operation and use a wider aperture (smaller number).

**Slow-Shutter Synchronization**

Slow-shutter synchronization means flash operation with shutter speeds slower than ordinary X-sync speed. This can increase background exposure while maintaining proper exposure on the main subject.

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'M-mode' Slow-shutter Synchronization
1. Set camera in 'M-mode' and point camera to background.
2. Set lens aperture and shutter speed slower than 1/100sec to have proper exposure for background.
3. Press the shutter release button all the way to release shutter.

Operations with Camera 'C drive-mode'
This flash is designed to synchronize with a camera's 'C drive-mode' of up to two frames per sec with all TTL-metered modes. In this case, focusing should be made manually, as the AF illuminator only allows single frame shooting. In 'A-mode', selecting a wide open lens aperture and the flash-to-object distance less than two meters, it may be possible to shoot continuously up to four or five frames per sec. The use of high-speed films is also recommended.

PENTAX - OPERATING INSTRUCTION
Program - Mode Flash Operation
1. Set camera in 'P' (Program) mode and lens aperture to its minimum aperture.
2. Turn on the flash, wait for the ready light to glow. Confirm the ready light in viewfinder is on.
3. After making sure the object is within the TTL-auto range, press shutter release button in halfway. The operating shutter speed will be display in the viewfinder. Press the shutter release button all the way to shoot.
4. If the output power was sufficient, Auto OK indicator will be on for approximately 2 seconds. If the light fails to turn on, move closer to the object or switch to AV mode operation and use a wider aperture (smaller f number).

TV - Mode Flash Operation
1. Set camera to 'TV' mode. When the desired shutter speed is selected, the appropriate aperture is automatically set by the camera for a proper exposure according to the brightness of the subject.
2. Follow 12 to 4 in case of Program mode flash operation.

AV - Mode Flash Operation
1. Set camera to 'AV' mode and set to the desired lens aperture (f stop). The shutter is automatically set by the camera for a proper exposure.
2. Follow 1 to 4 in case of Program mode flash operation.

Manual Camera Mode Operation
1. In the Manual Camera mode, you select both the shutter and f stop but the exposure is still automatic TTL. This capability permits you to selectively balance ambient (non-flash) light with light from the flash unit.
2. Set the lens aperture based on TTL flash exposure just as you would when using the Aperture Priority mode. Set the camera to Aperture Priority mode and note the shutter speed. Reset the camera to 'M' mode, set the shutter speed as in Aperture Priority mode and the camera is ready to take pictures.

Slow-shutter Synchronization
Slow-shutter synchronization means flash operation with shutter speeds slower than ordinary X-sync speed. This can increase background exposure while maintaining proper exposure on the main object.

'M-mode' Slow-shutter Synchronization
1. Set camera in 'M-mode' and point camera to background.
2. Set lens aperture and shutter speed slower than 1/100sec to have proper exposure for background.
3. Press the shutter release button all the way to release shutter.

Operations with Camera 'C drive-mode'

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Warranty Terms and Conditions
1. This product is warranted against manufacturing defects, under normal use, for 12 months from the date of original purchase.
2. This warranty becomes null and void if any alterations, either by way of adjustments, additions to, or replacement of parts is made, as well as any mishandling or unauthorized repairs to the product.
3. This warranty does not cover ordinary wear and tear or cosmetic damage that may occur in handling and shipping.
4. This warranty does not cover defects arising from abuse, misuse, neglect, accident, flood, Acts of God, or any use in violation of instructions.
5. For warranty service, a dated and itemized bill is required.
6. This warranty is applicable only in the country where the product is purchased.

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