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E INSTRUCTION MANUAL

MAXXUM[®]

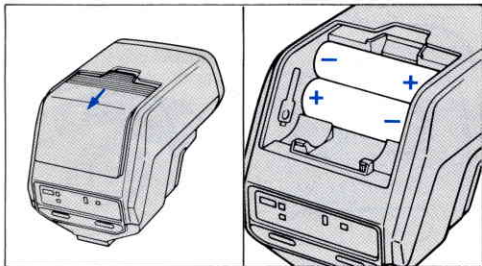
FLASH 3200i

The Maxxum Flash 3200i is designed for totally automatic flash photograph with your Minolta Maxxum 7000i or 3000i autofocus SLR. Its internal power zoom system automatically adjusts flash coverage for lens focal lengths from 28mm through 85mm, even while zooming. Direct (TTL of-the-film) Autoflash Metering operates in all flash modes to ensure accurate exposure, and a low power setting can be used for faster recycling. The 3200i also has a built-in AF illuminator for autofocusing in low light or total darkness.

The Maxxum Flash 3200i is controlled by the advanced flash control program of your 7000i or 3000i camera. In P mode on either camera, the flash automatically switches on when necessary, and slow-shutter sync and fill flash are completely automatic. With the 7000i camera, A mode and M mode can also be used. Any aperture can be used in A mode, and slow-shutter sync and fill flash are also possible. In M mode, you can set both aperture and shutter speed for creative effects.

Carefully read this manual to learn about the 3200i's parts and features, and keep this manual handy for future reference.

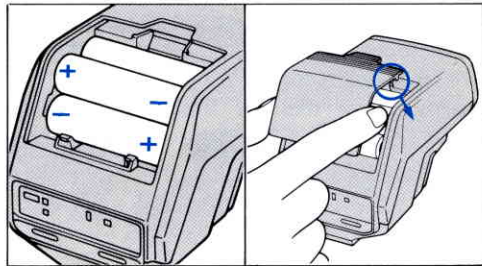
BATTERIES AND POWER



The Maxxum Flash 3200i is powered by four AA-size batteries. Either alkaline or rechargeable nickel-cadmium batteries can be used.

To install batteries:

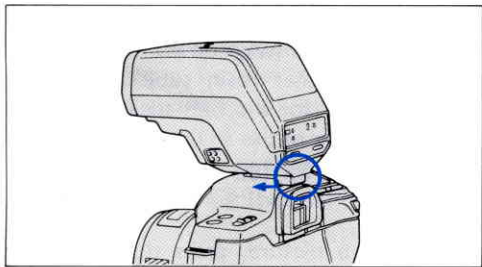
1. Slide battery cover out. Wipe terminals with a clean dry cloth.



2. Insert batteries with ends as shown inside the chamber.

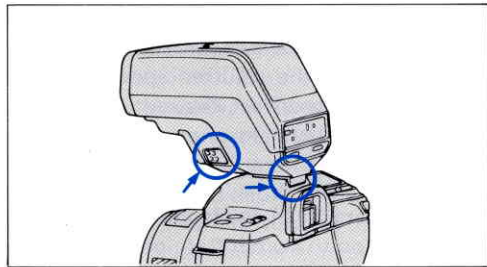
3. Reinsert cover in the grooves and slide cover fully in.

ATTACHING AND REMOVING FLASH



Before attaching or removing flash, make sure power is off.

To attach: Slide flash's mounting foot into the camera's accessory shoe until it locks.



To remove: While pressing the mounting-foot release, slide flash straight out of accessory shoe.

AF illuminator

When required, such as for low-contrast subjects in low light, the AF illuminator will be activated when the shutter-release button is pressed halfway. This focus-assist illumination is projected on the subject, enabling the camera's autofocus system to determine focus status and adjust the lens.

