



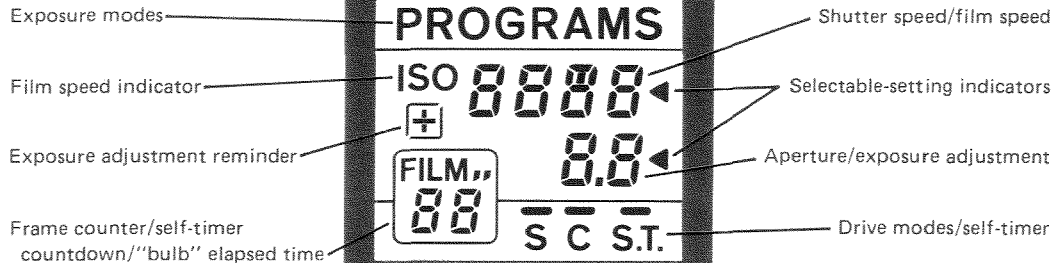
MINOLTA

E INSTRUCTION MANUAL

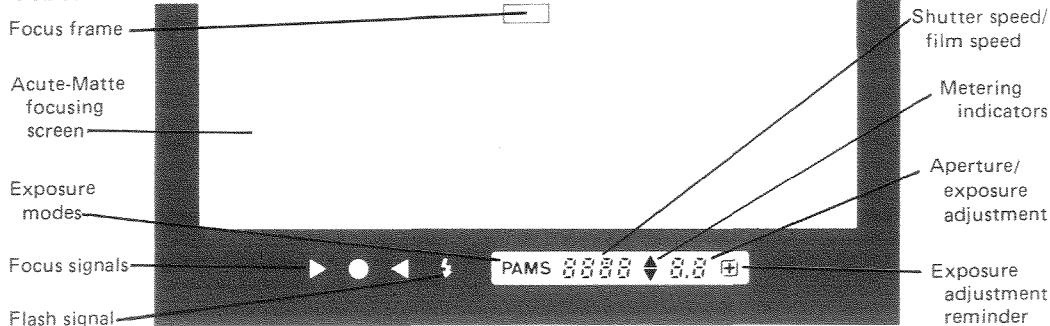
MAXXUM

7000

DATA PANEL



VIEWFINDER



NOTE

While all possible displays are shown together here, only applicable displays appear during operation.

NAMES OF PARTS



The Minolta MAXXUM uses computer technology to bring fascinating new dimensions to your photography. From touch control to centralized data display, every aspect of the MAXXUM is designed for easy operation and outstanding results.

Among its major features are: The MAXXUM autofocus system for precise, instant sharpness with the full range of new Minolta AF lenses. ▷LCD data display panels on top and in viewfinder for maximum information in each mode. ▷Automatic Multi-Program Selection of the optimum AE program to match the actual focal length in use ▷ with unique program shift to tailor each for ▷ special needs. ▷Aperture- and shutter-priority modes plus metered manual for creative flexibility. ▷Motorized film control for loading, automatic film speed setting with DX-coded films, single-frame or continuous advance up to two frames per second, and power rewind.

Advanced new accessories include: ▷ The MAXXUM Flash units with AF assist for autofocus in low light or total darkness, TTL metering in all modes, and a new auto fill-flash program. ▷ The Program Back 70 that makes data imprinting, intervalometer operation, and long exposures easier than ever. ▷MAXXUM AF lenses which already range from 16mm fisheye to 600mm f/4 Apo tele and include five lightweight macro-zooms. User-changeable focusing screens, wireless remote controls, eyepiece correctors, etc., fill out the growing system.

Before using your MAXXUM, carefully read this manual. As you do, attach the lens, load batteries, switch on power, and learn about the camera's parts and features. Then load it with film and proceed to actual picture-taking. Be sure to follow the instructions and notes, and keep this manual handy for further reference. This way you can get better pictures and take full advantage of the many advanced features built into your Minolta MAXXUM.

Fold out the front and back covers of this manual for easy reference to names of parts.

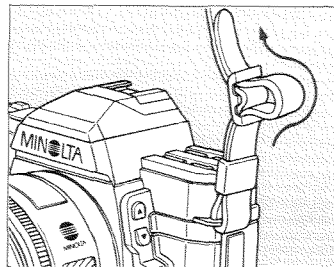
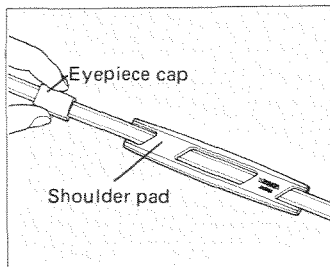
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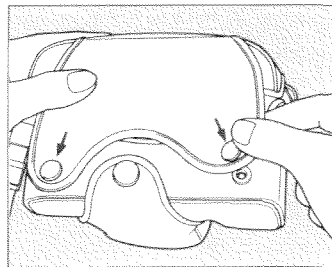
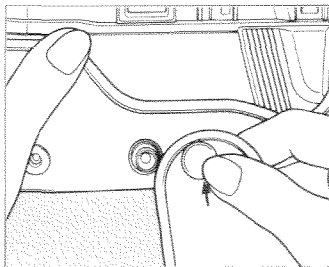
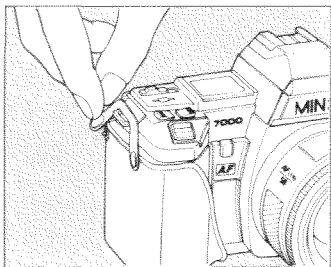
*Basic information on photo principles and techniques

STRAP AND CASE

Attach the strap (supplied with camera) and case (optionally available) as shown. The eyepiece cap slips on the strap to keep it handy for use.



