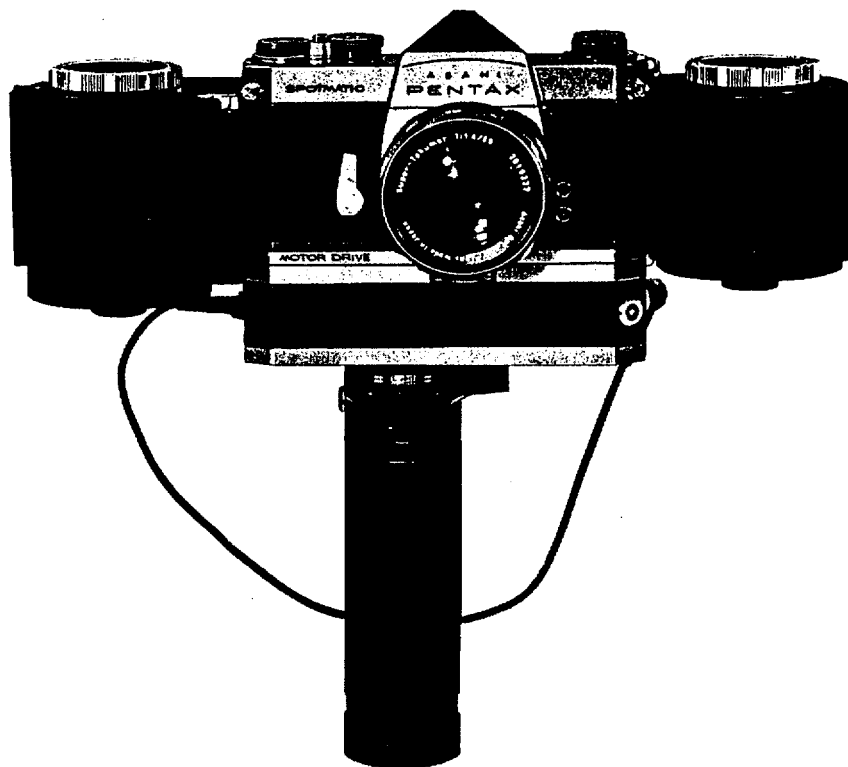


# ASAHI PENTAX Motor Drive SYSTEM

英文說明書



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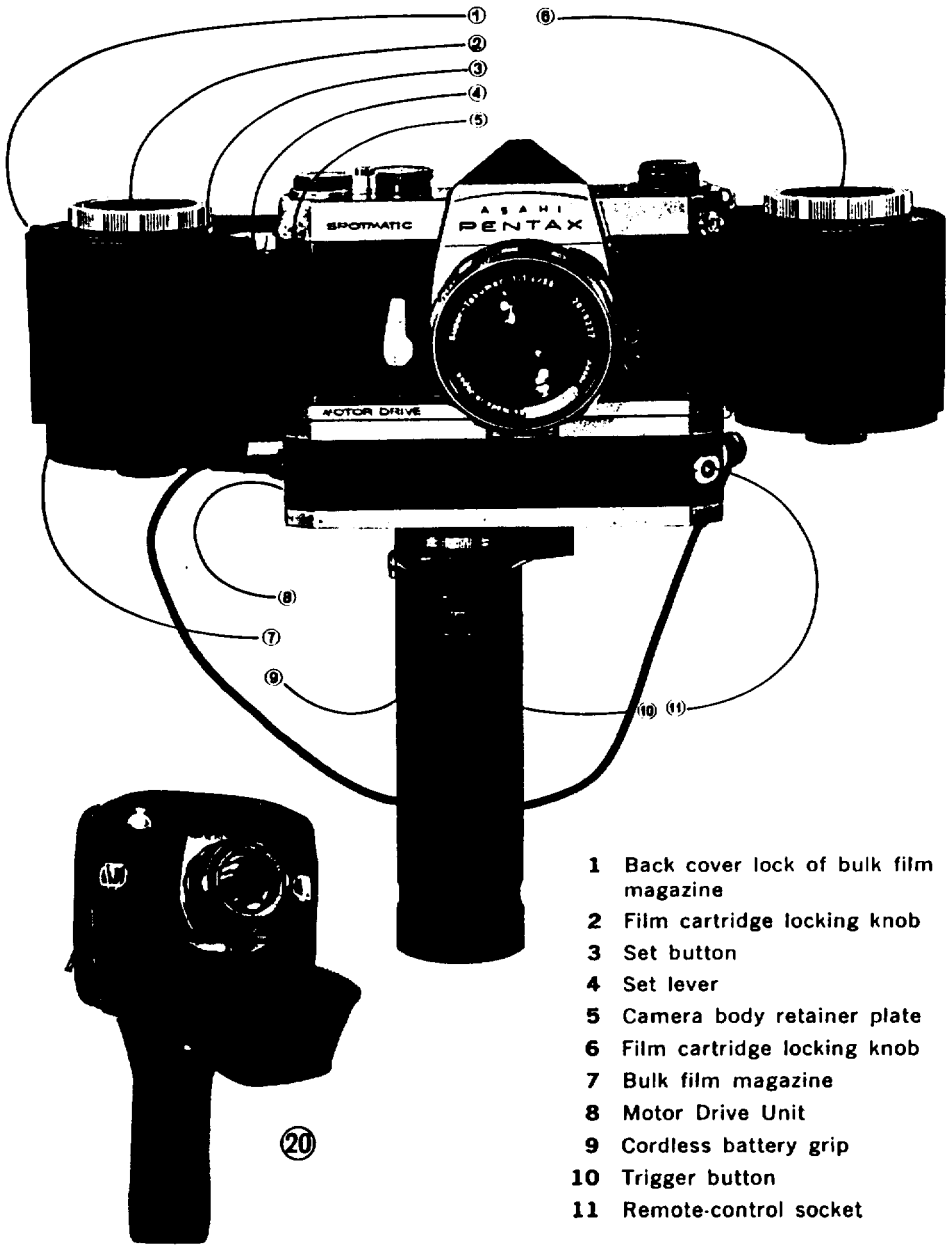
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As you get acquainted with this highly precise System, you will find that you can use it for nearly limitless applications. Please read this manual carefully, and operate this System according to the instructions. Please do not operate any one of the equipment unless you are fully familiar with its proper operation.