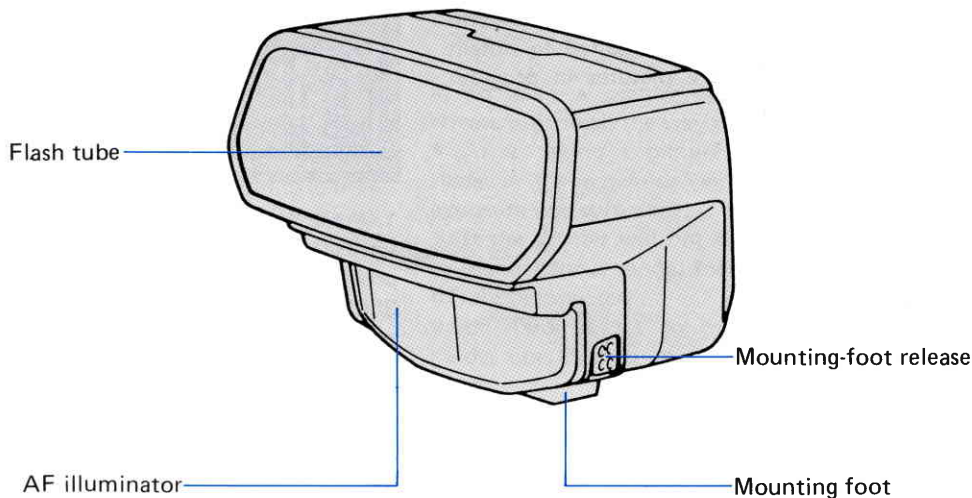
For best results, the subject should be between 1.6 ft. to 29.5 ft. (0.5m and 9m).* If the subject is outside this range, or whenever the camera's focus signals indicate that autofocus is not possible, set camera to manual focus mode and focus manually.

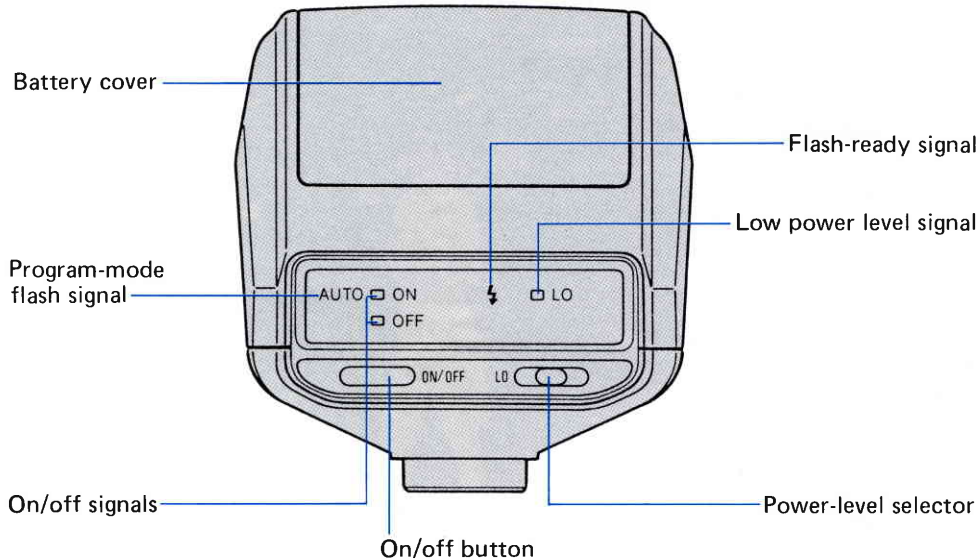
* Based on Minolta's standard test method with 50mm lens

Power zoom system

The Maxxum Flash 3200i is equipped with an internal power zoom system which automatically adjusts the flash coverage for lenses with focal lengths from 28mm to 85mm. With zoom lenses, the 3200i's power zoom system automatically adjusts the flash coverage as the lens is zoomed.