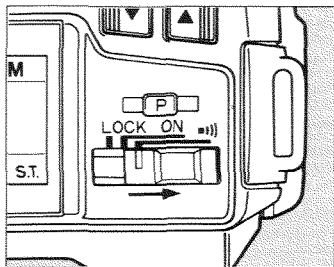
Putting camera in its case



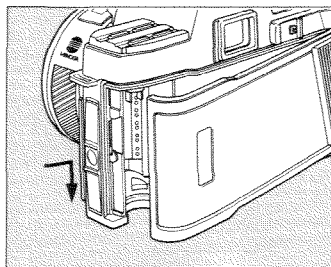
Various camera cases are available as optional accessories for the MAXXUM 7000.

To put camera in its case; attach front lens cap. If using a zoom lens, turn zoom ring until lens barrel is at its shortest position. Follow the diagrams to put the camera into its case.

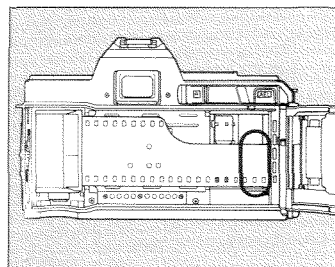
SUMMARY OF OPERATION IN PROGRAM MODE



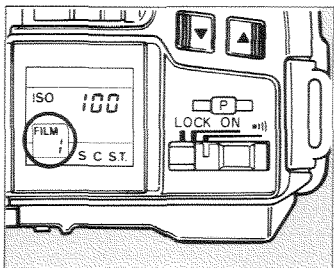
1. Slide main switch to **P**) (p.14).



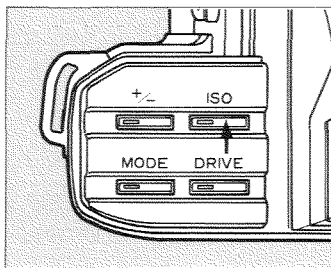
2. Open back cover (p.16).



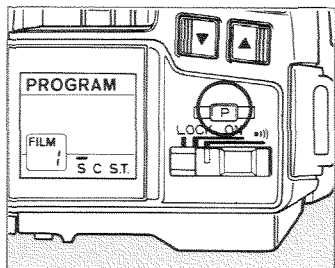
3. Load film properly and close cover (p.16).



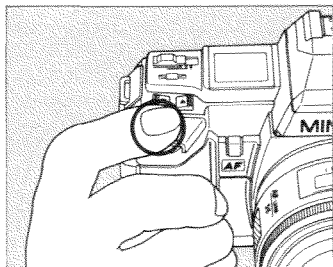
4. Check that film has advanced to first frame (p.17).



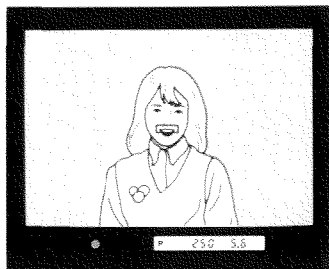
5. Set film speed (p.19; automatically set with DX-coded films).



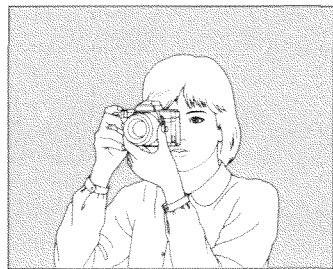
6. Set P mode, S drive, and cancel any exposure adjustment by using appropriate keys or pressing program reset button (p.24).



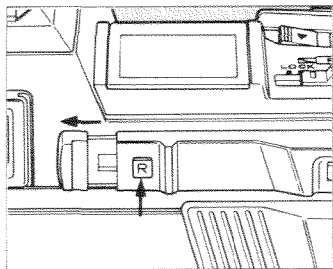
7. Turn on the meter (p. 15).



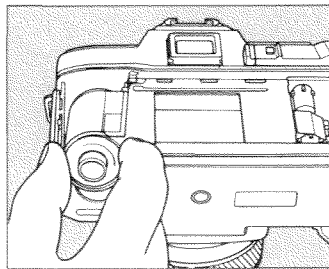
8. Focus (p. 34).



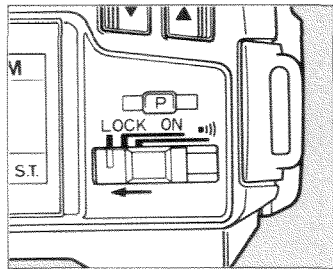
9. Release shutter (p. 39).



10. After last frame, rewind film (p. 40).



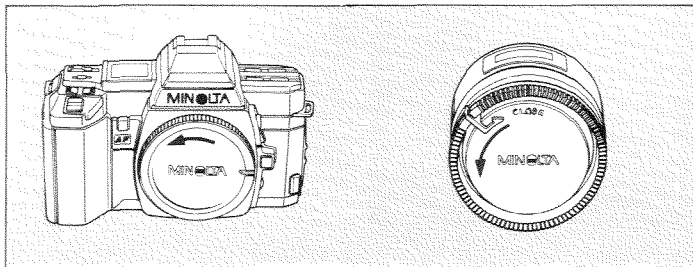
11. Remove film (p. 40).



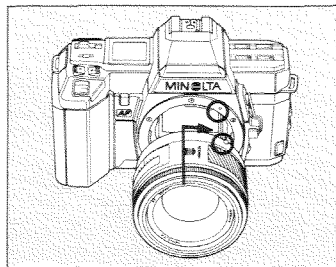
12. Slide main switch to LOCK (p. 14).