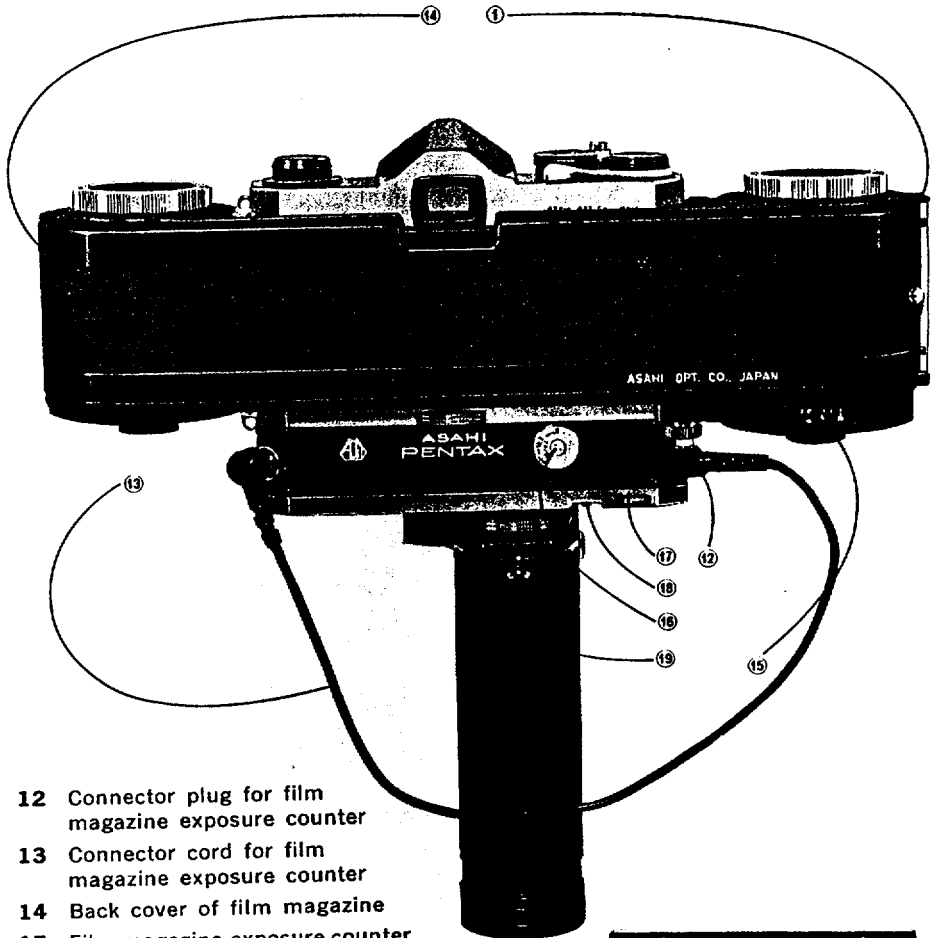
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"Asahi Pentax Spotmatic Motor Drive" is the name of the special Spotmatic camera designed and constructed to operate with the "Asahi Pentax Motor Drive Unit."

