



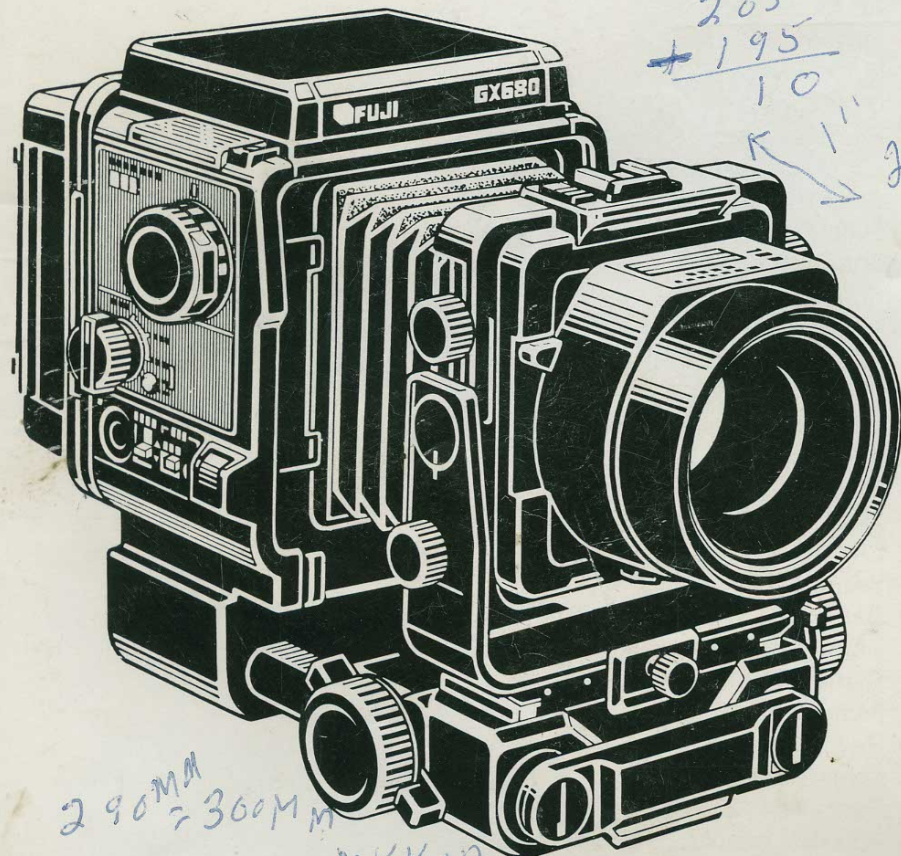
246 MAX WITH NO EXT
193.7 NIKKOR 200M BF

205MM

infinity
Back focus 8 7/8"

205MM
193.7

200MM MAX BACK-F



OWNER'S MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUAL DE INSTRUCCIONES

GX680

Professional

290MM - 300MM

NIKKOR 17

MIN 127MM - 190MM MAX 63

NAMES OF PARTS/BEZEICHNUNG DER TEILE/NOMENCLATURE/NOMENCLATURA

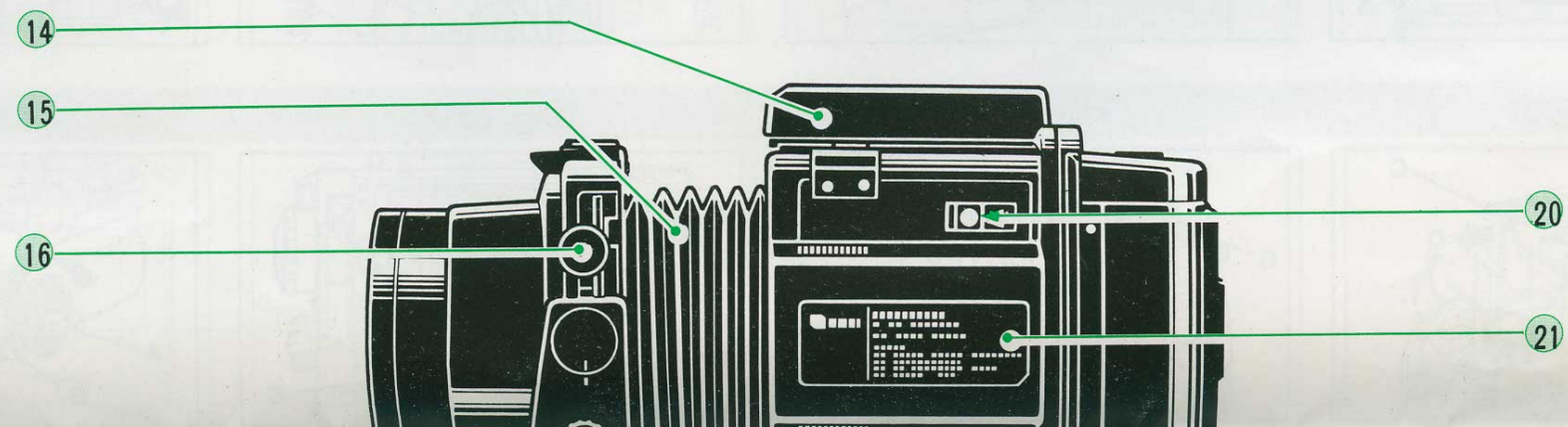
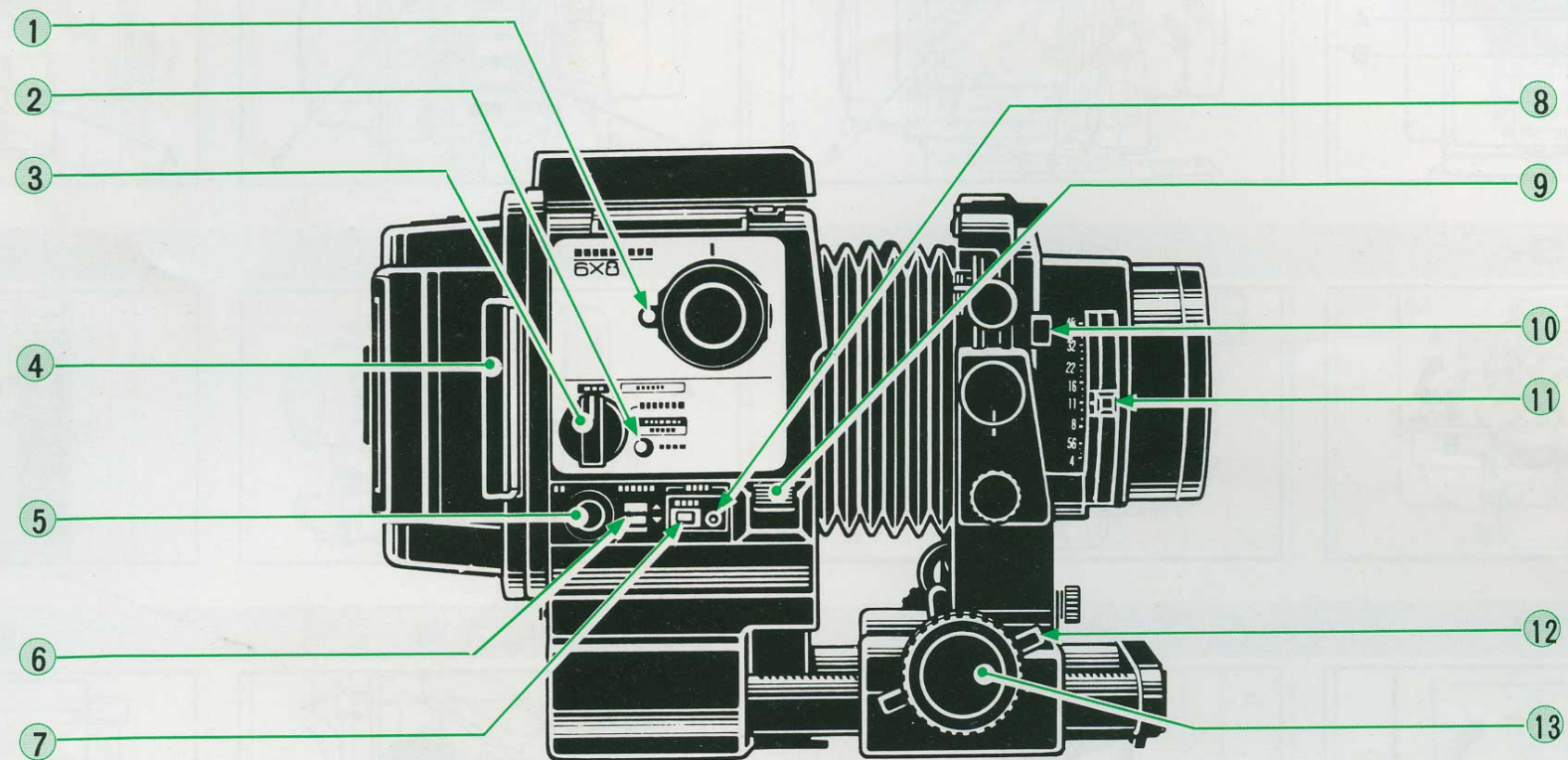


Fig. 1

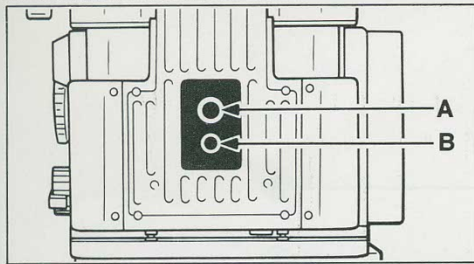


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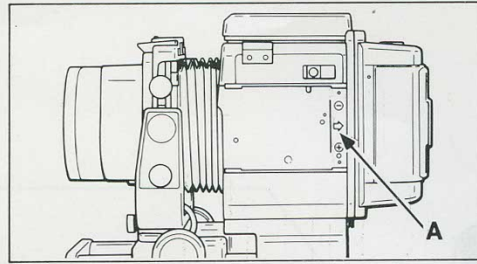


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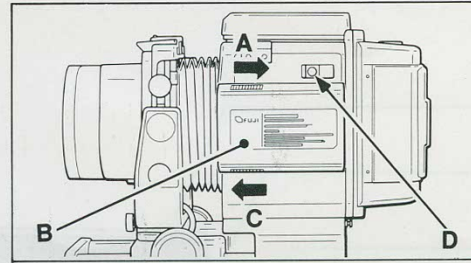


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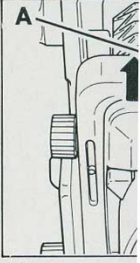
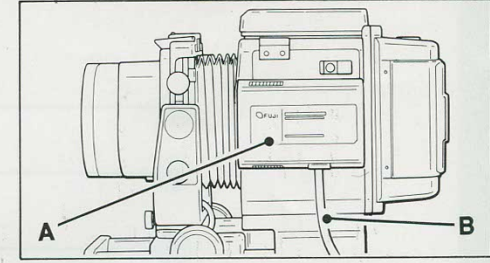