ATTACHING AND REMOVING LENS

To attach:



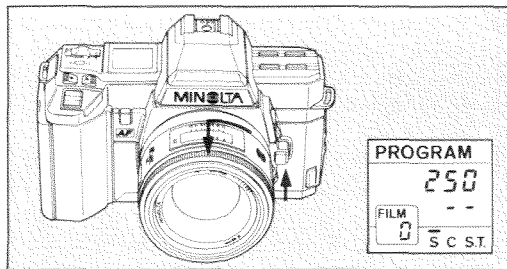
1. Remove body cap and rear lens cap as shown.



2. Align mounting index (red bead) on lens barrel with mounting index (red dot) on lens mount.

3. Insert lens bayonet into mount and turn lens clockwise until it locks in place with a click.

To remove:



While pressing lens release, turn lens counter-clockwise as far as it will go, then lift lens out of mount. When the camera's meter is on and the lens is removed, the aperture display shows "--".

NOTE

- When attaching or removing lenses, never touch anything inside the camera, especially the lens contacts or mirror.
- To protect lens contacts and lens elements, always attach body and rear caps whenever a lens is not in place.

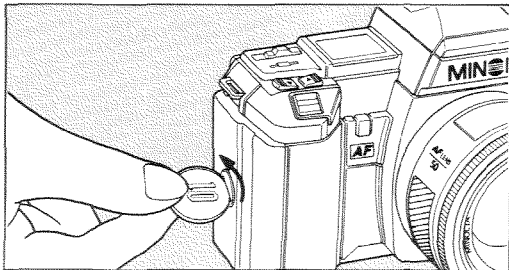
Care of glass surfaces

- Never touch lens elements or eyepiece with your fingers. If the lens becomes dirty, clean it gently with a lens brush. Only if necessary, moisten a sheet of lens tissue with one drop of lens-cleaning fluid. Then, starting at the center and using a circular motion, lightly wipe the glass surface.
- Never lift the mirror or touch its surface, as this may impair its alignment. Dust specks on the mirror's surface will not affect meter readings or picture quality; if they are annoying, have the camera cleaned at an authorized Minolta service facility.

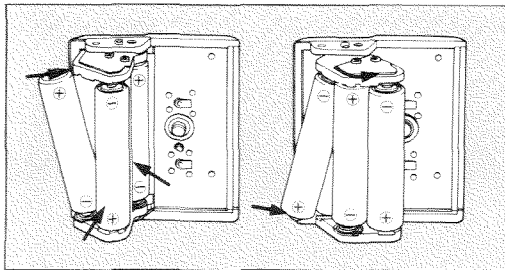
BATTERIES AND POWER

The camera uses four AAA-size 1.5v alkaline-manganese batteries. These supply power for all functions including film transport, metering, autofocus, and shutter release.

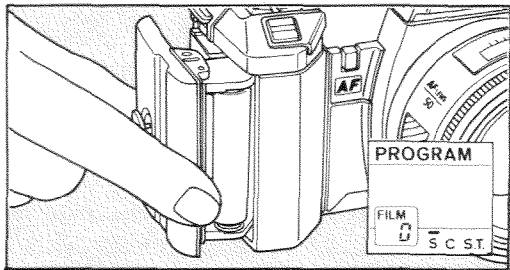
To load batteries:



1. Make sure main switch is at **LOCK** and remove battery holder by turning attaching screw with a coin or similar object.



2. Place new batteries in holder with plus (+) and minus (-) ends as indicated. Holder pivots for easier loading.



3. Attach battery holder to body. Turn attaching screw clockwise to tighten battery holder to camera body.

Exposure mode, drive mode, and frame number will appear in the data panel. If no display appears, batteries are improperly installed or completely dead. Check that batteries are loaded correctly or replace them.

NOTE

- To prevent damage from battery leakage or bursting, never mix batteries of different types, brands, or ages.
- If camera will not be used for more than two weeks, batteries should be removed.
- Used batteries should not be disposed of in fire.
- Keep batteries away from young children.
- The camera and standard battery holder are designed to use alkaline-manganese batteries; do not use carbon-zinc or nickel-cadmium batteries in the standard battery holder.
- To removing batteries, first pull out plus (+) end of battery, then lift battery out of holder.

Battery check

To check battery condition: After exposure, keep finger on operating button and check whether LCDs are blinking. If so, battery power is getting low and fresh alkaline-manganese batteries should be installed.

Low power indications

Fresh batteries should be installed in any of the following cases:

- When LCDs in viewfinder or on camera body blink.
- If shutter will not release and shutter speed and aperture are not displayed when operating button is pressed down.
- When film advance, rewind, or autofocus systems will not operate or when operation is extremely slow.

Cold-weather operation

Performance of batteries tends to decrease as they become colder. Before using the camera in cold weather, make sure fresh batteries are loaded. A spare set should be carried in a warm pocket, in case you need to change batteries while shooting. Battery capacity will be restored as temperature rises.

For prolonged cold-weather use at approx. 0°C (32°F) or below, we recommend using the optional Battery Holder BH-70L, External Battery Pack EP-70 with AA-size nickel-cadmium batteries, or the Battery Holder BH-70T which uses a 6-volt lithium battery.

Battery performance

Type of battery	Approximate number of 24-exposure rolls of film
Battery Holder BH-70S with:	
AAA-size alkaline	25 rolls
Battery Holder BH-70T with:	
6-volt lithium battery	85 rolls
Battery Holder BH-70L or External Battery Pack EP-70 with:	
AA-size alkaline	65 rolls
AA-size carbon-zinc	20 rolls
AA-size nickel-cadmium	20 rolls

Battery performance is based on Minolta's standard test method at 20°C (68°F) with fresh batteries.