# Major Operating Parts and Accessories

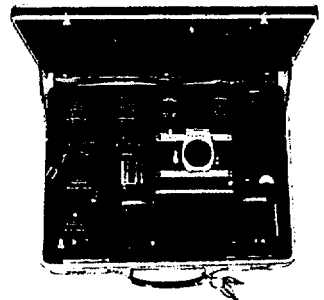


- 1 Back cover lock of bulk film magazine
- 2 Film cartridge locking knob
- 3 Set button
- 4 Set lever
- 5 Camera body retainer plate
- 6 Film cartridge locking knob
- 7 Bulk film magazine
- 8 Motor Drive Unit
- 9 Cordless battery grip
- 10 Trigger button
- 11 Remote-control socket



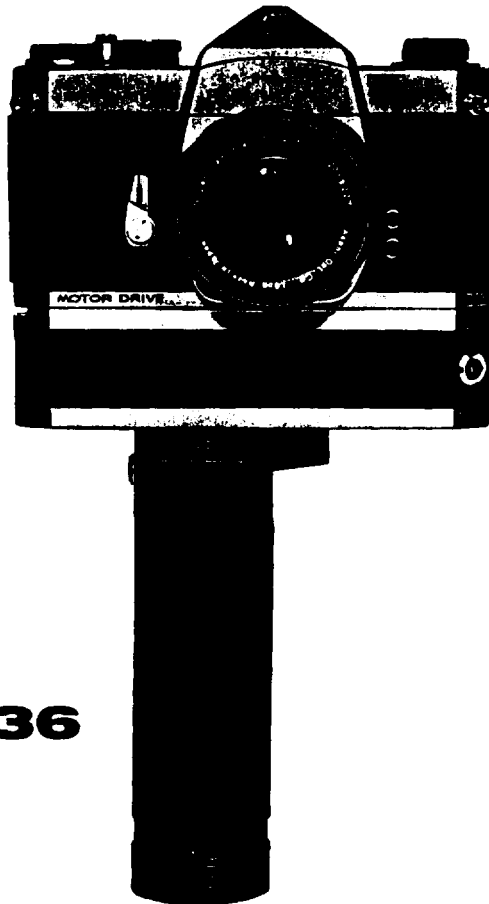
- 12 Connector plug for film magazine exposure counter
- 13 Connector cord for film magazine exposure counter
- 14 Back cover of film magazine
- 15 Film magazine exposure counter
- 16 Bulb switch dial
- 17 Motor Drive Unit exposure counter
- 18 Film rewind release button of Motor Drive Unit
- 19 C/S (consecutive/single) switch dial
- 20 Soft leather case
- 21 Attaché case

(21)



# Asahi Pentax Motor Drive System

The Asahi Pentax Motor Drive System is the result of the painstaking efforts and extensive research of the Asahi Pentax engineers who started working on this instrument in 1960. It has been designed and constructed for further automation and remote control of professional and advanced amateur photography. Retaining the traditional ease of operation, precision, compact size and light weight of the world-famous Asahi Pentax cameras, the Asahi Pentax Motor Drive System is ideally suited for fast sequence photography, remote control photography, continuous copying, multiple simultaneous photography using two or more Spotmatic Motor Drive cameras, and for many other industrial and scientific applications.



**SET 36**

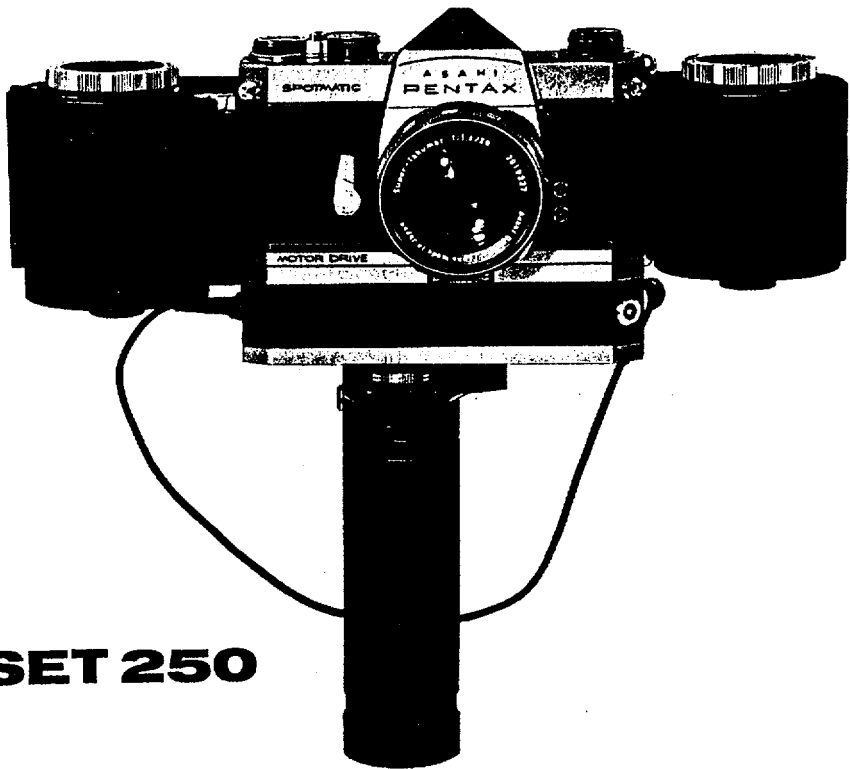
Depending upon the accessories attached to the Spotmatic Motor Drive, there are two different sets: Set 36 and Set 250.