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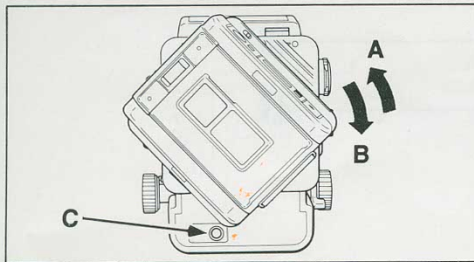


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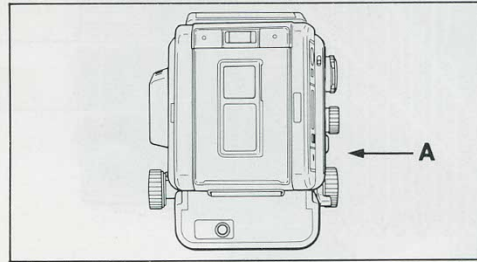


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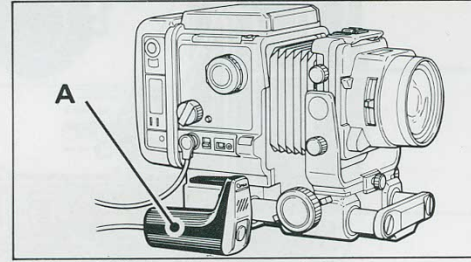


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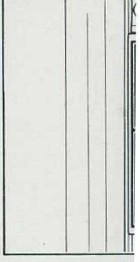
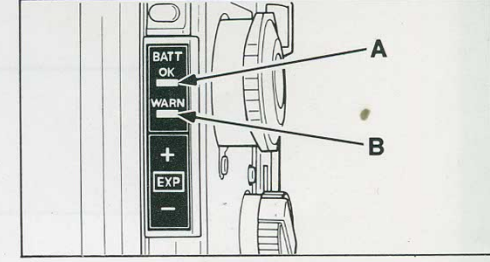


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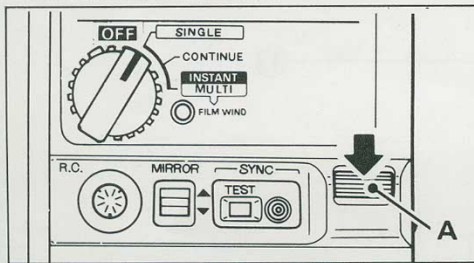


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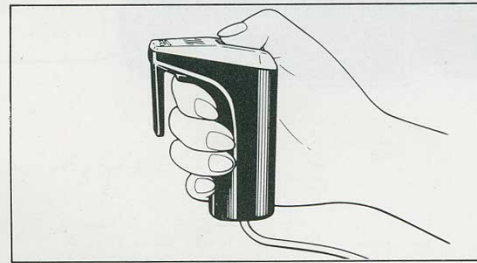


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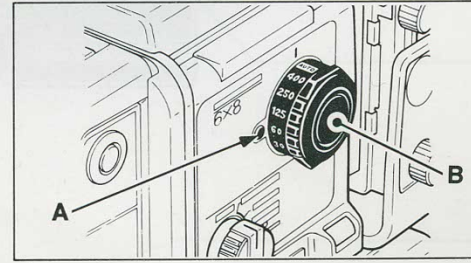


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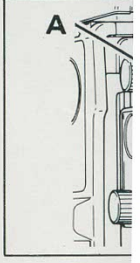
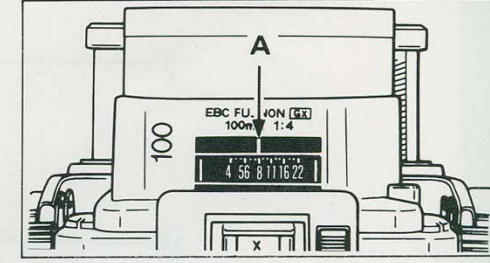


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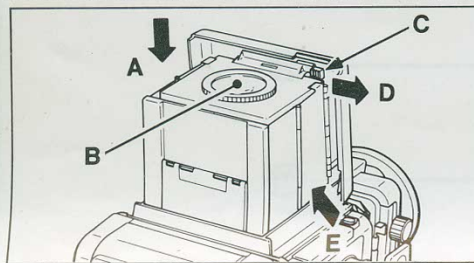


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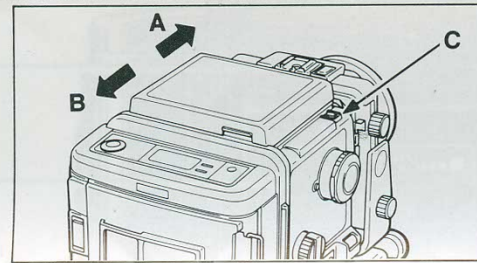


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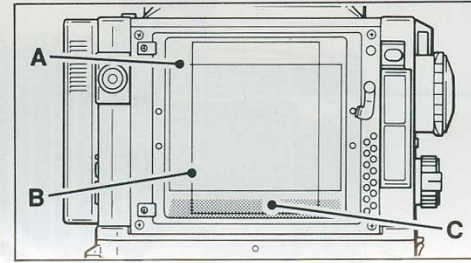


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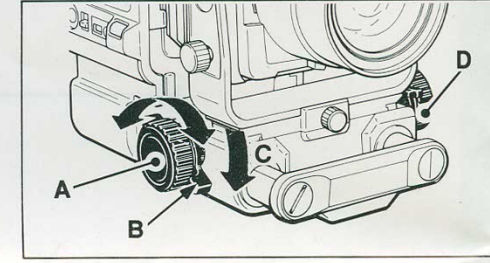


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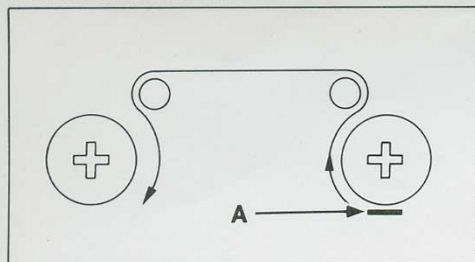


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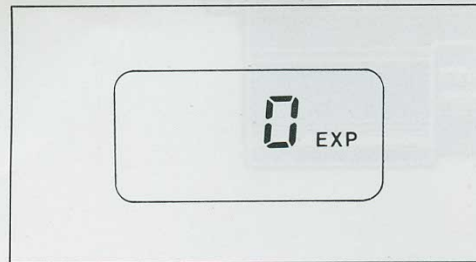


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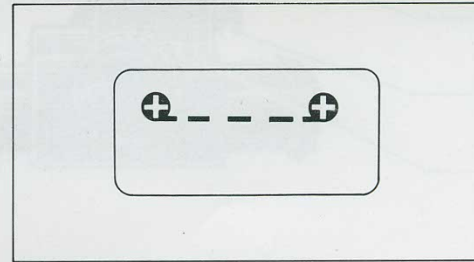


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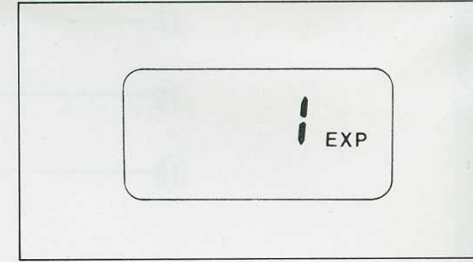


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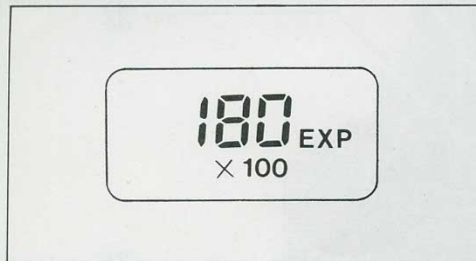


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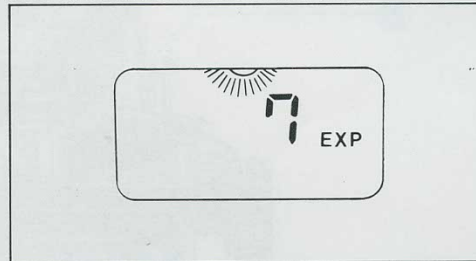


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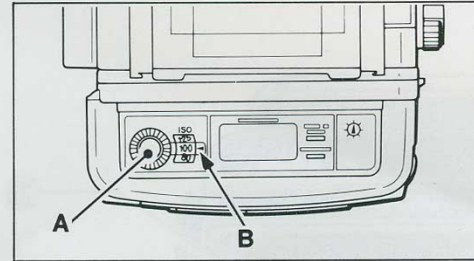


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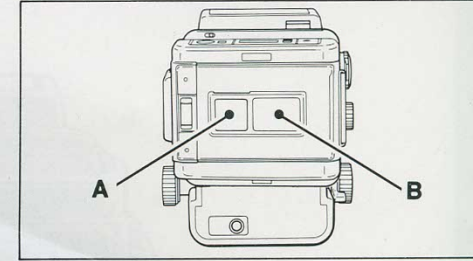


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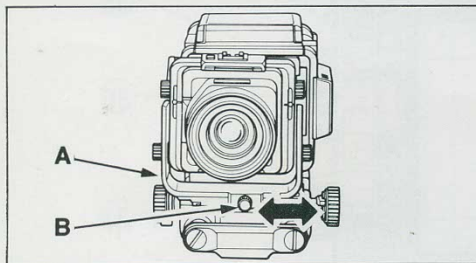


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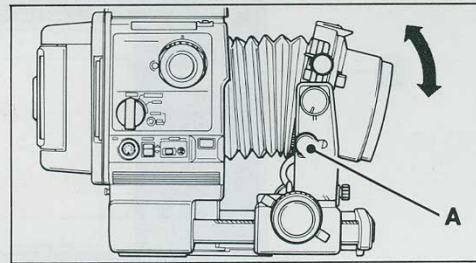


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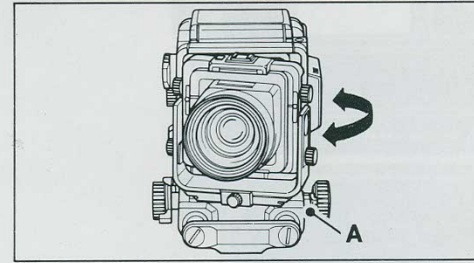


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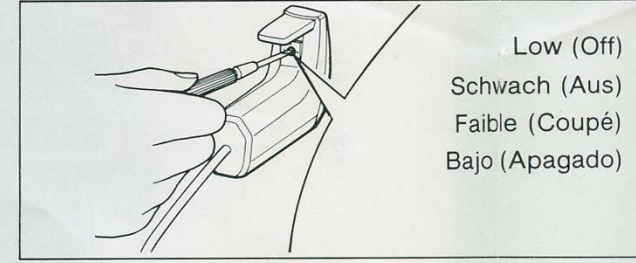


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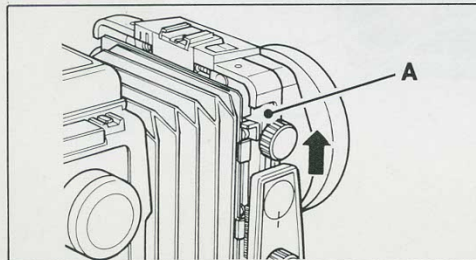