- Performance of batteries tends to decrease when autofocus and metering are used very often.
- The LCD display continues to use a small amount of power, even when the main switch is at "LOCK" position. Thus, battery performance will decrease slightly even when the camera is not used.

MEMORY STORAGE

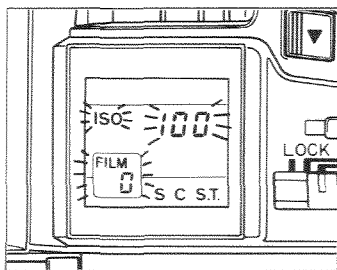
When main switch is in LOCK position, the following data is stored in the camera's memory: frame number, film speed, exposure mode, drive mode, exposure adjustment, and manually selected exposure settings.

Memory backup by built-in lithium battery

Data is stored using power from the batteries in the battery holder. When those batteries are exhausted or if battery holder is removed, a built-in lithium battery supplies power for memory backup. Frame number and film speed are stored, and exposure mode, drive mode, and exposure adjustment are reset to "PROGRAM", "S", and "0.0", respectively.

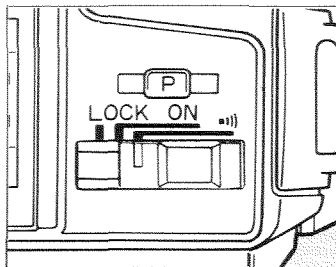
When the battery holder (with fresh batteries) is attached and the lithium battery is exhausted, the film speed setting will blink as a warning. When both lithium and regular batteries are completely exhausted, all displays go blank. After fresh batteries are installed, all memories are reset: frame number to "0", film speed to "ISO 100", exposure mode to "PROGRAM", drive mode to "S", and exposure adjustment to "0.0".


The lithium battery should last approximately 10 years. When replacement becomes necessary, contact an authorized Minolta service facility.







MAIN SWITCH



To prevent battery drain or accidental exposures, the main switch should be set to LOCK position. To operate camera, slide main switch to ON or  position.

At  position, the camera gives audible beeps: when subject is brought into focus; as a slow shutter-speed warning; at the end of the roll; and during self-timer operation.

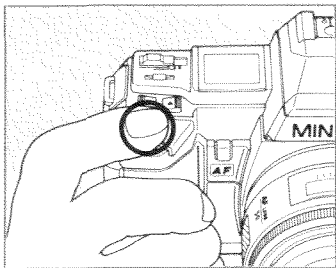
Slow shutter-speed warning

With main switch at  position and exposure mode set to program (P) or aperture-priority (A) mode, the camera will beep to warn that the shutter speed may be too slow for blur-free hand-held exposures. If possible, a faster shutter speed should be set by using program shift (in P mode) or a larger aperture (in A mode). If necessary, camera can be mounted on a tripod, braced against a post or other firm support, or flash may be used.

When you touch the operating button, camera beeps if the shutter speed is below:

- 1/30 sec. with lenses shorter than 35mm,
- 1/60 sec. with lenses from 35mm to 105mm,
- 1/125 sec. with lenses longer than 105mm.

OPERATING BUTTON



The operating button controls meter activation, autofocusing with focus hold, and shutter release. Operating button functions only when main switch is at ON or \blacksquare) ; this prevents accidental exposures and prolongs battery life.

Meter activation

To activate the meter, touch the operating button. In low light, the LCD panel in the viewfinder is automatically illuminated. If proper contact is not possible (e.g., when fingers are very dry, or when wearing gloves), press the button slightly. For easier operation of other controls, meter remains on for 10 seconds after you lift your finger from the button.

Autofocusing with focus-hold

To activate autofocusing, press button halfway. Focus is held until you let up on the button.

Shutter release

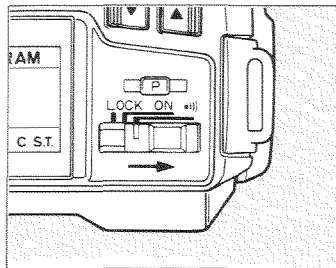
To release the shutter, press button all the way down. In P, A, and S modes, camera will automatically set exposure, focus lens, then release shutter.

NOTE

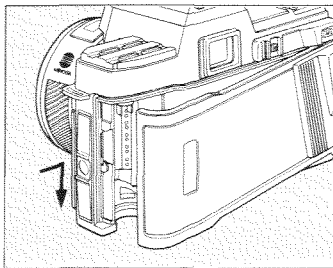
If operating button becomes dirty or oily, set main switch to LOCK and wipe button with a clean, dry cloth.

FILM LOADING

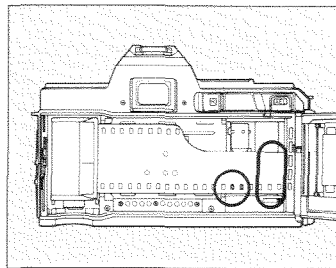
Always load film in subdued light or at least shaded from direct sunlight.



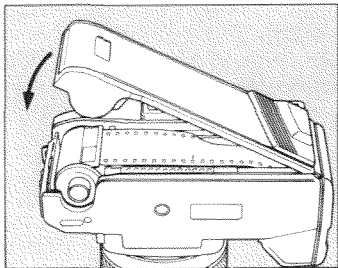
1. Switch camera on.