The Set 36 consists of: Asahi Pentax Spotmatic Motor Drive with Super-Takumar 50mm f/1.4; Motor Drive Unit; Battery Grip; One Meter Power Cord.

The Set 250 consists of the Set 36 plus: Bulk Film Magazine with two film cartridges; Connector Cord; Back Cover Removing Pin and Coupler.

Depending upon the power source, the following must be obtained separately: Battery Loader; NiCad Battery 10/500FZ; Charge Pack; Battery Checker; Power Pack with two 1-meter power cords, 2-meter AC cord and fuse; Relay Pack with 1-meter power cord.

Film Cartridge, Film Winder, Timers, Radio Control Unit, M-Bracket, Attaché Case for Set 250, Kit Bag for Set 36, and Soft Leather Case for Set 36 are also available as accessories.



# Specifications

**Camera** – Asahi Pentax Spotmatic Motor Drive

**Lens mount** – Asahi Pentax / Takumar lens mount

**Film** – 35mm film

**Power source** – 8 pen-light batteries (on Battery Loader)  
1500 exposures at normal taking speed

12V NiCad rechargeable battery  
2000 exposures at normal taking speed

Other 12V DC sources

AC mains (with Power Pack)

**Exposure** – Single-frame exposure

Consecutive exposure (2.5~3 frames per second  
at 1/1000 sec. shutter speed)

20 or 36 exposures (Set 36)

250 exposures (Set 250)

**Dimensions** – Set 36: Width 143mm (5.6") × Height 274mm  
(10.8") × Depth 95mm (3.7")

Set 250: Width 289mm (11.4") × Height 274mm  
(10.8") × Depth 95mm (3.7")

**Weight** – Set 36: 1.75 kg. (3.2 lbs.)

Set 250: 2.93 kg. (6.4 lbs.)

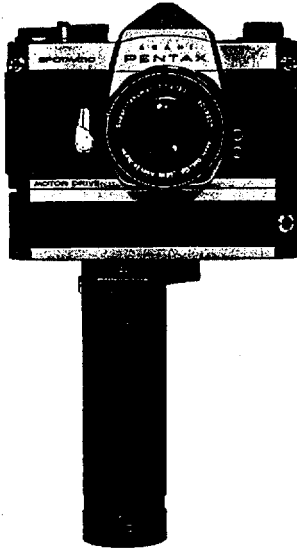
## Camera & Lens Operation

The basic operating manual for the standard Spotmatic camera applies to the Spotmatic Motor Drive. If you are not familiar with the operation of the standard Spotmatic camera, please read its operating manual and be acquainted with its proper operation.



# HOW TO ASSEMBLE

# Set 36



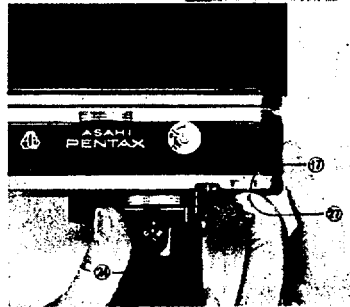
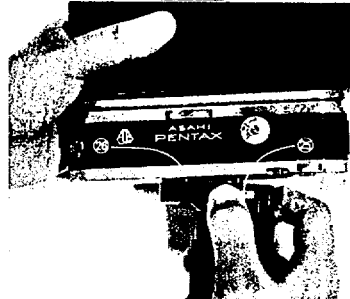
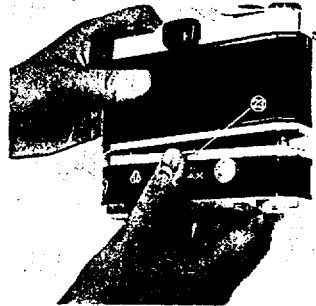
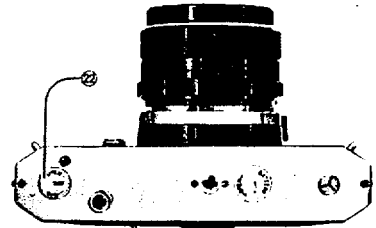
## Motor Drive Unit

- 1 Remove the threaded cover (22) by turning it clockwise.
- 2 Attach the top of the Motor Drive Unit to the base of the camera and fasten the knob (23).
- 3 To assure proper coupling of the film winding mechanism, slowly cock the rapid wind lever of the camera. Depress the shutter button.

## Battery Grip

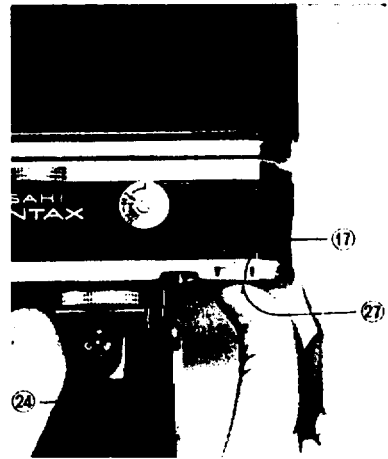
When attaching the battery grip to the camera, always keep the C/S switch off at the green dot (24).