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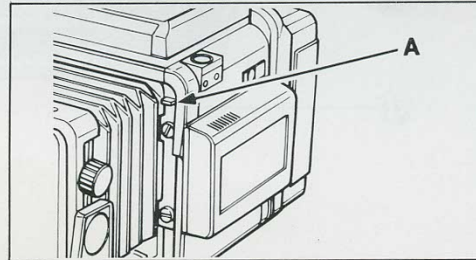


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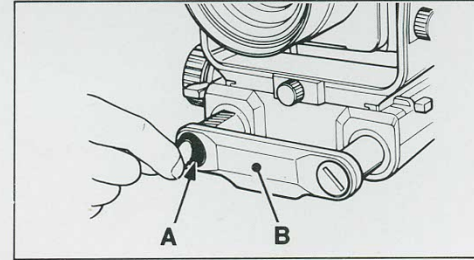
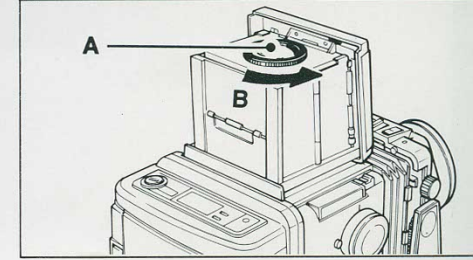


Fig. 59



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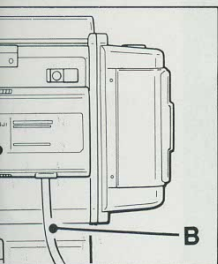


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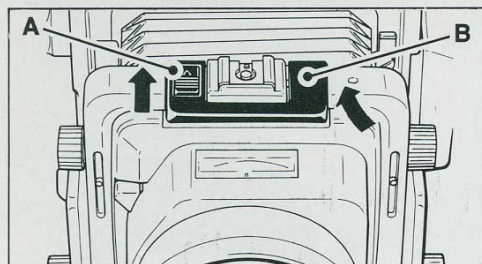


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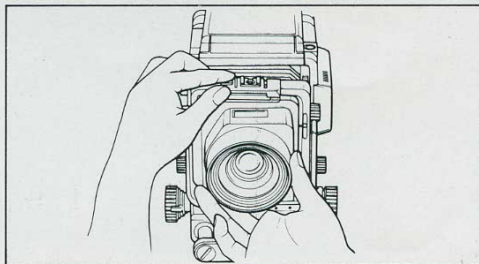


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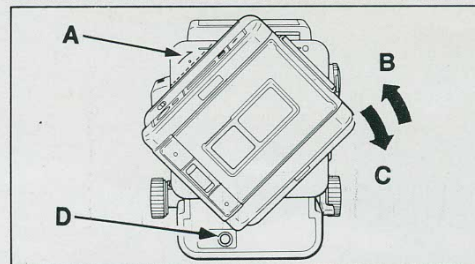
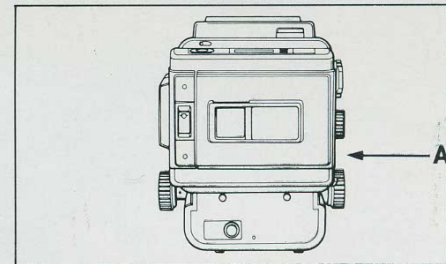


Fig. 8



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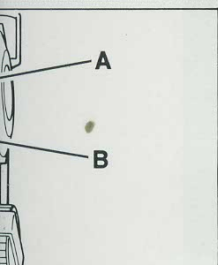


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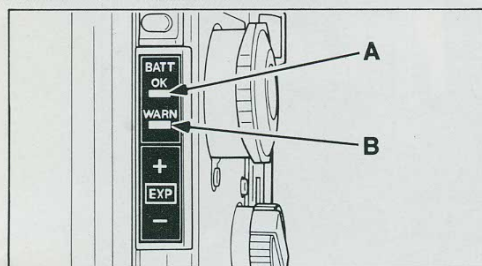


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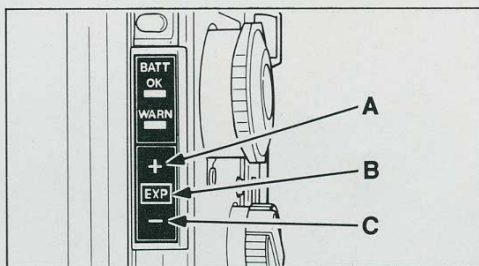


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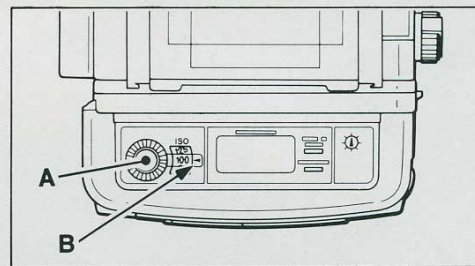
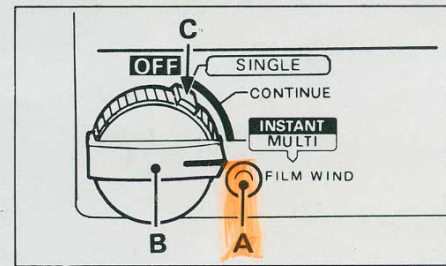


Fig. 16



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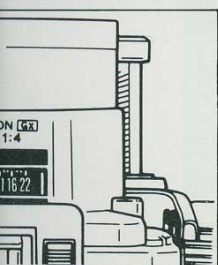


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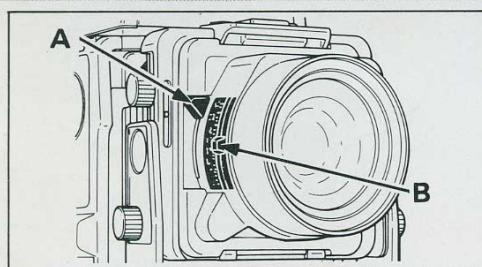


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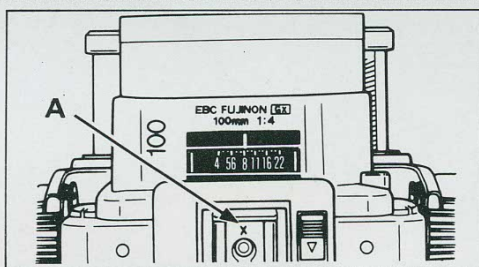


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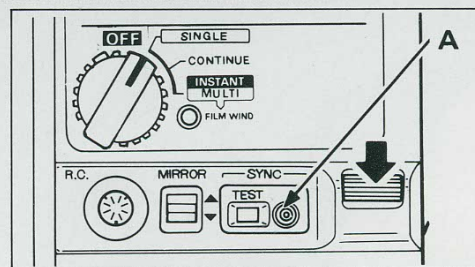
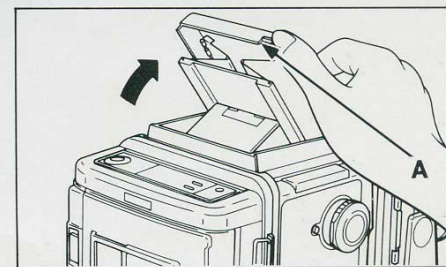


Fig. 24



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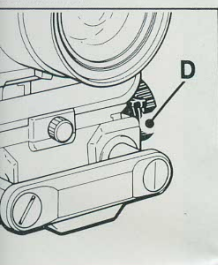


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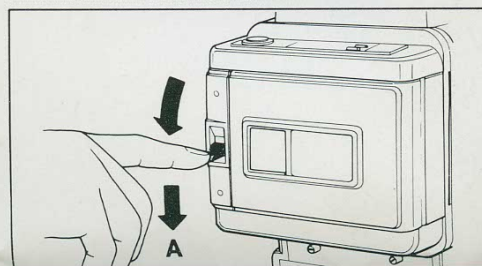


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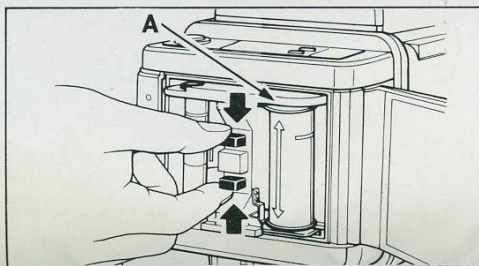


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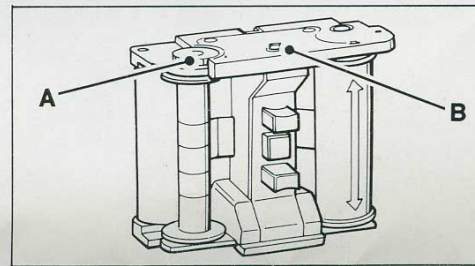
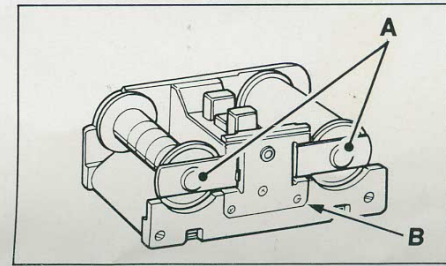


Fig. 32



36



Fig. 37

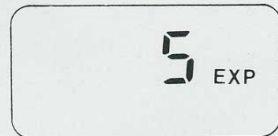


Fig. 38



Fig. 39

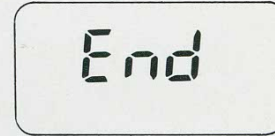
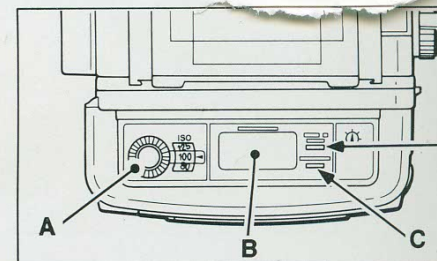


Fig. 40



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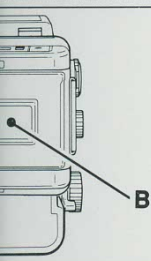


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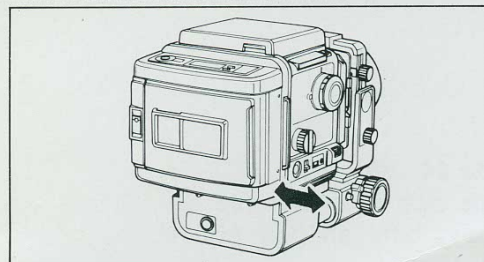


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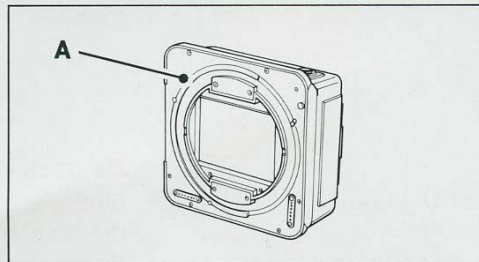