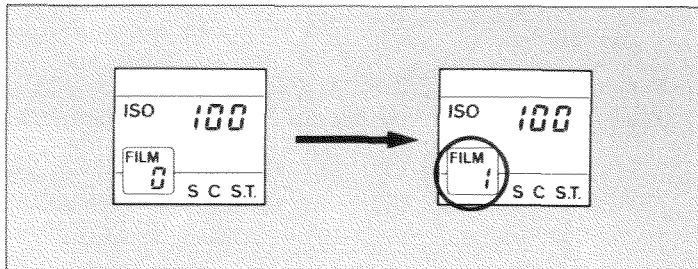
2. Open back cover by pressing button in the center of the back cover release and sliding release downward.



3. Place film cartridge in film chamber. Extend tip of film leader past the red leader index. Make sure holes in lower edge of film engage teeth on sprocket. If film extends too far or does not lie flat, gently push excess back into cartridge.

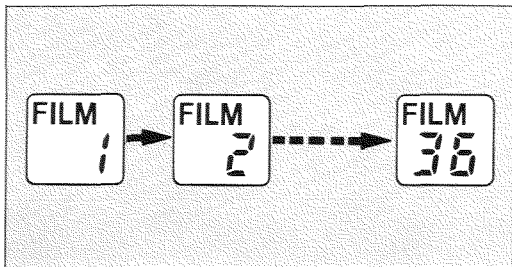


4. Close back cover by pressing until it snaps shut.



5. Camera will automatically advance film to the first frame, and "1" will appear in the frame counter. This indicates that the film is properly loaded and advancing correctly. If frame counter still shows "0", open back and repeat steps 2 to 4.

Frame counter

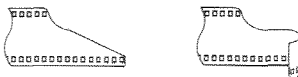


The frame number increases by one with each exposure. Frame number increases only when film is loaded and advancing properly.

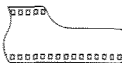
Film loading precautions

- Before opening the camera back, always check film window to see if film is loaded and check that film is completely rewound (frame counter will show "0").
- If film leader is incorrectly shaped, film may not advance properly.

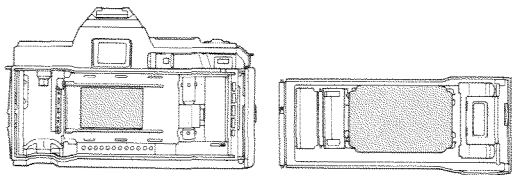
WRONG



RIGHT

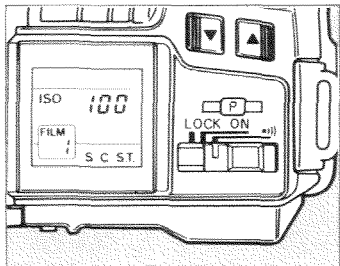


- Do not touch any parts or areas shown in blue.



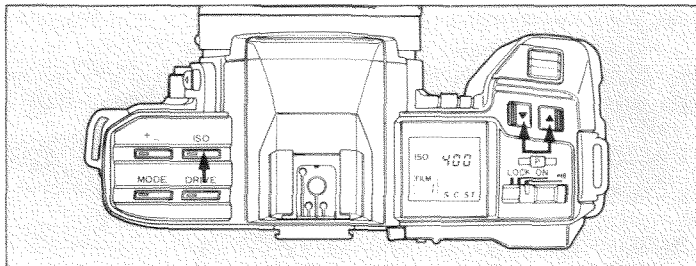
SETTING FILM SPEED

Automatic setting with DX-coded films



The film speed for DX-coded films is automatically set, and appears for ten seconds in the data panel as soon as the back is closed. Speed for these films can also be set manually to a higher or lower value after film has been loaded.

Manual setting of film speed



While pressing film speed key (marked ISO), press the shutter speed keys to increase or decrease the displayed value. Each time a shutter speed key is pressed, setting changes by 1/3 of a stop. Settings change rapidly when shutter speed key is held down.

Film speed setting can be checked at any time by pressing ISO key.

FUNDAMENTALS OF EXPOSURE CONTROL

When you take a picture, the shutter opens, and light from the subject passes through the lens to form an image on the film. To obtain correct exposure for the subject brightness and film being used, the aperture (size of the lens opening) and shutter speed (length of time the shutter is open) must be controlled.

As indicated by the aperture diagram next to each f-number in the figure, large f-numbers (e.g., f/16 and f/11) represent small apertures, and small f-numbers (e.g., f/2 and f/1.4) represent large apertures. Each standard f-number setting (e.g., f/8) lets in twice as much light as the next larger one (f/11) and half as much as the next smaller one (f/5.6). This difference in exposure between standard f-numbers is called one "stop".