Attach the top of the battery grip to the base of the Motor Drive Unit with the protruding thread of the knob (25) and the electrical contact (26) inserted into the receptacle holes in the base of the Motor Drive Unit. For inserting the Battery Loader or a NiCad battery into the battery grip, read the instruction on page 11.



## Exposure Counter

According to the usual procedure of film loading, load your film, and make two blank exposures, making sure that the film rewind knob of the camera turns counter-clockwise when you cock the rapid wind lever. (This indicates that the film is being properly transported onto the take-up spool.) With the tip of your finger, turn the disk (27) in the base of the Motor Drive Unit, and set the exposure counter (17) to show the same number as the number of the frames of the loaded film or the number of frames you wish to expose. The exposure counter shows the number of frames which remain unexposed; when the counter reaches 0, the Motor Drive Unit will be switched off automatically.



*Practice the operation as if you loaded a roll of film.*

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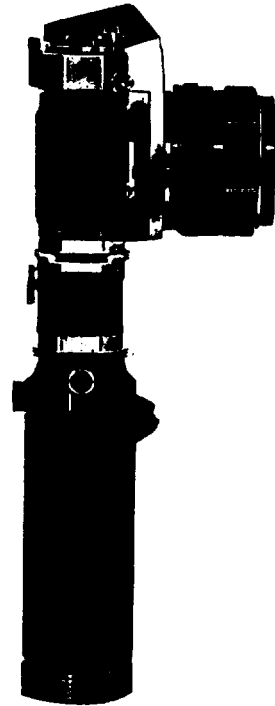
## Shutter Release

To release the shutter, depress the trigger button (10) of the battery grip after setting the C/S switch either at C (consecutive) or S (single). As you depress the trigger button with the C/S switch set at S, the Motor Drive Unit releases the shutter; when you leave your finger off the trigger button, the Motor Drive Unit automatically cocks the shutter and winds the film for the next exposure. For operation at the position C of the C/S switch, see page 10.

---

## Film Rewind

After finishing all exposures, depress the film rewind release button (18) of the Motor Drive Unit, and start rewinding the film with the rewind knob of the camera. As you leave your finger off the rewind release button (18), this button pops out; however, the rewind release button of the camera stays depressed until you cock the rapid wind lever of the camera again. Therefore, you do not have to keep depressing the button (18).



## Single-Frame Exposure

Other than for B (Bulb) and T (Time) exposures, set the bulb switch (16) at CS\* and C/S switch (19) at S (single).

For Bulb exposures, set the bulb switch at B and the C/S switch at S. While you keep depressing the trigger button, the shutter stays open; when you leave your finger off the trigger button, the shutter closes.

For Time exposures, set the bulb switch at B and the C/S switch at S. While pressing the trigger button, turn the C/S switch off to keep the shutter open. You can leave your finger off the trigger button. To close the shutter, turn the C/S switch to S — you do not have to depress the trigger button again.

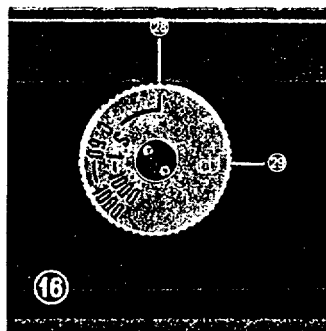
*\*The bulb switch dial (16) has two settings: CS (28) and B (29). Set this dial at B only when taking Bulb or Time exposures. The CS setting is marked: C60-1000 S 1-1000. This indicates that the shutter speeds from 1/60 to 1/1000 sec. should be used for consecutive exposures at the C setting of the C/S dial, and the speeds from 1 to 1/1000 sec. should be used for single-frame exposures at the S setting of the C/S dial.*

As explained earlier, the shutter and the film remain cocked and transported for the next exposure after each release of the trigger button in single-frame exposures. Keep the trigger button depressed until the shutter release has been completed, and then leave your finger off the trigger button.

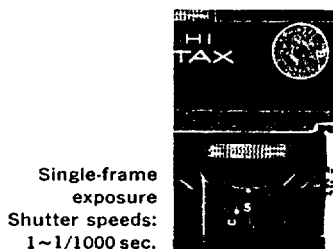
## Consecutive Exposure

For consecutive exposures, use the shutter speed between 1/60 and 1/1000, setting the bulb switch at CS and the C/S switch at C (consecutive).

While you keep depressing the trigger button, the Motor Drive Unit automatically repeats the shutter release, shutter cocking and film winding at the speed of 2.5~3 frames per second; however, when the voltage of the power source is low, the taking speed will slow down to a slight extent. When you leave your finger off the trigger button, the Motor Drive Unit stops working with the shutter cocked and the film transported for the next exposure.