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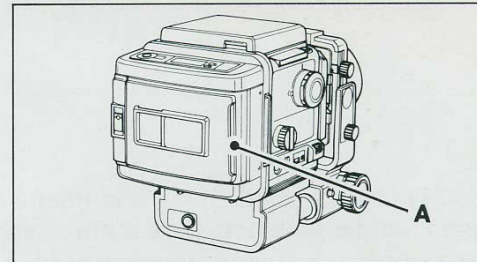


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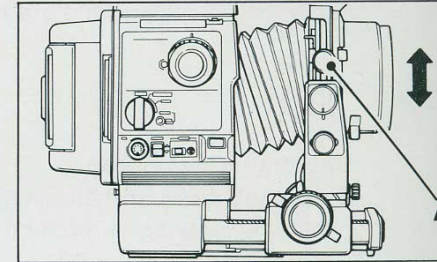


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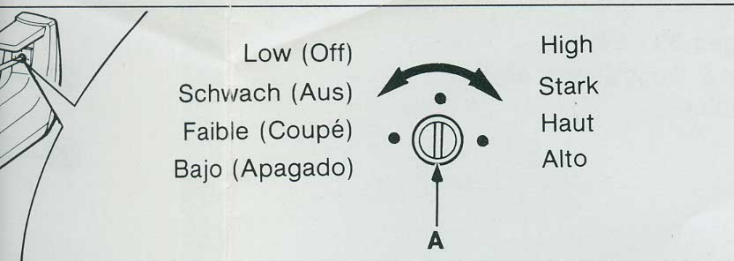


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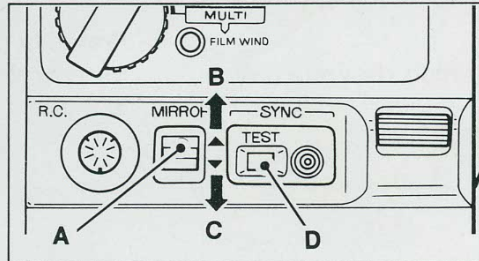


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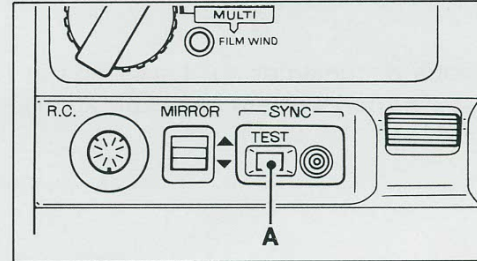
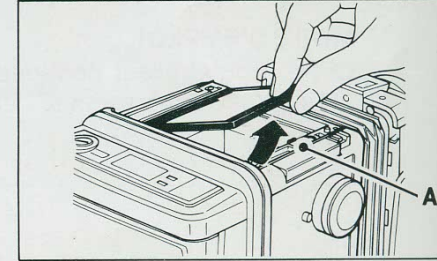


Fig. 55



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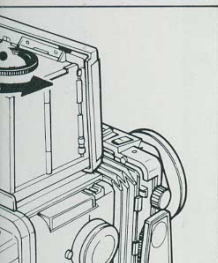


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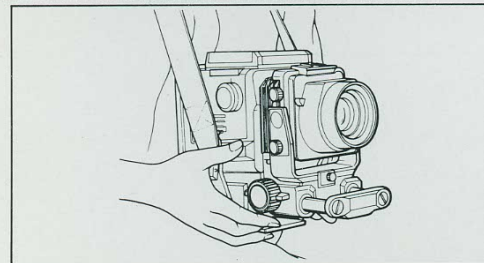
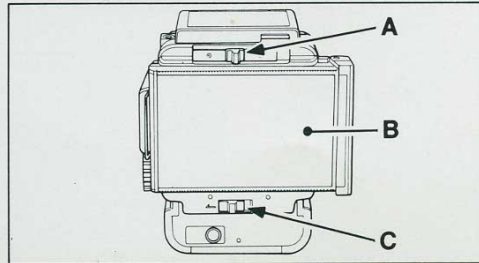


Fig. 61



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NAMES OF PARTS

① AE Mode Lock	
② Film Wind Button	
③ Mode Switch	
④ Dark Slide	
⑤ Remote-control Socket	
⑥ Mirror Up/Down Switch	
⑦ Sync Test Button	
⑧ Sync Socket	
⑨ Shutter Release	
⑩ Stop-down Lever	
⑪ Aperture Selector	
⑫ Focus Brake	
⑬ Focusing Knobs	
⑭ Collapsible Finder Hood	
⑮ Bellows	
⑯ Rise/Fall Knobs	
⑰ Tilt Knobs	
⑱ Shift Knob	
⑲ Swing Lever	
⑳ Battery Lock Button	
㉑ Battery Pack	
㉒ Camera Back Lock	
㉓ Film Reminder Slot	
㉔ Revolving Lock	
㉕ Memo Space	
㉖ Dark Slide Pocket	
㉗ Aperture Indicator Window	
㉘ Lens Lock	

- ②⑨ Spirit Level
- ③⑩ Film Speed Selector
- ③① LCD Exposure Counter
- ③② Hotshoe
- ③③ Lens Lock Release
- ③④ Finder Lock
- ③⑤ Stand-by Monitor
- ③⑥ Shutter Speed Selector
- ③⑦ Incorrect-exposure Warning Monitor
- ③⑧ Film Transport Indicator
- ③⑨ Total Shots Indicator Button
- ④① Call/Light Button

SPECIAL FEATURES

The GX680 Professional is designed primarily for taking studio photographs which constitute the bulk of the work done by professional photographers, and studio work consists mainly of portrait, still life, and merchandise photography that invariably demands extremely subtle lighting and sophisticated photographic techniques.

Equipped to meet the most critical professional requirements and built for ease of use to enable the user to concentrate heart and soul on his subject, it is truly a "professional camera for the pros." The professional photographer who holds the GX680 in his hands is sure to be inspired by a new creative urge.

1. 6 X 8 cm — a new professional format

This is an ideal format for subject framing, print cropping, and press trimming (the actual picture size is 56 X 76 mm). The camera's revolving back lets you freely use the frames either vertically or horizontally.

2. Motor-drive SLR system lets you concentrate on your subject

Built for the pro and with emphasis on ease of use, its motor drive for rapid-sequence shooting, electronically controlled interlens shutter, and SLR focusing system free you from mechanical distractions and let you concentrate heart and soul on your subject.

3. Built-in revolutionary professional features

- (1) Fully automatic film transport — there is no precise film start-mark setting to do.
- (2) Incorrect-exposure warning monitor warns you against incorrect exposure, non-exposure, and faulty flash synchronization.
- (3) Sync test button lets you test flash discharge and sync-cord synchronization.
- (4) Last-frame warning buzzer alerts you as soon as the last frame moves into shooting position.

(5) Stand-by monitor tells you at a glance that all is ready for shooting.

4. Camera-front movements permit the use of sophisticated photographic techniques

The camera front can be moved to control image sharpness and to change the shape and position of objects in the picture. This is a professional-specification camera with an electronically controlled shutter and a newly developed group of interchangeable lenses having an image circle equivalent to that of 4 X 5-format lenses that have made it possible for the first time to use various camera movements with an SLR camera.

5. A full-fledged professional system camera

A group of lenses, a variety of film holders, a remote-control shutter release and various other accessories for expanding the camera's picture-taking scope, which were developed after thorough researches into professional needs, are available to the user.

CAMERA PARTS AND THEIR FUNCTIONS

① AE Mode Lock

For locking the camera in (and releasing it from) the AE mode.

② Film Wind Button

For advancing the film to the next frame after taking multiple-exposure shots with the camera set to the Multi mode.

③ Mode Switch

For switching the camera off, as well as for setting it to the S (single frame), C (continuous exposure), and M (multiple exposure) modes.

④ Dark Slide

The film holder can be changed only after the sliding cover has been inserted. To prevent exposing the film inadvertently to light, the sliding cover is made to interlock with a safety device when the film holder is dismounted so that it cannot be pulled out.

To simplify inserting the sliding cover, the cover-slot inlet is provided with a white mark and a guide.

⑤ Remote-control Shutter Release Socket

For connecting the camera's special remote-control shutter release.

⑥ Mirror Up/Down Switch

For switching the mirror up and down.

⑦ Sync Test Button

For testing the flash without using the shutter release. It can be used for measuring the flash exposure range from camera position, as well as for checking sync cord severance and faulty cord connection.

⑧ Sync Socket

Since the sync socket is located on the camera body, the lens can be changed with the sync cord connected in spite of the fact that the camera is an interlens-shutter camera.

⑨ Shutter Release

It is operated by pressing it down with the right thumb so that the camera can be kept still even when taking hand-held shots.

⑩ Stop-down Lever

It lets you preview the depth of field of your picture through the viewfinder quickly and easily.

⑪ Aperture Selector

It is located on the lens underside to prevent moving it inadvertently and is provided with click stops at each step.

⑫ Focus Brake

It keeps the lens fixed in precise focus.

⑬ Focusing Knobs

Two large knobs, one on each side of the camera, let you focus the lens easily.

⑭ Collapsible Finder Hood

It springs up and folds down with a finger's touch.

⑮ Bellows

You can change the bellows to suit the situation — to wide-angle bellows if you are using camera-front movements, and to long bellows if you are taking close-ups.

⑯ Rise/Fall Knobs

To use the rise or fall movement to change the position of the objects in your picture, loosen these knobs.

⑰ Tilt Knobs

To tilt the camera front upward or downward to adjust top-to-bottom sharpness, loosen these knobs.

⑱ Swing Lever

To swing the camera front to the right or left to adjust right-to-left sharpness, push the swing lever down.

⑲ Shift Knob

To shift the camera front laterally to the left or right to change the position of the objects in your picture, loosen this knob.

⑳ Battery Lock Button

For releasing the battery lock to disengage the battery pack or DC power supply connector from the camera.

㉑ Battery Pack

Quick-charging this special 7.2-volt Ni-Cd battery pack for an hour will let you take about 1,000 shots.

㉒ Camera Back Lock

To open the camera back, erect the lock and push it down. This two-step action is designed to prevent accidental opening of the camera back.

㉓ Film Reminder Slot

Tear off the film-box top and insert it in this slot so that you won't forget

which film you are using.

㉔ Revolving Lock

To dismount or revolve the film holder, release this lock by pushing it in.

㉕ Memo Space

You can jot down exposure notes in this space with a pencil and erase them with a rubber eraser.

㉖ Dark Slide Pocket

When taking pictures, pull out and insert the sliding cover in this pocket so that you won't misplace or lose it.

㉗ Aperture Indicator Window

The aperture you have selected will appear in this acrylic-resin window.

㉘ Lens Lock

It locks the mounted lens securely in place.

㉙ Spirit Level

It lets you keep the camera level on a tripod or camera stand.

㉚ Film Speed Selector

It lets you set the camera for the speed of the film loaded in it from ISO 25 to 1600 in 1/3-step increments. (It links the film speed to the incorrect-exposure warning monitor and AE finder).

㉛ LCD Exposure Counter

A large-size LCD shows whether the film is advancing or not. It also shows the total number of shots taken.