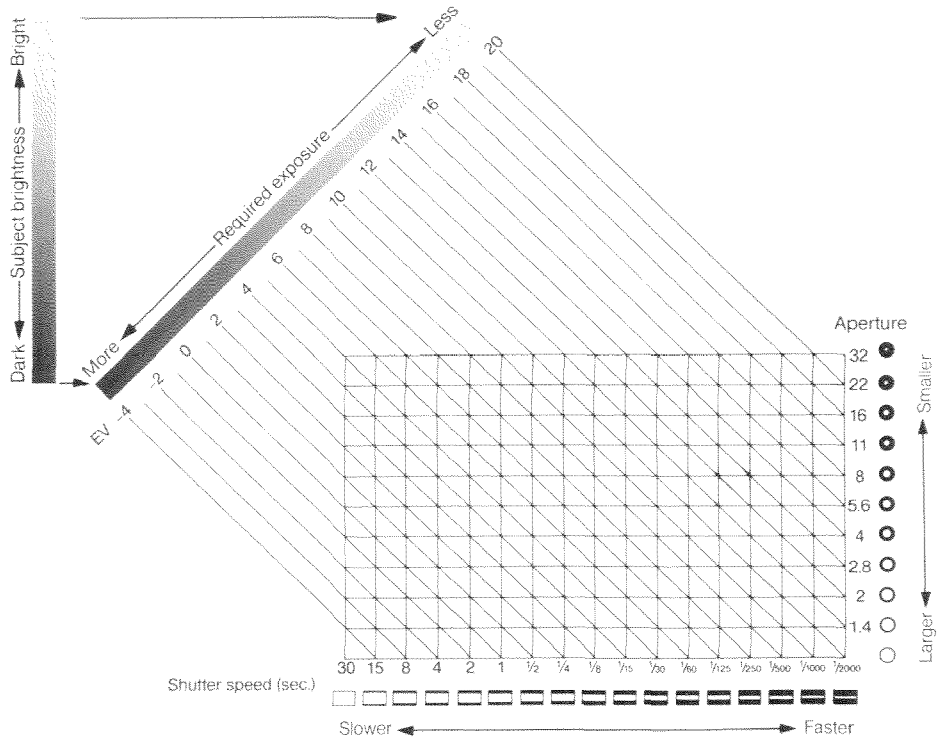
Shutter speeds are expressed in fractions of a second (usually the reciprocals of numbers shown on shutter speed scales) and in seconds. Each standard shutter speed (e.g., 1/60 sec.) allows light to strike the film twice as long as the next faster one (1/125). This exposure difference between standard shutter speeds is

also called one "stop".

Total exposure on the film is determined by the combination of aperture and shutter speed. Using the next smaller f-number (i.e., giving one stop more exposure) will balance using the next faster shutter speed (i.e., giving one stop less exposure) and so on. A great range of combinations (f/5.6 at 1/30, f/4 at 1/60, f/2.8 at 1/125, etc.,) will thus yield the same total exposure.

The diagonal lines correspond to exposure values (EV); all of the aperture/shutter-speed combinations indicated by a given line will produce the same exposure. At a particular film speed, the EV increases by one each time the subject brightness doubles, and thus the exposure required will decrease by one stop. On the other hand, when the EV is one unit lower (i.e., when the subject is only half as bright), the exposure must be increased by one stop.

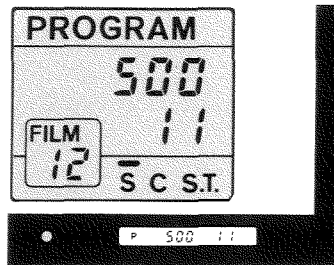
The film-speed-coupled metering system measures the brightness of the subject and computes the EV needed for proper exposure. This EV is used for setting aperture and shutter speed.



EXPOSURE MODE SELECTION

Your Minolta MAXXUM features four exposure-control modes. The following summaries will help you choose the best one for a specific situation.

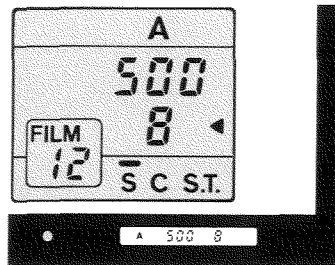
Program (P) mode



Program (P) mode is ideal when you just want to compose and shoot. Aperture and shutter speed are set automatically and displayed in the viewfinder and data panel.

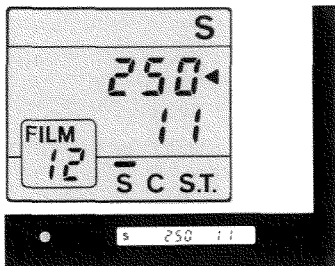
MAXXUM's Automatic Multi-Program Selection automatically selects the program according to focal length in use. For its program shift feature, see page 26.

Aperture-priority (A) mode



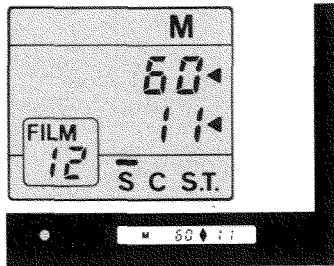
Use A mode when you want to control depth of field. The aperture can be set in half-stop increments. The stepless shutter speed for accurate exposure is automatically set by the camera and displayed to the nearest half-stop.

Shutter-priority (S) mode

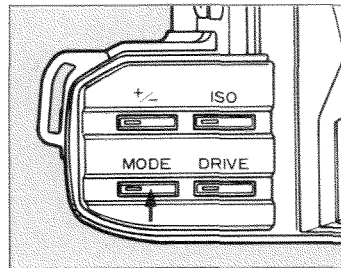


For photographing moving subjects, S mode is the choice. You can use fast shutter speeds, up to 1/2000 sec., to “freeze” action, or slow speeds to intentionally blur the movement. The camera will automatically set the aperture and display it to the nearest half-stop.

Metered-manual (M) mode



In M mode, you get full creative control of exposure. Any available shutter speed or aperture can be set. The metering indicators in the viewfinder can be followed, or you can vary exposure based on your own experience.