NAMES OF PARTS





NOTES

- If the charging time after taking a picture is longer than the time listed below, batteries should be changed or recharged.
 - Alkaline 30 sec. --- change
 - Nickel-cadmium 10 sec. --- recharge
- To prevent battery leakage or bursting, never mix batteries of different types, brands, or ages.
- If flash will not be used for more than two weeks, batteries should be removed.
- Used batteries should not be discarded in fire.
- Keep batteries away from young children.
- If batteries are not inserted correctly, flash will not charge and leaking or bursting of batteries may result.

Charging system

The Maxxum Flash 3200i uses two condensers to reduce the time required for charging the flash. This two-condenser system is controlled in the following way.

The flash system of the camera determines the guide number required for the subject distance and exposure settings. The system then starts changing the condensers in sequence. When the required charge has been reached, the flash ready signal appears in the camera's viewfinder and the picture can be taken.

To conserve battery power, the 3200i automatically turns itself off if shutter-release button is not touched within approximately 5 seconds. Once off, flash can be readied for firing by touching the shutter-release button.

Cold-weather operation

In cold weather, always use fresh batteries and keep a spare set warm in an inside pocket. For prolonged use near or below 0°C (32°F), Ni-Cd batteries are recommended. Do not discard old batteries. Their capacity will be restored as temperature rises.

BASIC INFORMATION

Power level selection

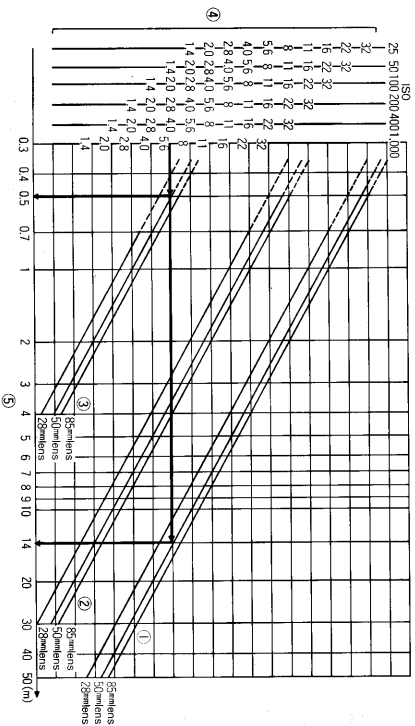
When the 7000i camera is set to A, S or M exposure mode, the Maxxum Flash 3200i can be used at the normal power for maximum flash range or at "Lo" power for faster recycling or sequential shooting in continuous film-advance mode.

- "Lo" power cannot be set when the 7000i camera is set to P exposure mode, or when using the 3000i camera.
- If the camera is set to S exposure mode and the flash is set to "Lo" power, exposure may not be correct.

To set: With flash power on, press the power level selector. The low power level signal will light, indicating that flash is set to "Lo" power. Pressing the power level selector again will cause the low power level signal to stop glowing and the flash will return to normal power.

- Flash range for normal and "Lo" power are shown at right.
- With flash set to "Lo" power, up to 40 pictures can be taken at 3 frames per second with fully-charged Ni-Cd batteries.

Flash Range



To determine the appropriate flash range from the graph above, find the selected lens aperture on the vertical line for the film speed (ISO) being used. Imagine a horizontal line drawn across the graph from this point. The minimum subject distance is indicated by the point where the horizontal line crosses the minimum-mum distance line for the appropriate lens focal length. The maximum subject distance is indicated by the point where the horizontal line crosses the line for the appropriate lens focal length and flash power level.

Flash range is from the minimum subject distance to the maximum subject distance.

For example, the blue lines on the graph above, show the flash range, when using ISO 100 film, a 50mm lens, and an aperture of $f/2$ with the flash at normal power level. In these conditions, the flash range is from 0.5m to 14m.

- The minimum possible aperture when the camera is set to P exposure mode is $f/2.8$.