㉜ Hotshoe

Located in the center of the lens mountings, it moves in unison with the lens' optical axis during camera-front movements.

㉝ Lens Lock Release

To activate the lens lock, the lens lock release must first be pushed in. This two-step action is used to prevent disengaging the lens inadvertently.

㉞ Finder Lock

To dismount the finder, just push in the finder lock.

㉟ Stand-by Monitor

Its LED indicators show the condition of the battery pack, the camera's readiness to take pictures, as well as any abnormal camera behavior.

㊱ Shutter Speed Selector

It can be set to B, 8 to 1/400-second, and AE (Auto). The AE mode is operative only when the AE finder is mounted.

㊲ Incorrect-exposure Warning Monitor

It detects the amount of light reflected by the film by means of an internal light sensor. If the exposure setting is within two stops over or under, it will spell out "EXP" in green letters, and if the exposure setting is more than two stops over or under, it will show a plus (+) or minus (-) sign with its LEDs. It shows aperture and shutter-speed mis-

settings immediately after the shot is taken. When shooting with the remote-control shutter release, and the exposure setting is more than two stops over or under, it emits an audible electronic warning. (Its coupling range is from EV 4 - 18, ISO 100).

38 Film Transport Indicator

It can tell you accurately whether the film is advancing or not because it is connected directly to the exposure counter's roller shaft and makes approximately one full turn as each frame is advanced.

39 Total Shots Indicator Button

By counting the number of frames advanced by each film holder, it shows on an LCD the aggregate number of frames advanced in units of 100 so that you'll know whether the camera needs overhauling or periodical maintenance.

40 Call/Light Button

Pressing in this button will light up part of the LCD so that you can check the exposure counter even in the dark. If the film holder is detached from the camera, it will show the number in the counter with its built-in back-up battery (the lamp will not turn on in this case).

I. GETTING READY TO TAKE PICTURES

1. MOUNTING THE CAMERA ON A TRIPOD OR CAMERA STAND (Fig. 1)

The camera is provided in the bottom with a 1/4-inch and a 3/8-inch tripod socket.

- Be sure to use a heavily-built tripod or camera stand that is equipped with a sturdy mounting head.

3/8-inch Tripod Socket (Fig. 1-A)

1/4-inch Tripod socket (Fig. 1-B)

2. POWER SOURCE

The GX680 can be used with a special Battery Pack or an A.C. power source to suit your convenience.

- To use an A.C. power source, you'll have to use the camera's special DC Power Supply unit.
- The Battery Pack can be charged with the camera's special Battery Charger.

(1) Using the battery pack (Figs. 2 & 3)

First, charge the Battery Pack then mount it on the camera as follows: Align the back end of the Battery Pack with the reference line on the left side of the camera body then slide it back toward the Film Holder.

Reference Line (Fig. 2-A)

To dismount the Battery Pack, slide it forward toward the lens while pressing in the Battery Unlock Button.

Mounting (Fig. 3-A)

Battery Pack (Fig. 3-B)

Dismounting (Fig. 3-C)

Battery Unlock Button (Fig. 3-D)

(2) Using an A.C. power source (Fig. 4)

Fit the DC Power Supply's connector onto the left side of the camera body in the same way as the Battery Pack, plug the A.C. cord into a wall outlet, and turn on the DC Power Supply's main switch.

DC Power Supply Connector (Fig. 4-A)

Connector Cord (Fig. 4-B)

Notice:

You cannot mount the Battery Pack or fit on the DC Power Supply's connector with the bellows compressed. You'll have to first draw out the lens assembly.

3. MOUNTING AND DISMOUNTING THE LENS

(1) Mounting (Fig. 5)

Lens Lock Release (Fig. 5-A)

Lens Lock (Fig. 5-B)

While pushing the Lens Lock Release toward the camera back, lift up the Lens Lock. The Lens Lock will now remain in lifted position. Next, hold the lens with the aperture scale up, hook the lensboard bottom on the lens mounting then press the lens against the lens mounting. The Lens Lock will automatically return to locking position to lock the lens in place.

Notice:

If the lens is not correctly mounted, faulty connection will cause the Stand-by Monitor to blink, so you'll have to remount the lens correctly.

(2) Dismounting (Fig. 6)

While supporting the lens with one hand, push back the Lens Lock Release and lift the Lens Lock with the other. That's all.

Notice:

To prevent dropping the lens, be sure to support it with one hand while dismounting it.

4. MOUNTING AND DISMOUNTING THE FILM HOLDER AND REVOLVING IT

(1) Mounting (Fig. 7)

Line up the upper edge of the Film Holder with the hyphenated reference line on the Camera Back and, while pressing the Film Holder against the Camera Back, turn it toward the right (See arrow) so that it locks into horizontal position with a click. (You'll have to press in the Revolving Lock to turn the Holder).

Hyphenated reference line (Fig. 7-A)

Dismounting (Fig. 7-B)

Mounting (Fig. 7-C)

Revolving Lock Release (Fig. 7-D)

(2) Dismounting (Fig. 8)

First, make sure the Dark Slide is inserted in the Film Holder. Next, release the Revolving Lock by pressing it in, then turn the Film Holder 45° to the left and dismount it.

The Film Holder is set horizontally (Fig. 8-A)

(3) Revolving (Figs. 9 & 10)

To change the position of the Film Holder from horizontal to vertical, turn it 90° to the right, and from vertical to horizontal turn it 90° to the left. (You'll have to press in the Revolving Lock to do it.) It will fall into the correct vertical or horizontal position with a loud click.

- Revolving can be done with the Sliding Cover removed.
- You'll have to press in the Revolving Lock to mount, dismount, and revolve the Film Holder, but once you press it in and move the Holder even slightly, you can take your finger off it. There is no need to hold it down.

Vertical to horizontal (Fig. 9-A)

Horizontal to vertical (Fig. 9-B)

Revolving Lock (Fig. 9-C)

The Film Holder is set vertically (Fig. 10-A)

5. ATTACHING AND DETACHING THE REMOTE-CONTROL SHUTTER RELEASE (Fig. 11)

To attach, plug it into the socket marked RC in the lower right hand side of the camera. To detach, just pull it out.

Remote-control Shutter Release (Fig. 11-A)

II. LED INFORMATION PANEL

1. STAND-BY MONITOR

The Stand-by Monitor's LED indicators will show you the condition of the Battery Pack, whether the camera is ready to take pictures or not (whether the lens and Film Holder are properly mounted or not, whether the Sliding Cover is in or not, and whether the Shutter Speed Selector is set to the selective or AE mode), and whether the camera is behaving normally or not (action of the shutter blades, movements of the mirror and douser, and behavior of the film transport unit).

(1) Battery condition (Fig. 12)

Green LED (Battery power sufficient) (Fig. 12-A)

Orange LED (Battery power low. Battery needs charging) (Fig. 12-B)

● Battery power sufficient:

If the battery pack is sufficiently charged, a green LED will light up or blink

(Fig. 12).

● Battery power low:

If the battery pack is insufficiently charged, an orange LED will light up or blink (Fig. 12).

Battery power		Readiness to take pictures	
Sufficient → Green LED	Lights up	→ Yes	
	Blinks	→ No	
Low → Orange LED	Lights up	→ Yes	
	Blinks	→ No	

Notice:

- If the LED lights up, the camera is ready to take pictures; if it blinks, the camera is not ready.
- If you are using the DC Power Supply, it is the green LED that will always light up or blink to tell you that sufficient voltage is available.
- If the Battery Pack is charged for an hour in normal temperature, it will let you take about 1,000 shots (provided the batteries are new). If the orange LED has just started to light up or blink, it means the Battery Pack is insufficiently charged but there is still enough power left in it to take about 50 shots. If the battery voltage falls below the required level, the camera won't operate and neither the green nor the orange LED will turn on any more.

(2) Readiness to take pictures

The green or orange LED will tell you whether you can just press down the Shutter Release to take your picture or not. This signal is based on whether the Lens and Film Holder are properly mounted or not, whether the Sliding Cover is in or out, and whether the Shutter Speed Selector is set to the selective or AE mode.

● Camera ready

If the camera is ready to take pictures, either the green or orange LED will light up. The color of the LED depends on the condition of the Battery Pack (whether the power is sufficient or low). (Fig. 12).

● Camera unready

If any one of the conditions just mentioned is not in proper order, either the green or orange LED will blink and the camera won't operate. This means you'll have to check whether the Sliding Cover is in or out and whether the Film Holder and Lens are properly mounted or not. Again the color of the LED depends on the power level of the Battery Pack (Fig. 12).

Notice:

- What has just been said about the mounting of the Film Holder applies to only the 120 and 220 film holders; not to the Instant-film Holder.
- If the camera is mounted with the Instant-film Holder, the LED (green or

orange) will always blink, but you can operate the Shutter Release by switching the camera to the Multi mode.

- If you are using the Collapsible Finder Hood and the Shutter Speed Selector is set to the AE mode, the LED (green or orange) will always blink. Be sure to set the Shutter Speed Selector to the AE mode only when you are using the AE Finder.

(3) Abnormal camera behavior (Fig. 13)

Green LED (Fig. 13-A)

Orange LED (Fig. 13-B).....Blink alternately

If the Shutter, Mirror, or Douser behaves abnormally during exposure, the green and orange LEDs will blink alternately, the Electronic Warning Buzzer (3.5 kHz) will buzz for three seconds, and all camera movements will come to a halt. And if there is anything wrong with the Film Holder, the Holder's LCD indicators will blink, the buzzer will sound, and all camera movements will stop.

Notice:

In practically all cases the cause of the trouble signals is faulty Lens or Film Holder contact. If you think that is the trouble spot, dismount the Lens and/or Holder, clean the contact areas with an air blower, and remount them.

- The GX680 monitors the condition of the Mirror, Douser, and Film Transport unit with a photo-coupler and stops all camera movements in case of trouble. This safety measure has been adopted to avoid the worst possible situation that can be encountered in picture taking, that is, making the serious mistake of shooting with a damaged camera and getting unexposed frames.

Notice:

If the Film Holder is mounted without its inner frame, the Electronic Warning Buzzer will also buzz just as though the camera were behaving abnormally. In this case, however, either the green or the orange LED will blink (depending on the condition of the Battery Pack) to warn you that the camera is not ready to take pictures, but the LEDs will not blink alternately.

2. INCORRECT-EXPOSURE WARNING MONITOR

When a subject is photographed, light passes through the lens and exposes the film, but it is reflected back at the same time. The light sensor in the camera body detects the quantity of light that is reflected back and indicates the amount of exposure that has been furnished by means of LEDs.

- The exposure amount furnished is indicated by means of LEDs regardless of the nature of the exposing light, be it daylight, tungsten light, or flash light.

(1) If the green LEDs spell out the letters "EXP" (Fig. 14)

More than 2 stops over (Fig. 14-A)

Within 2 stops over or under (Fig. 14-B)

More than 2 stops under (Fig. 14-C)

If the aperture and shutter speed are set so that exposure will come within 2 stops over or under, green LEDs will spell out the letters "EXP".