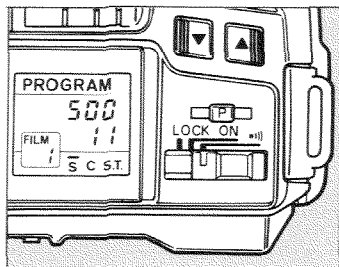


Setting exposure mode is a simple, two-step operation: While pressing exposure mode (MODE) key, press either of the shutter speed keys until desired mode is displayed in the data panel:

- “PROGRAM” for programmed auto-exposure mode
- “A” for aperture-priority mode
- “S” for shutter-priority mode
- “M” for metered-manual mode

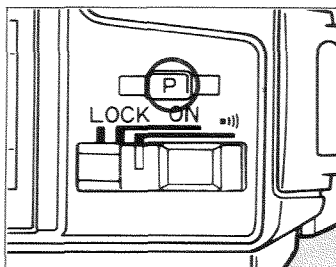
PROGRAM (P) MODE

To set mode:



While pressing MODE key, press either of the shutter speed keys until "PROGRAM" appears in the data panel.

Program reset



When you want to quickly set the camera to Program mode, S drive mode, and cancel any exposure adjustment, just press and release the program reset (P) button.

Automatic Multi-Program Selection (AMPS)

In P mode, one of three programs is automatically selected to match the lens focal length actually in use.

Shorter than 35mm:

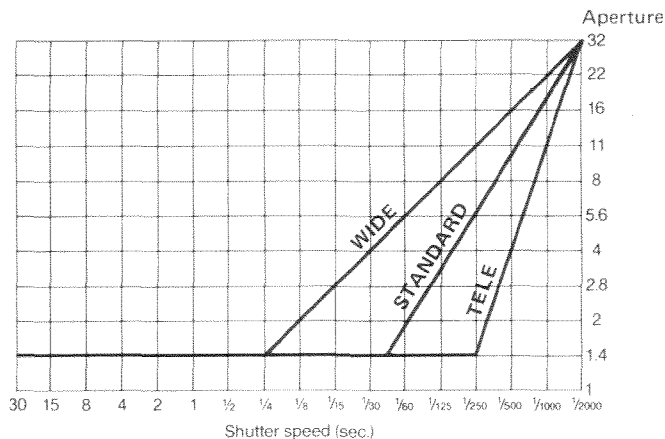
Wide program sets smaller apertures for maximum practical depth of field.

35mm to 105mm:

Standard program is Minolta's faster-speed type that chooses optimum shutter speeds and apertures.

Longer than 105mm:

Tele program selects faster shutter speeds to protect against blur from camera shake.



NOTE

- Program selection is automatic; it is not possible to manually select a specific program.
- With zoom lenses, the program automatically changes as you zoom from one range to the next. With the AF 28-135mm zoom, for example, as you zoom from 28mm to 135mm, the program changes from Wide through Standard to Tele.
- If light level is outside the metering range, \blacklozenge blinks in viewfinder as a warning that exposure may not be correct.
- If both shutter speed and aperture blink, required shutter speed-aperture combination is not available.

Program shift

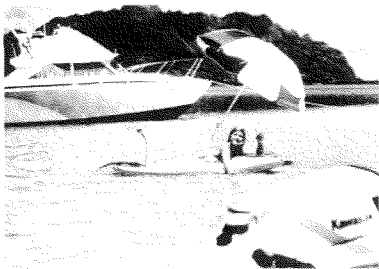
This feature lets you temporarily select alternative aperture-shutter speed settings while remaining in Program mode. Both settings change as the program is adjusted for faster/slower shutter speeds and larger/smaller apertures. Programmed settings can be shifted in half-stop increments, and exposure mode LCDs blink to indicate when program shift is in use.

Using program shift

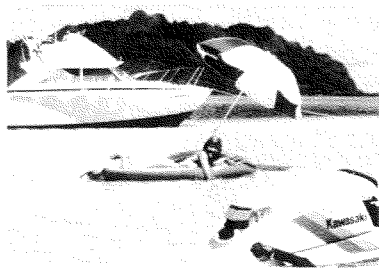
To change aperture-shutter speed settings, press either shutter speed or aperture keys until the desired setting appears in the viewfinder and data panel.

NOTE

- Before exposure, shifted settings are held for ten seconds after lifting finger from operating button. After exposure, program shift is cancelled as soon as finger is lifted from operating button. To make several exposures using the same settings, keep finger on operation button between exposures.
- When using zoom lenses, shift program after zooming. When zooming from 70mm to 210mm, for example, the program changes from Standard to Tele, and the shifted settings will also change.



PROGRAM
350
FILM 20 8
S C ST.



PROGRAM
100
FILM 20 16
S C ST.



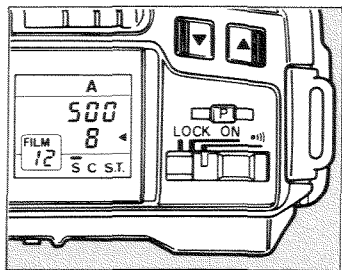
PROGRAM
125
FILM 10 3.5
S C ST.



PROGRAM
500
FILM 10 1.7
S C ST.

APERTURE-PRIORITY (A) MODE

To set mode:



While pressing MODE key, press either of the shutter speed keys until "A" appears in the data panel. A triangular indicator appears next to the aperture setting to show that it can be set manually.

To set aperture:

Press aperture or shutter speed keys until desired aperture is shown in data panel. Each time you press the key, aperture changes by a half-stop. Aperture changes rapidly when key is held down.

- Any available aperture from the aperture range indicated on the front of the lens can be set. The AF 50mm/1.7 lens is marked 1:1.7(22) indicating a range of f/1.7 to f/22.





NOTE

- Shutter speed blinks when the speed needed is outside the coupled range. If "2000" blinks, set smaller apertures until blinking stops. If "30" blinks, set a larger aperture until blinking stops.
- If light level is outside the metering range, \blacklozenge blinks in viewfinder as a warning that exposure may not be correct.