Exposure adjustment

The 7000i's exposure-adjustment function can be used to increase or decrease flash exposure from +4 to -4 stops. For detailed information on when to use exposure adjustment, refer to the explanation in the camera's instruction manual.

X-sync speed

The X-sync speed is set automatically when flash is activated. When using the 7000i, if the shutter is released before flash is charged, flash may not fire and exposure may not be correct. When using the 3000i, shutter will be locked and cannot be released until flash is charged.

7000i

P mode: Set automatically between 1/125 sec., and 1/20 sec., depending on the focal length of the lens

A mode: Set automatically to 1/125 sec.

S mode: Same as P mode

M mode: 1/125 sec. or slower shutter speeds can be set manually*

* When flash is activated, speed is reset to 1/125 sec., if higher speed has been set manually.

3000i

Set automatically between 1/60 sec. and 1/20 sec., depending on the focal length of the lens

Camera settings

After attaching the flash unit, check the following camera settings.

1. Check that the film-speed setting is within the camera's range for TTL Direct Autoflash Metering: ISO 25 to 1000 for 7000i camera, ISO 32 to 1000 for 3000 camera.

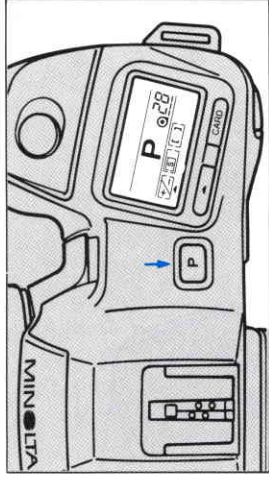
2. 3000i: No other settings required.

7000i: Set film-advance mode to  for single-frame advance or to  for continuous advance.

PROGRAMMED AUTOFLASH OPERATION (P mode)



Program mode flash is ideal for "point-and-shoot" flash photography. In this mode, the camera automatically switches on the flash when necessary and controls exposure. No manual settings are required to obtain good results. To take pictures in program mode:

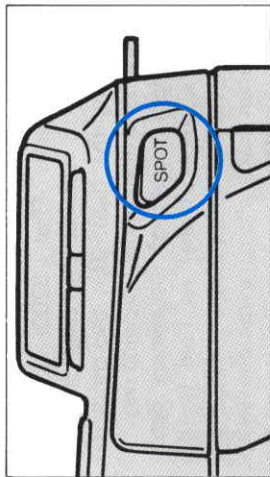


1. Press program-reset button on 7000i to set camera to flash program mode. Flash program mode is automatically set on the 3000i when flash is attached and switched on.
 - Program-mode flash signal will light on the back of the 3200i and flash will automatically begin charging. (Flash-on signal will appear in the viewfinder of the 7000i).

P-mode slow-shutter sync (7000i only)

In low light, such as at dusk or dawn, slower X-sync speeds can be set to increase background exposure while maintaining normal exposure of the main subject.

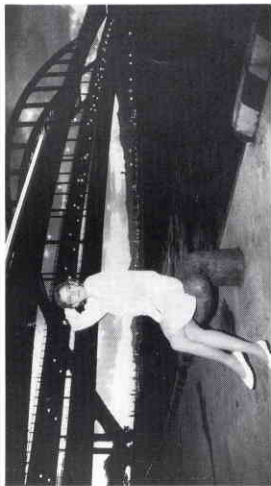
1. Frame the main subject, and press the shutter-release button halfway down.



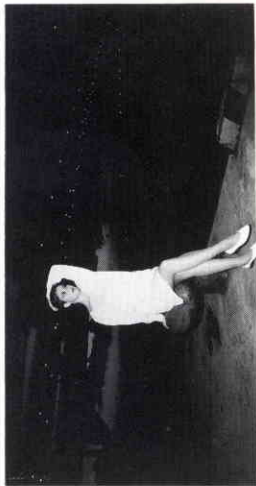
2. Press and hold the camera's spot-metering button, and a shutter speed slower than the original shutter speed will automatically be set. Flash output will be adjusted to prevent overexposure of the main subject.