(2) If the red LEDs show the plus (+) or minus (-) sign

If the aperture and shutter speed are set so that exposure will be more than 2 stops over or under, red LEDs will show either a plus (+) or minus (-) sign (Fig. 14). This will give you a rough idea (right after you finish taking a shot) of the kind of exposure you will get, and also point out the aperture and shutter-speed setting mistake you made. However, if you are using the Remote-control Shutter Release and the exposure you have set is more than 2 stops over or under, an electronic warning buzzer (700 Hz) will buzz intermittently for five seconds.

Notice:

If the camera is not loaded with film, the internal sensor will measure the light reflected by the film pressure plate, which means the LEDs will invariably show the minus (-) sign.

Film Speed Scale (Fig. 15-A)

Film Speed Selector (Fig. 15-B)

Notice:

- Be sure to set the camera for the speed of the film you are using by turning the Film Speed Selector provided on the Film Holder.
- If you are shooting with instant film, the Incorrect-exposure Warning Monitor will not operate.
- Since the reflection index of roll film may differ by about 1 f-stop between brands, the LED indications should be used only as a criterion.
- The LED indications will also vary depending on the reflectivity of the subject, which could be high key, low key, white, or black.
- The GX680 is factory-adjusted to the film reflectance of Fujicolor Negative Type S and Fujichrome RDP and to the subject reflectance of a standard 18% gray card.
- For the reasons just mentioned, depending on the picture subject and the film that is used, even if the red LEDs show the plus (+) or minus (-) sign, it doesn't necessarily mean that the exposure is always more than 2 stops over or under.

III. BASIC PROCEDURES

1. SETTING THE MODE SWITCH

(1) Off mode (Fig. 16)

Film Wind Button (Fig. 16-A)

Mode Switch (Fig. 16-B)

To turn off the power source, the LED displays, the Film Holder's LCD (liquid-crystal display), and the camera itself, just turn the Mode Switch to OFF.

(2) Single mode

Setting the Mode Switch to the Single Mode will turn on the power and advance 1 frame in about a second each time the Shutter Release is depressed.

(3) Continuous mode

With the Mode Switch set to the Continuous Mode, the film will keep advancing at the rate of 1 frame in about a second as long as the Shutter Release is depressed to let you take rapid-sequence shots.

(4) Instant/Multi mode

To set the Mode Switch to the Instant/Multi Mode, or release it from this mode, slide the Mode Switch Lock toward you and rotate the switch. (Fig. 16)

After shooting in the Instant/Multi mode, the film will not advance.

(5) Using the film wind button

To advance the film a frame after taking a multiple-exposure shot, just press in the Film Wind Button.

- To wind the film in mid-roll, use this button. *Linkhof board*
- If the Mode Switch is set to the Single or Continuous mode, the film will not advance even if the Film Wind Button is depressed.
- If the Mode Switch is switched on and left as it is, it will automatically switch off in 15 minutes.

To switch it on again, first switch it to OFF and then to the mode you want (but this applies only when the camera is being powered by the Battery Pack).

2. USING THE SHUTTER RELEASE (Fig. 17)

If the camera is ready for shooting, just press down the Shutter Release to take your picture.

Shutter Release (Fig. 17-A)

3. USING THE REMOTE-CONTROL SHUTTER RELEASE (Fig. 18)

Plug the Remote-control Shutter Release into the camera's Remote-control Socket (marked RC) and, if the camera is ready for shooting, take your picture by pressing down its Release Button.

The hook on the grip is used for hanging the grip on the tripod's panning rod or some other convenient place when not in use.

If you are using the Remote-control Shutter Release and have set the camera so that exposure will be more than 2 stops over or under, an electronic warning buzzer will turn on to warn you. (To adjust the sound level of the buzzer, see the instructions on page 20).

4. SETTING THE SHUTTER SPEED SELECTOR (Fig. 19)

AE Mode Lock (Fig. 19-A)

Shutter Speed Selector (Fig. 19-B)

The settings possible are B, 8 - 1/400-second, and AE (Auto). Since the shutter is the interlens type, electronic flash will synchronize with all shutter speeds.

If you are using the AE Finder, press in and hold down the AE Mode Lock then turn and set the Shutter Speed Selector to AE (Auto).

To switch the Shutter Speed Selector off the AE Mode, you'll also have to do it while pressing down the AE Mode Lock.

- The Shutter Speed Selector cannot be set to intermediate speeds (speeds not shown on the scale).

5. SETTING THE APERTURE SELECTOR (Figs. 20 & 21)

Aperture Scale (Fig. 20-A)

The aperture is set by using the Aperture Selector located on the side of the lens barrel. Each step is provided with a click stop.

- The aperture can be set to intermediate values (values not shown on the scale).
- Since the GX680 is an interlens-shutter type single-lens reflex camera, focusing is normally done with the aperture wide open. To preview the depth of field of your picture, just push down the Stop-down Lever located on the right hand side of the lens barrel.

Stop-down Lever (Fig. 21-A)

Aperture Selector (Fig. 21-B)

6. TAKING FLASH PICTURES (Figs. 22 & 23)

Hotshoe (Fig. 22-A)

Sync Socket (Fig. 23-A)

Shutter Release (Fig. 23-B)

The GX680 has a Hotshoe on the lens mounting and a Sync Socket on the body. Both are X-contacts. And since the shutter is the interlens type, flash will synchronize with all shutter speeds.

If you are using M-class bulbs, the shutter must be set to 1/30-second or slower.

Caution:

You can use infrared synchronizers that are designed to synchronize cordless flash and camera, but practically all of these devices are equipped with built-in flash. A few of them, however, operate on built-in LEDs and slow-response receivers. Be careful when you use these time-lag units because they can sometimes fail to fire the flash.

7. USING THE FINDER HOOD

(1) Expanding the hood (Fig. 24)

Just lift the hood cover up and it will spring into position by itself.

Opening Notch (Fig. 24-A)

(2) Using the magnifier (Fig. 25)

Putting away the Magnifier (Fig. 25-A)

Magnifier (Fig. 25-B)

Magnifier Lever (Fig. 25-C)

Flipping up the Magnifier (Fig. 25-D)

Collapsing the Finder Hood (Fig. 25-E)

When you look at the camera from the back, you will see a small lever near the Opening Notch in the right hand side of the Finder Cover. To flip up the Magnifier, just slide this lever to the right. To put it away, push down the Magnifier Board.

(3) Folding down the hood

After putting the Magnifier away, place your thumbs against both sides of the Hood along the hinges and push them inward. That's all. The Hood will collapse and fold down by itself.

(4) Mounting and dismounting the finder hood (Fig. 26)

Dismounting (Fig. 26-A)

Mounting (Fig. 26-B)

Finder Lock (Fig. 26-C)

To dismount the Finder Hood, slide it toward the lens while pressing in the Finder Lock (located in front of the LED display sector of the camera body). To mount, insert the hooks in the bottom of the Finder into the holes in the camera body and slide the Finder toward the camera back.

8. FRAMING YOUR PICTURE (Fig. 27)

Field for horizontal framing (Fig. 27-A)

Field for vertical framing (Fig. 27-B)

Horizontal-framing Indicator (Fig. 27-C)

The frames for horizontal and vertical composition are marked out with black lines in the viewfinder. These are used by revolving the Film Holder to the desired position.

When the Film Holder is turned around to horizontal position, a red "horizontal-framing indicating band" will appear in the bottom of the viewfinder. If you don't see this red band, the Film Holder is in vertical position.

Notice:

- Since the mirror length is restricted by the body construction, depending on how far the bellows is drawn out, you may not be able to see the upper edge of the Finder image. With a 250-mm focal-length lens or longer, the upper edge of the Finder image will be rejected even if the lens is set to infinity.
- On account of the restricted mirror, the upper edge of the Finder image

may be rejected when camera-front movements are employed (particularly tilt ups and falls).

- However, since the image circle of the GX680's interchangeable lenses have room to spare even when maximum camera-front movements are employed, the upper edge of the Finder image will register on the film even if it is rejected by the mirror.

9. FOCUSING THE LENS (Fig. 28)

Focusing Knob (Fig. 28-A)

Focus Brake (Fig. 28-B)

Braking Direction (Fig. 28-C)

Focusing Knob (Fig. 28-D)

While looking at the image in the viewfinder, bring it into focus by turning the Focusing Knobs (one on each side of the camera). After you have finished focusing, use the Focusing Brake to prevent focus slippage.

Notice:

To permit camera-front movements with the lens set to infinity, the interchangeable lenses of the GX680 are not provided with an infinity stop.

IV. USING THE FILM HOLDER

(separate film holders for 120 and 220)

1. OPENING AND CLOSING THE CAMERA BACK (Fig. 29)

Erect and push down (Fig. 29-A)

To open the Camera Back, erect the Camera Back Lock and push it down. To close it, replace the Camera Back with the Lock erect then snap down the Lock.

2. INSERTING AND EXTRACTING THE FILM HOLDER'S INNER FRAME (Fig. 30)

Upper surface of the inner frame (Fig. 30-A)

To extract the Inner Frame, squeeze the two center projections (as shown) to release it from the outer frame and pull it out.

To insert, squeeze the center projections inward and push it in. Next, check to make sure it is locked to the outer frame by gripping its center and pulling it.

Notice:

To prevent damage to the rails, the inner frame is factory-packed with milky-white protective film. Be sure to remove it.

3. LOADING THE TAKE-UP SPOOL AND FILM (Figs. 31 & 32)

Film Take-up Gear (Fig. 31-A)

Upper surface of the inner frame (Fig. 31-B)

Spool Holders (Fig. 32-A)

5 1/2" back focus

Bottom surface of the inner frame (Fig. 32-B)

Insert the spool in the Take-up-Gear side and insert the film in the opposite side. Both spool and film are loaded by pulling up the Spool Holders provided on the bottom side of the Inner Frame.

Notice:

The inner frame can be used in both the 120 and 220 Film Holders.

4. POSITIONING THE FILM START MARK (Fig. 33)

Since a photo-coupler in the Film Holder keeps constant check on the paper leader and trailer and senses whether there is film in the camera or not, the start mark in the Inner Frame and the film start mark do not have to be lined up precisely in order that the camera can position the first frame correctly. You can just wind the paper leader on the take-up spool and line up the film start mark with the Inner Frame's start mark in an approximate manner. Be careful, however, because the first frame could be spoiled by exposure to light if the film start mark is wound past the Inner Frame's start mark.

- In the case of 220 roll film, there is quite a bit of space between the tip of the paper leader and the start mark. You can therefore wind the front end of the paper leader on the take-up spool and insert the Inner Frame into the outer frame (Film Holder) even if you cannot see the film start mark at all.

Film-loading diagram (Fig. 33)

Inner Frame's start mark (Fig. 33-A)

5. FILM HOLDER'S LIQUID-CRYSTAL DISPLAY

To activate the Film Holder's LCD, mount the Holder on the camera and switch the Mode Switch from OFF to the Single or any other mode.

(1) Reading the exposure counter

If the Holder is not loaded with film, or if there is film in the Holder but it has not been advanced, you will see the "0 EXP" sign in the Exposure Counter.