Selecting an aperture

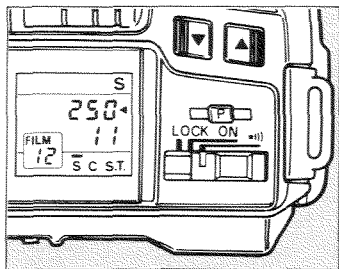
In A mode, you can set the aperture required by the subject or effect desired. For further information about creative aperture control, refer to page 42.

For taking good pictures with utmost ease, simply set the aperture as indicated in the table. These settings will provide as much depth of field (p. 48) as practical while using shutter speeds fast enough for hand-held pictures.

	Sunny	Hazy sun	Heavy overcast	Indoors
ISO				
25/15°	f/8	f/4	f/2	f/1.7
64/19°	f/8	f/4	f/2.8	f/1.7
100/21°	f/11	f/5.6	f/4	f/1.7
160/23°	f/11	f/8	f/5.6	f/2
200/24°	f/11	f/8	f/5.6	f/2
400/27°	f/16	f/11	f/8	f/2.8

SHUTTER-PRIORITY (S) MODE

To set mode:




While pressing MODE key, press either of the shutter speed keys until "S" appears in the data panel. A triangular indicator appears next to the shutter speed setting to show that it can be set manually.

To set shutter speed:

Press shutter speed or aperture keys until desired speed is shown in data panel. Each time key is pressed, speed changes by one stop. When either key is held down, speed changes rapidly.

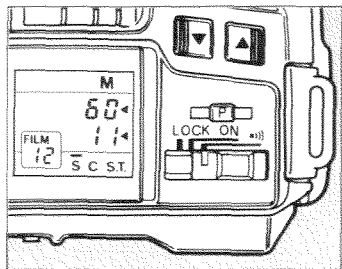
- Any available shutter speed from 30 sec. to 1/2000 sec. can be set.
- Camera's X-sync speed, 1/100 sec., can also be set.

NOTE

- Do not use "bulb" setting which appears after the 30-sec. setting. "Bulb" should only be used in M mode.
- If lens' maximum aperture (e.g., f/1.7) blinks, set slower shutter speeds until blinking stops. If minimum aperture (e.g., f/22) blinks, set faster shutter speeds until blinking stops.
- If light level is outside the metering range,  blinks in viewfinder as a warning that exposure may not be correct.

METERED MANUAL (M) MODE

To set mode:



While pressing MODE key, press either of the shutter speed keys until "M" appears in data panel. Triangular indicators appear next to shutter speed and aperture settings to show that both can be set manually.

To set aperture and shutter speed:

Aperture and shutter speed are set independently of each other by pressing the appropriate shutter speed/aperture keys. Any combination of available settings can be used.

To adjust exposure:

LCD pointers in the viewfinder let you fine-tune the correct exposure or vary exposure for creative effects.

When both pointers appear, exposure is correct within $\pm 1/4$ stop.	M 125 \blacklozenge 5.6
When only the upper pointer (\blacktriangle) appears, exposure is $1/4$ stop or more above normal.	M 80 \blacktriangle 5.6
When only the lower pointer (\blacktriangledown) appears, exposure is $1/4$ stop or more below normal.	M 250 \blacktriangledown 5.6

NOTE

If light level is outside the metering range, \blacklozenge blinks in viewfinder as a warning that exposure may not be correct.

APERTURE AND SHUTTER SPEED SETTINGS

22
19
16
13
11
9.5
8
6.7
5.6
4.5
4
3.5
2.8
2.4
2
1.7

Aperture settings

Table at left shows aperture settings that are displayed in P and A for the 50mm f/1.7 lens. Numbers such as 6.7 and 9.5 are half-stop settings between whole f-stops. Thus, for example, the half-stop setting between f/8 and f/11 is f/9.5.

Shutter speed settings

Table at right shows shutter speed settings that are displayed in P and A modes. In M and S modes, only the speeds in bold type can be set. Numbers such as 750 and 350 are half-stop indications between standard shutter speeds. Thus, for example, the half-stop indication between 1/1000 sec. and 1/500 sec. is 1/750 sec.

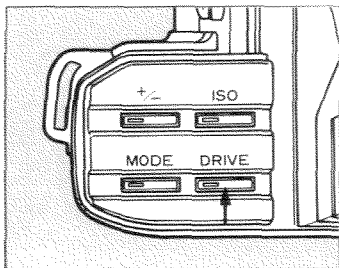
Indications for speeds from 1/2000 sec. to 1 sec. are: 2000 = 1/2000 sec., 1000 = 1/1000 sec., etc. Speeds from 0.7 sec. to 30 sec. are indicated: 0'7 = 0.7 sec., 1'' = 1 sec., 1''5 = 1.5 sec., etc.

NOTE

“Bulb” setting should be used only in M mode.

2000
1500
1000
750
500
350
250
180
125
100
60
45
30
20
15
10
8
6
4
3
2
0'7
1''
1''5
2''
3''
4''
6''
8''
10''
15''
20''
30''
bulb

DRIVE MODE SELECTION



The Minolta MAXXUM features two drive modes: "S" drive for single-frame advance and "C" drive for continuous advance. "S.T." is the indication for self-timer. Refer to page 50 for information about self-timer operation.

- In single-frame mode, film is advanced one frame after each exposure, and the camera is always ready for the next shot.
- In continuous mode, just hold the operating button down to capture fast-action sequences at up to two frames per second.

To set drive mode:

While pressing drive mode (DRIVE) key, press either of the shutter speed keys until a small bar appears above the desired mode.