T (Time)  
B (Bulb)



Single-frame  
exposure  
Shutter speeds:  
1~1/1000 sec.



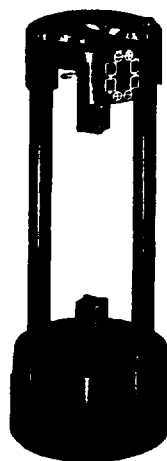
Consecutive  
exposure  
Shutter speeds:  
1/60~  
1/1000 sec.

*Before you put the Spotmatic Motor Drive out of use, manually release the shutter to protect the shutter mechanism.*

## Battery Loader

The Battery Loader takes up 8 pen-light batteries which are readily available in many countries. Insert the Battery Loader into the battery grip, and fasten it to the battery grip by turning it clockwise.

Depending upon the characteristics of pen-light batteries, the loaded Battery Loader will last for about 1500 exposures; however, it depends upon the taking speed. Try to carry a set of spare pen-light batteries in case the loaded batteries lose their capacity.

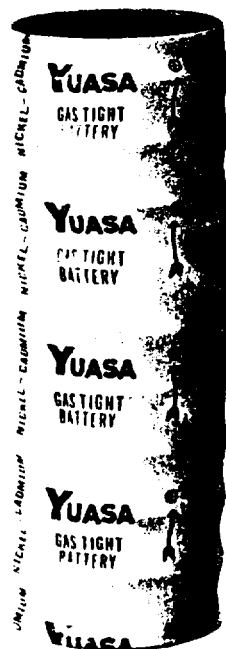


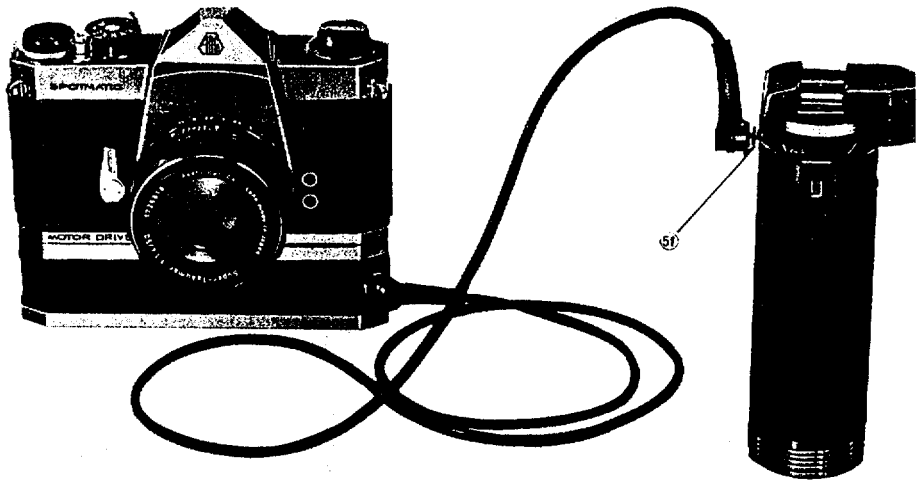
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## Rechargeable NiCad Battery

Insert a NiCad battery into the battery grip with the  $\oplus$  side down (with the  $\ominus$  side to be in contact with the cap\* of the battery grip). A NiCad battery usually lasts for about 2000 exposures depending upon the taking speed. A NiCad battery, however, loses its capacity due to spontaneous discharge. When the battery voltage goes down below 10V, the Motor Drive Unit may not operate properly: charge the battery according to the charging procedure. (Page 13) \*(The cap for use with a NiCad battery is supplied separately.)

You can use one of the following NiCad batteries or their equivalents: YUASA 10/500FZ (Japan), EVEREADY 10/BH500 (USA) and DEAC 10/500DKZ (Germany).





When it is extremely cold, keep the battery grip detached from the Motor Drive Unit and keep it in your pocket to keep it warm.

In this way, you can also operate the Motor Drive Unit mounted on a tripod or from a distance up to 32.8 feet (10M). It is not recommended to keep the battery grip more than 32.8 feet (10M) away from the Motor Drive Unit because of the reduced voltage due to the increased resistance of the extension cord. If you wish to release the Motor Drive Unit at a distance longer than 32.8 feet (10M), use the Relay Pack or Power Pack. (Pages 22~24).

Because of the temperature characteristics of a NiCad battery, its capacity will go down when the temperature goes down below 0°C (32°F). When it is very cold, separate the battery grip from the Motor Drive Unit, connect it with the Motor Drive Unit with a connector cord and keep the grip in your pocket to keep it warm. When the battery has been exposed to a low temperature for a considerable length of time, the Motor Drive Unit may not operate properly; however, when you warm it, it will regain its capacity. When warming your battery, warm it slowly; do not warm it rapidly. If the temperature changes rapidly, water droplets may appear and they will often cause metallic parts to rust.