3. While still pressing spot-metering button, release shutter.

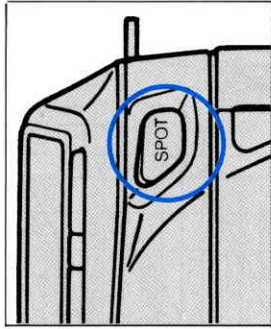
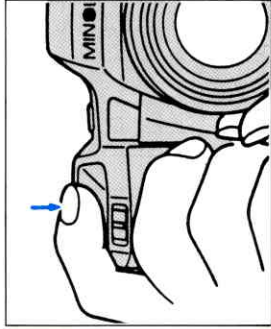
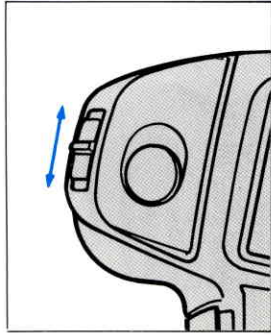
- After taking a picture, the flash-ready signal in the viewfinder will blink rapidly if exposure was sufficient.
- If shutter speed is too slow for hand-held pictures, mount camera on a tripod.



With slow-shutter sync



With conventional flash



A-mode slow-shutter sync

Slow-shutter sync can be used in A mode to increase the background exposure.

1. Set the desired lens aperture. Shutter speed will be automatically set to 1/125 sec.

2. Frame the main subject, and press and hold the shutter-release button halfway down.

3. Press and hold the camera's spot-metering button. Shutter speed will be set slower than 1/125 sec. Flash output will be adjusted to prevent overexposure of the main subject.

4. While still pressing spot-metering button, release shutter.

- After taking a picture, the flash-ready signal in the viewfinder will blink rapidly if exposure was sufficient.
- If shutter speed is too slow for hand-held pictures, mount camera on a tripod.

Fill flash in A mode

In most situations, program mode can be used for automatic fill flash without special settings or calculations. A-mode fill flash can be used for greater control of background exposure or when you want to set smaller apertures for increased depth of field.

The procedure for fill flash in A mode is the same as for slow-shutter sync operation; however, subject brightness will be higher and you may need to use a neutral-density filter on the lens to set shutter speed below 1/125 sec.

TECHNICAL DETAILS

Type: Fully dedicated autofocus for Maxxum 7000i and 3000i cameras; with TTL metering and AF illuminator for auto-focusing

Exposure control: Direct (TTL off-the-film) Autoflash metering in all flash exposure modes based on the camera's film-speed setting

AF illuminator: When required for low-contrast subjects in low light, illuminator is automatically triggered for autofocus; range: 1.6 ft. to 29.5 ft. (0.5 to 9m) based on Minolta's standard test method with 50mm lens

Controls and indications: Controls: On/off button, power-level selector; Indicators: "AUTO" program mode, flash "ON"/"OFF", flash ready, "Lo" power level

Flash coverage: Internal power zoom system automatically adjusts flash coverage for lenses from 28mm to 85mm

Power levels: Manually selectable: Normal for full power and maximum flash range; "Lo" for sequential shooting and faster recycling

Guide number at ISO 100:

Power level	Flash coverage		28mm	35mm	50mm	70mm	85mm
	In feet	In meters					
Lo	18	5.5	21	23	25	26	26
Normal	In feet	72	82	92	98	105	105
	In meters	22	25	28	30	32	32

- Guide numbers vary according to the lens focal length.