- If the Exposure Counter is showing the "0 EXP" sign, you can open the Camera Back without spoiling the film (Fig. 34).
- As soon as the film starts winding, the "⊕...⊕" sign in the Exposure Counter will blink to tell you the film is advancing. This sign will appear each time a frame is advanced (Fig. 35).

Notice:

Regarding the start of film wind-up, see paragraph 6.

- As the film advances and the first frame is set into position for exposure, the "1 EXP" sign will appear in the Counter (Fig. 36). The same goes for the other frames. For instance, after frame No. 4 is exposed and frame No. 5 moves into position for exposure, the Counter will show the "5 EXP" sign (Fig. 37).

- The Exposure Counter will count up to "9 EXP" in the case of 120 roll film, and up to "18 EXP" if you are using 220 roll film.
- As soon as the "9 EXP" (120 roll film) or "18 EXP" (220 roll film) sign appears in the Counter, the Last Frame Warning Buzzer (1 kHz) will buzz intermittently for 2 seconds to tell you there is only one frame left (Fig. 38).
- After the last frame is exposed, the Counter will show the "End" sign, the film will wind itself up to its very end, and the camera mechanisms will come to a halt (Fig. 39).

(2) Total shots indicator (Figs. 40 & 41)

Total Shots Indicator Button (Fig. 40-A)

Film Speed Selector (Fig. 40-B)

Call/Light Button (Fig. 40-C)

Total Shots Indicator Window (Fig. 41)

Pressing in the Total Shots Indicator Button will show you in units of 100 the total number of frames that has been advanced (total number of shots taken). This feature has been incorporated to tell you when the camera needs overhauling or periodical maintenance.

Notice:

Though new, some units will show that they have been factory-tested up to about 200 shots.

(3) Call/Light Button (Fig. 42)

● Film holder mounted

With the Film Holder mounted on the camera, the LCD lamp will turn on to let you see the Exposure Counter even in the dark.

● Film holder dismantled

If the Film Holder is dismantled from the camera, you'll have to press in the Call/Light Button to activate the back-up lithium memory battery that is built into the Holder in order to see the number of frames that has been exposed.

6. AUTOMATIC FIRST-FRAME POSITIONING

After loading film in the Film Holder, turn on the Mode Switch, pull out the Sliding Cover, and close the Camera Back. As soon as you complete these three steps, the film will automatically advance into position for the first shot.

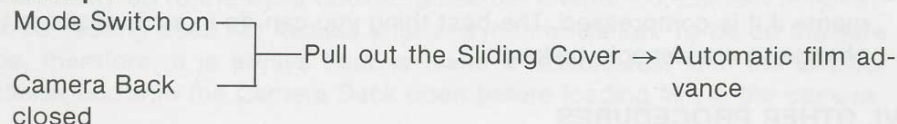
● Example 1

Mode Switch on

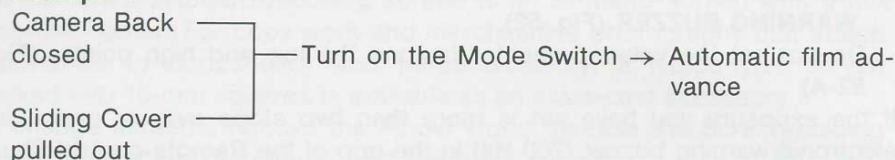
Sliding Cover
pulled out

Close the Camera Back → Automatic film advance

● Example 2



● Example 3



Notice:

The above examples apply to both the 120 and 220 roll film holders.

7. SETTING THE FILM SPEED SELECTOR (Fig. 43)

Film Speed Scale (Fig. 43-A)

Film Speed Selector (Fig. 43-B)

The Film Speed Selector lets you set the camera for film speeds ranging from ISO 25 to 1600 in 1/3-step increments.

- Since the Film Speed Selector is interlocked with the Incorrect-exposure Warning Monitor and AE Finder, be sure to set the camera for the speed of the film loaded in it.

8. USING THE MEMO SPACE AND FILM REMINDER SLOT (Fig. 44)

Film Reminder Slot (Fig. 44-A)

Memo Space (Fig. 44-B)

The white Memo Space is used for jotting down exposure notes, etc. Pencil notes can be erased with a rubber eraser.

The Film Reminder Slot is used for inserting the top cover of the film box so that you won't forget which film you are using.

9. SLIDING IN, SLIDING OUT, AND PUTTING AWAY THE DARK SLIDE (Figs. 45 & 46)

● Sliding in and sliding out

Fit the leading edge of the Dark Slide to the slot guide and push it all the way in. The slot inlet is marked white so that you can see it even in dim light.

To pull out the Dark Slide, hold its finger grip.

- When the Film Holder is dismounted from the camera, a safety device locks the Dark Slide so that it cannot be pulled out.
- The Dark Slide has no front or back side (both sides are the same).

Notice:

If the Film Holder is dismounted from the camera but you want to pull out

the Dark Slide, just press in the Lock Pin and pull it out.

Lock Pin (Fig. 46-A)

● Putting away the Dark Slide (Fig. 47)

Sliding-cover Pocket (Fig. 47-A)

When taking pictures, pull the Dark Slide out and keep it in the Dark Slide Pocket so that you won't misplace or lose it.

10. WINDING AND UNLOADING THE FILM

Since the GX680 is a motor-driven camera, the film will automatically advance to the next frame each time the Shutter Release is depressed. As soon as the Exposure Counter shows the "End" sign, open the Camera Back, take out the Film Holder's inner frame, and unload the film. Next, to prevent the film from loosening, seal it tightly with the End Seal.

11. A WORD ON THE BACK-UP LITHIUM BATTERY

The back-up lithium battery serves as the power source for the Film Holder's "Exposure Memory" and "Exposure Counter" when the Holder is dismounted from the camera (it operates only as long as the Call/Light Button is depressed).

It also serves as the power source for the "Exposure Memory" when the Holder is mounted on the camera but the power supply from the camera has been cut off, that is, the Mode Switch has been turned off. If this battery is drained, the camera will therefore lose part of its faculties. It has a life span of about five years.

If the LCD indicators appear suddenly light and faded when the Holder is dismounted from the camera compared to the way they appeared when the Holder was mounted, the back-up lithium battery is nearly spent and needs changing. Your Fuji Service Station will replace it for you at a reasonable cost.

V. CAMERA MOVEMENTS

In normal photography, the lens optical axis passes through the center of the film at right angles. Camera movements are used to take the optical axis away from film center, to cross the lens optical axis and film surface diagonally, etc. to control image perspective and sharpness. They let you change the shape of objects in your picture, shoot subjects that have depth to them but which are sharply focused from one end to the other, as well as control the position of objects in your picture without changing the camera position or angle.

The main camera movements are the tilt and swing which involve an optical twist and turn, and the rise, fall, and shift which involve a parallel movement of lens and film, and the generic term that encompasses all these deviations from normal is "camera movement."

MIN 7 1/2 - 8" 240 40 200 MM

1. RISE AND FALL (Fig. 48)

These movements are made by loosening the Rise/Fall Knobs located on both sides of the lens mounting and raising or lowering the lens face parallel with the line of the film plane. The rise is an upward, and the fall a downward movement. They are generally used to make tall buildings appear vertical in your picture and to improve the figure of portrait subjects.

Rise/Fall Knob (Fig. 48-A)

2. SHIFTS (Fig. 49)

These movements are made by loosening the Shift Knob and moving the camera front to the left or right parallel with the line of the film plane by pushing the Shift Frame. It is used to change the position of objects in your picture without moving the camera.

- It can also be used to correct the position of the optical axis when using the technique called "swing".

Shift Frame (Fig. 49-A)

Shift Knob (Fig. 49-B)

3. TILTS (Fig. 50)

To tilt, loosen the two Tilt Knobs, one on each side of the camera, and turn the camera front up or down. These movements are used to control the top-to-bottom sharpness of subjects having depth without stopping down the aperture.

Tilt Knobs (Fig. 50-A)

4. SWINGS (Fig. 51)

To swing, push the Swing Lever (located next to the Focusing Knob on the left side of the camera body) and, at the same time, turn the camera front to the left or right. These movements are generally used to adjust right-to-left sharpness, but they can also be used to control image perspective.

Swing Lever (Fig. 51-A)

- The camera movements described in the foregoing paragraphs are almost always used in combination. Regarding details concerning the principles and techniques involved, please refer to a more complete treatise on the subject. Camera-magazine publishers should be able to tell you where you can obtain such material.

Notice:

- Be sure to tighten the camera-movement knobs before you start taking pictures. If the knobs are loose, you may jiggle the camera when you take your picture.
- After you are through taking pictures, be sure to return all of the parts used to employ camera movements back to their original positions. If you don't, you may get partly-fuzzy pictures, that is, pictures with de-graded edges.

- With a standard bellows, you won't be able to use full camera movements if it is compressed. The best thing you can do in such cases is to change to a wideangle bellows.

VI. OTHER PROCEDURES

1. ADJUSTING THE SOUND LEVEL OF THE INCORRECT-EXPOSURE WARNING BUZZER (Fig. 52)

Do not set the volume adjuster beyond the low and high points. (Fig. 52-A)

If the exposure you have set is more than two stops over or under, an electronic warning buzzer (700 Hz) in the grip of the Remote-control Shutter Release will turn on and buzz intermittently for five seconds; and you can adjust its sound level if you wish. To reduce the volume of the sound or switch it off, turn the adjuster to the left, and to increase the volume, turn it to the right.

To avoid damaging the buzzer, however, do not set the adjuster beyond the left and right stop points (marked with dots).

2. SHOOTING WITH THE MIRROR UP (Fig. 53)

Mirror Up/Down Switch (Fig. 53-A)

Mirror up (Fig. 53-B)

Mirror down (Fig. 53-C)

Sync Test Button (Fig. 53-D)

If you are taking long-exposure shots such as close-ups, or if you want to avoid the time lag of the mirror movement to shoot a fast-moving subject, just shoot with the mirror up. This is the way to do it: After focusing the lens through the Finder, bring the mirror up by pushing up the Mirror Up/Down Switch then take your picture. After shooting with the mirror up, bring the mirror down again by pushing the Switch down. Remember you cannot take two pictures in succession with the mirror up.

- If you are using a large size lens that is mounted on a Linhof board, you'll have to shoot with the mirror up, but you'll need an LF Lensboard Adapter (available as an extra-cost accessory) to mount the lens.

3. USING THE SYNC TEST BUTTON (Fig. 54)

Sync Test Button (Fig. 54-A)

This button lets you test from camera position the flash that is clipped into the Hotshoe or connected to the Sync Socket with a cord.

It can be used to measure the exposure range of the flash and to test-fire it without using the Shutter Release, as well as to check sync cord severance and faulty cord connection.

Notice:

Synchronization test with the Sync Test Button consists of checking the

conductivity up to the Sync Socket. Since the shutter's X-contact is not involved, testing does not include shutter synchronization. To be on the safe side, therefore, it is always best to make a reliable test with the Shutter Release and with the Camera Back open before loading film in the camera.