---

## CAUTION!

Keep a NiCad battery dry. Before inserting it into the battery grip, wipe its surface completely with a dry piece of cloth. Do not throw a used NiCad battery into fire — it may explode. Keep it out of the battery grip when you do not intend to use it for

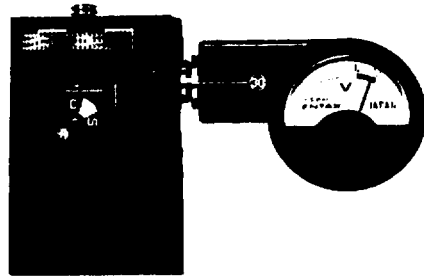
lengthy period of time.

Keep a mercury battery (for the Spotmatic camera) out of the reach of small children. Please read the caution given in the operating manual for Spotmatic.

## Battery Checker

Insert the plug of the battery checker into the side socket (30) of the battery grip with its C/S dial set at C (also meaning "check"). The battery still has operating capacity if the checker needle reads the black-marked area.

If the needle does not reach the black area, replace or charge the battery. Please do not keep the battery checker plugged in for more than 10 seconds—you will overheat the battery checker.

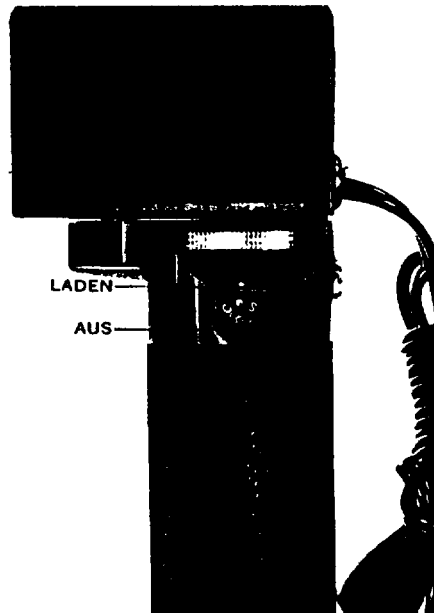


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## Battery Charge

You can charge the NiCad battery without removing it from the battery grip. Set the C/S dial of the battery grip off at the green dot, and screw the fastening knob into the threaded hole of the charge pack, making sure that the electrical contact of the battery grip is properly inserted into the contact of the charge pack. Plug the charge pack cord into an AC main—turn the C/S dial to C (also meaning "charge")—the pilot lamp of the charge pack lights—the charge pack starts charging the battery.

The full charge time is about 14 hours. You can keep charging the battery more than 14 hours without damaging it, but don't keep it charged over 24 hours. The voltage of a fully charged battery may exceed 12V, however, this will do no harm to the Motor Drive Unit. Usually, the minimum full charge/discharge cycle of a NiCad battery of the type used for this System is 100 times. You can use the battery before it is fully charged, although the operating speed of the Motor Drive Unit will be slower than when the battery is fully charged. Try to charge your battery at normal temperatures: not below freezing temperature and not over 40°C (104°F).



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## Other Power Sources

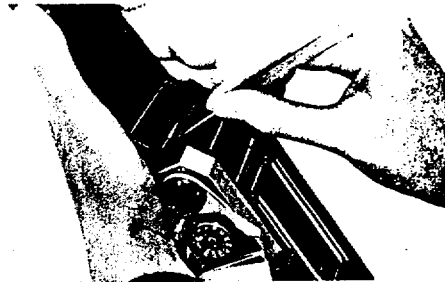
As mentioned elsewhere in this manual, the standard operating DC power source of the Motor Drive Unit is 12V/0.4A. In addition to the Battery Loader and the battery grip loaded with a NiCad battery, the Motor Drive Unit also operates with other 12V DC current, such as of

an automobile battery, etc. through the Relay Pack or the Power Pack. It also operates with AC current through the Power Pack. Please read the explanations (pages 22~24) given for the Relay Pack and the Power Pack.

# HOW TO ASSEMBLE Set 250

## Back Cover Removal

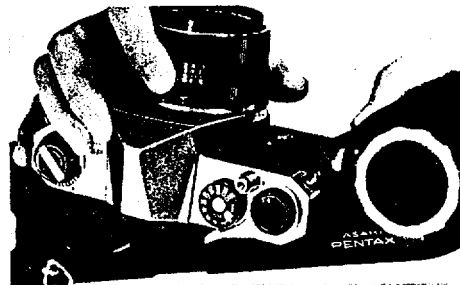
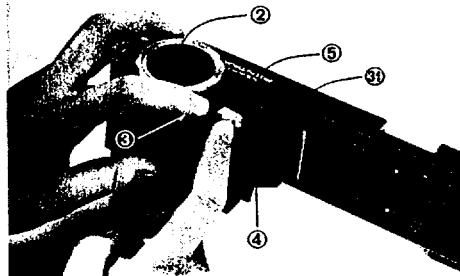
- 1) Fully open the back of the Spotmatic Motor Drive camera. Insert the Back Cover Removing Pin (supplied with the bulk film magazine) between the back cover hinge and the light seal at the spot indicated with a dot in the photograph. Push the Pin towards the camera's base plate to disengage the front shaft of the hinge.
- 2) After detaching the top portion of the back cover as shown in the photograph, detach the bottom portion by sliding it toward the camera's base plate. (When re-installing the back cover, reverse the above procedure.)