Flash range at ISO 100 with 50mm/f1.4 lens

P mode: 1.5 ft. to 32.8 ft. (0.45 to 10m)

A/M mode: 1.5 ft. to 65.6 ft. (0.45 to 20m)

- Minimum subject distance is 2.3 ft. (0.7m) when using lenses with focal lengths of less than 50mm

Power sources: Uses four AA-size batteries, either 1.5v alkaline or 1.2v rechargeable nickel-cadmium

Battery performance: As determined by Minolta's standard test methods

Power level	Flash per set		Recycling time (sec.)
	Normal	Lo	
Type	220-3500	2400-3500	0.2-0.5
Alkaline			
Nickel-cadmium	800-1200	700-1200	0.2-0.3

● When flash is charged, flash-ready signal on 3200i will glow and flash-ready signal in camera's viewfinder will blink slowly.

● Shutter speed and aperture will be displayed in the viewfinder and data panel of 7000i.

2. For autofocus, press and hold shutter-release button halfway down.

● If the camera's focus signals indicate that autofocus is not possible, set camera to manual focus mode and focus manually.

● If the AF illuminator is lit, focus will not be adjusted continuously.

3. After focusing, check whether main subject is within the flash range for the film speed in use. Flash ranges for ISO 100 are listed in the TECHNICAL DETAILS.

4. To take a picture, press the shutter-release button all the way down.

● After taking a picture, the flash-ready signal in the viewfinder will blink rapidly if exposure was sufficient.

● If the shutter will not release, set camera to manual focus mode, focus manually, and release the shutter.

● If 7000i is set to shutter-priority (S) mode, operation is the same as in program mode.

Programmed fill flash

In program mode, exposure calculations for fill flash are completely automatic. In bright sunlight, flash duration is reduced to fill shadows without overexposing the main subject. X-sync speed is automatically set according to the ambient light level to give more natural rendition of the background.



Without fill flash

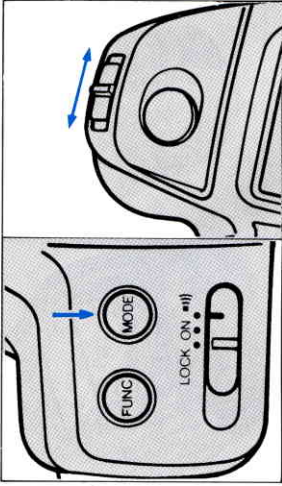


With programmed fill-flash

A-MODE AUTOFLASH OPERATION

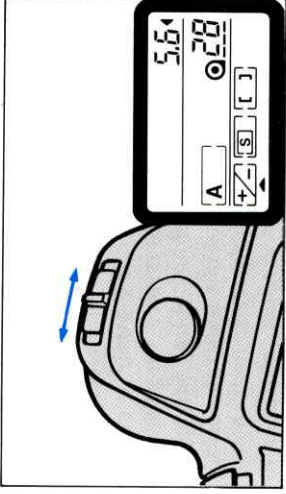
Aperture-priority (A) mode can be used with the 7000i camera. In A mode, any available aperture can be set to control sharpness, to increase flash range, or for faster recycling. To take pictures in A mode:

www.orphancameras.com



1. Set camera to A mode and press 3200i's on/off button to switch flash on. Shutter speed will automatically be set to 1/125 sec.

- When flash unit is charged, flash-ready signal on 3200i will glow, flash-ready signal in viewfinder will blink slowly, and the shutter speed will automatically be set to 1/125 sec.



2. Set the lens aperture for the effect desired: set smaller apertures (higher numbers; e.g., f/11 or f/16) for more sharpness; or set larger apertures (lower numbers; e.g., f/1.7 or f/2) for photographing distant subjects or for faster recycling between exposures.

3. For autofocus, press and hold shutter-release button halfway down. After focusing, check whether main subject is within the flash range for the film speed in use. If not, move closer or use a larger aperture.

- Flash ranges for ISO 100 are listed in the TECHNICAL DETAILS.

4. To take a picture, press the shutter-release button all the way down.

- After taking a picture, the flash-ready signal in the viewfinder will blink rapidly if exposure was sufficient.