4. CHANGING THE FOCUSING SCREEN (Fig. 55)

The camera's standard focusing screen is an all-matte screen with a microprism center. For copy work and merchandise photography that attach importance to horizontality and perpendicularity, a lattice-type screen marked into 10-mm squares is available as an extra-cost accessory. To change screens, remove the Finder Hood, release the Screen-holding Lever, lift up the screen frame, and insert the screen.

Screen-holding Lever (Fig. 55-A)

5. CHANGING THE BELLOWS (Fig. 56)

Front Lock Lever (Fig. 56-A)

- If you are using camera-front movements, use the Wideangle Bellows and if you are taking close-ups, use the Long Bellows. To change bellows, first push up the Front Lock Lever and dismount the camera front.
 - Next, push up the Back Lock Lever and dismount the bellows (Fig. 57). To mount the bellows, repeat the same procedures in reverse then push down the Front and Back Lock Levers.
 - Be careful how you mount the bellows because the Stand-by Monitor will not operate if it is not correctly mounted.
- Back Lock Lever (Fig. 57-A)

6. USING THE EXTENSION RAILS (Fig. 58)

(For taking close-ups)

Like the view camera, the GX680 lets you expand your close-up shooting scope with its extension rails.

With a coin, loosen the screws on the front ends of the Focusing Rails and remove the Front Bar. Next, screw the Extension Rails (together with the Front Bar) to the Focusing Rails. (The Extension Rails are available as an extra-cost accessory).

Screw (Fig. 58-A)

Front Bar (Fig. 58-B)

7. CHANGING THE FINDER HOOD'S MAGNIFYING GLASS (Fig. 59)

Diopter-correction lens (magnifying glass) (Fig. 59-A)

Turn left to dismount (Fig. 59-B)

The GX680's Finder Hood is equipped with a 2.5X-magnification, -1 diopter magnifying glass. Magnifying glasses ranging from -4 to +3 diopters are also available (at an extra cost) so that you can choose one that exactly fits your eyesight. The magnifying glass is secured to the mounting plate

by means of a bayonet screw. To dismount, you just turn it to the left.

8. TAKING HAND-HELD SHOTS (Fig. 60)

To keep the camera still when taking hand-held shots, hold it firmly with both hands, focus the lens with the left hand and operate the Shutter Release with the right thumb.

You can keep it even steadier by using the camera's "Neckstrap Set". The "Neckstrap Set" is an extra-cost accessory.

9. TAKING PICTURES WITH INSTANT FILMS (Fig. 61)

The camera's Instant Film Holder lets you take pictures with Fuji Instant Color Film FP-100, Fuji Instant B/W Film FP-3000, and other peel-apart instant films of the same size as those mentioned.

To shoot, you'll have to set the camera's Mode Switch to the "Multi" mode. With a 73 X 78 mm film, you'll get a practically square picture of 8 X 8 cm size, but the corners will be slightly cut off. Since the picture size will be 8 X 8 cm or thereabouts, there is no revolving of the camera back. The Instant Film Holder is mounted and dismounted by means of the Top and Bottom Holder Locks.

Holder Lock (Fig. 61-A,C)

Instant Film Holder (Fig. 61-B)

10. USING LARGE SIZE LENSES

The LF Lensboard Adapter (optional extra) lets you take pictures with large-size lenses mounted on a Linhof Technika type lensboard. But since the shutter system differs, shooting must be done with the mirror up.

The large-size lenses that can be used are:

With standard rails: Fujinon W 180, A 180, SF 180

With extension rails: Fujinon W 210, W 250, A 240, T 300

Notice:

If you are using lenses other than those just mentioned, check to make sure the lens back element does not protrude from the back of the lensboard because it can knock against the mirror and damage it.

CAMERA CARE

Your camera is a precision instrument that needs careful handling. The following will show you how to care for your camera.

- Wipe off rain and water droplets from your camera with a piece of clean, dry, lint-free cloth.
- After taking pictures in salt-water atmosphere near the ocean, wipe off the camera exterior thoroughly with a clean piece of cloth.
- Do not keep or leave your camera where it is hot or moist. Be careful because in hot weather the temperature in a closed car can build up to

damaging proportions.

The gasses emitted by vermicides such as mothballs, etc. are detrimental to both film and camera. Do not keep your camera in your wardrobe drawer.

- Do not use solvents (such as thinner or alcohol) to remove smudges from your camera.
- Remove dust and debris from the lens glass and viewfinder with a lens brush and an air blower. Fingermarks and smudges are removed by wiping gently in a circular motion with a clean wad of cotton moistened with lens cleaning fluid (commercially available). Always start from the center then gradually move out to the edges.
- Soil and dust in the contacts are usually the cause of all electrical troubles. If any symptom pointing to electrical trouble is detected, check the battery contacts and other contact points for battery leakage, hand grease, rust from salt and harmful gases, and dust and debris. (Dust and debris are removed with an air blower). If the symptom persists even after cleaning, bring the camera to your Fuji Service Station for inspection.
- The mirror and the backside of the focusing screen are prone to abrasion. Keep your fingers off these parts.
- Immersing your camera in water will usually result in damage that is beyond repair. In case you drop your camera in water, take it immediately to your Fuji Service Station to see what can be done.
- To keep your camera in top shape at all times, have it checked by a qualified technician about once a year or at least once in two years.
- If you haven't used your camera for a long time, or if you are using it in an important assignment, be sure to check it thoroughly and take some test shots before using it.

A word on the LCD

- At about 60°C the LCD might blackout, but it will return to normal as soon as the camera is brought back to where the temperature is normal.
- In low temperature, the LCD might react sluggishly, but this is a natural phenomenon and can be ignored.

A word on the back-up battery

- A super-lithium ER-3 battery is built into the Film Holder during manufacture to supply back-up power. It is used when the Film Holder is detached from the camera body, as well as for remembering the number of frames exposed, and has a life span of about five years. If the Exposure Counter behaves abnormally, bring the Film Holder to your Fuji Service Station to have the back-up battery replaced.

If the LCD indicators appear light and faded, the back-up battery is nearly spent. If the indicators appear suddenly light and faded when the Film Holder is dismounted (when it is using the back-up battery) compared to the way they looked when the Holder was mounted (when the

power was supplied by the camera body), the back-up battery needs changing. Your Fuji Service Station will replace it for you at a reasonable cost.

SPECIFICATIONS

● Description

6 X 8 cm format, interlens-shutter, single-lens reflex camera.

● Frame Size

6 X 8 cm (56 X 76 mm actual picture size); revolving back (for horizontal and vertical frame exposure).

● Film

- * 120 half-length roll film (4 exposures).
 - * 120 roll film (9 exposures).
 - * 220 roll film (18 exposures).
 - * Instant film (Fuji FP-series instant films and other peel-apart instant films of the same size).
- Separate film holders for 120, 220, and instant films.

● Lens

Interchangeable.

Standard lens: EBC Fujinon GX 135 mm, f/5.6

Mounting: By means of interchangeable lensboards.

Filter: 82 mm screw diameter, 85 mm outer diameter (same for all lenses).

● Shutter

No. 1, electronically-controlled interlens shutter; B, 8 - 1/400-sec. shutter speeds; provided with aperture selector and depth of field preview lever; interchangeable lenses' built-in motor cocks and releases the shutter.

● Synchronization

X-contact; flash synchronizes with all shutter speeds; 1/30-sec. or slower shutter-speed synchronization with M-class bulbs; provided with hotshoe (on lens mounting), sync socket (on camera body) and sync test button.

● Shutter Release

Electromagnetic operation; provided with special remote-control shutter release (1 or 5 meter optional cord length).

● Mirror

Motorized auto return; mirror can be raised or lowered by electric switch.

● Multiple Exposure

By setting the mode switch to "multi"; automatic film advance after multiple exposure by pressing in camera's film wind button.

● Viewfinder

Single-lens reflex waist-level screen.

- * interchangeable focusing screens (standard screen is a matte screen with microprism center).
- * Standard finder hood is the collapsible, one-touch folding and erecting

type; equipped with a 2.5X-magnification, -1 diopter magnifier for fine focusing; interchangeable with -4, -3, 0, +1, +2, and +3 diopter magnifiers.

- * AE finder and Angle finder (optional).
- * 97% field of view (covers 8 X 8 cm format with room to spare).
- * Horizontal indicator visible in viewfinder when film holder is in horizontal position.

● Film Holder

Revolving, interchangeable film holder (separate holders for 120 and 220 roll film, but same inner frame).

- * Holder has built-in, back-up lithium battery (ER-3) for memory purpose; about 5-year battery life; battery replaceable at reasonable cost.
- * Provided with film speed selector (sets to ISO 25 - 1600 in 1/3-step increments), sliding cover pocket, memo space (for jotting down exposure notes), film advance indicator, and film reminder slot.

● Film Advance

Automatic first-frame positioning with both 120 and 220 film holders (start-mark setting unnecessary).

- * Motor drive (provision for switching to single, continuous, and multi modes).
- * Last-frame warning buzzer.
- * Automatic film rewind.
- * About 1-fps film advance speed.

● Exposure Counter

LCD shows number of exposures, film advancing or not, end of film, and total shots taken; provided with illumination (lamp).

● Focusing

By extending and compressing the bellows by means of focusing knobs on both sides of the body; provided with focus brake; 65 mm maximum bellows extension; provision for using extension rails (40 mm length); interchangeable bellows (optional wideangle and long bellows).

● Camera Movements

Equipped for employing camera-front movements.

- * 15 mm left and right shifts.
- * 15 mm rise.
- * 13 mm fall.
- * 12° left and right swings.
- * 12° up and down tilts.

Note:

Depending on the lens being used, maximum movements may not be possible if shifts and turns are combined.

● Exposure Monitor

Provides over- and underexposure warning by means of LEDs by measuring the light intensity reflected by the film surface (EV 4 - 18, ISO 100);

over- and underexposure warning by means of an electronic buzzer when using the remote-control shutter release.

● Exposure Meter

Built into the AE finder; aperture-priority TTL metering.

● LED Displays

Power on or off, stand-by, battery checker, incorrect exposure warning, abnormal camera behavior.

● Audible Electronic Warning

Last frame, incorrect exposure (when using remote-control shutter release; adjustable buzzer volume), abnormal camera behavior.

● Power Source

Two-way power supply: (1) Special 7.2-volt Ni-Cd battery pack (optional); battery pack supplies power for about 1,000 shots when fully charged (about 1-hr. charging time); auto power cut-off in 15 minutes when not in use to save battery; (2) A.C. power source in combination with an optional DC power supply unit.

● Others

Spirit level, LF lensboard adapter (optional) which permits shooting with large-size lenses mounted on Linhof Technika type lensboards such as the Fujinon W 180, 210, and 250, SF 180, A 180 and 240, and T 300. (Shooting is done with the mirror up).

● Dimensions & Weight

187 mm (W) x 278 mm (L) x 207 mm (H);
4,146 g. (with Fujinon GX 135 mm lens, 120 roll film holder, and battery pack).

● Accessories (included)

Collapsible finder hood, standard bellows, finder screen.

Notice:

Specifications are subject to change without notice.