---

## Attach Bulk Film Magazine

- 3) Fully turn the film cartridge locking knob (2) to the OPEN position. While depressing the set button (3), push the set lever (4) (with white plastic roller), and erect the camera body retainer plate (5).
- 4) Place the film take-up side of the camera to the film take-up side of the magazine, making sure that the light seal edges of the magazine are properly set in the grooves of the camera body.



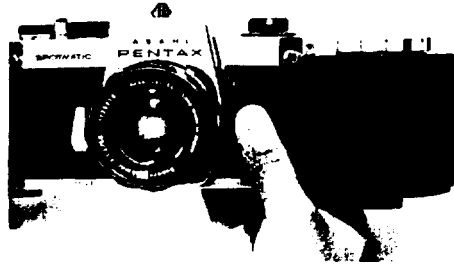
## WARNING!

*Do not touch the thin film guide plate (31) located over the film roller.*


- 5) Push the film rewind side of the camera body to the other side of the magazine—the camera body will be locked with the magazine with a snap. Finally return the locking knob (2) to the CLOSE position to completely lock the magazine with the camera body.

When removing the camera body from the magazine, reverse the above operation:

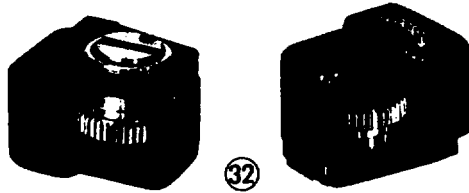
- 1 – Open the film cartridge locking knobs.
- 2 – Push the set lever (4) while depressing the set button (3) to erect the camera body retainer plate.
- 3 – Lift the film rewind knob of the camera body and disengage the film rewind side of the camera body from the magazine.



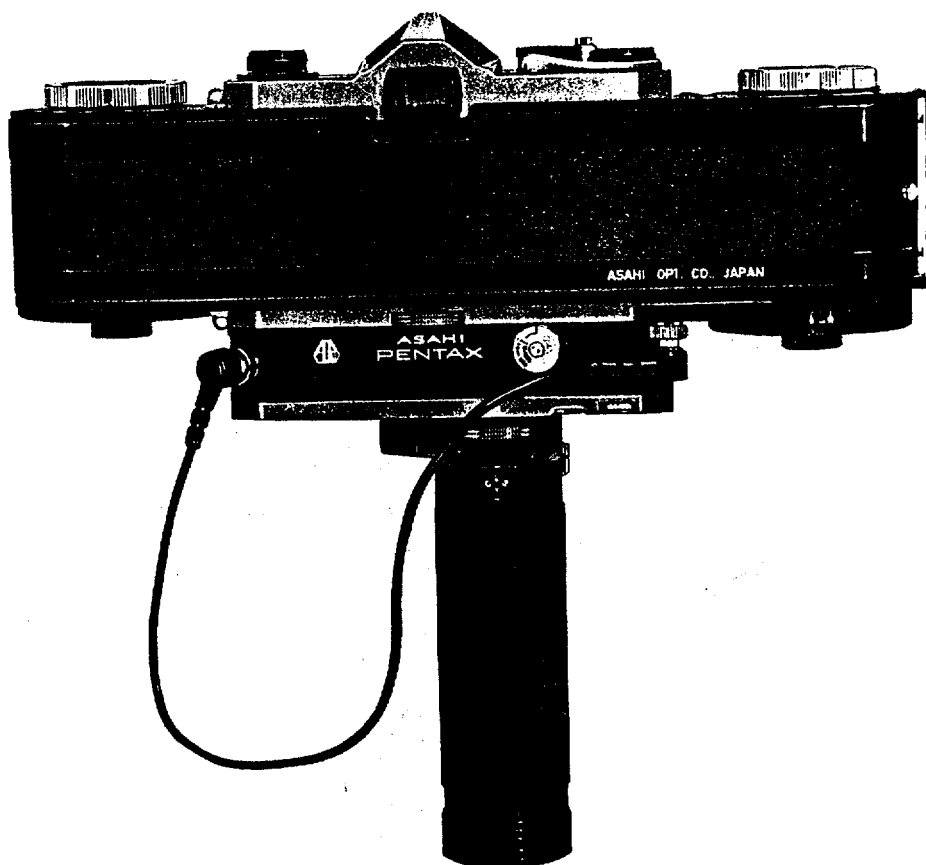
- 6) If you wish to use the film magazine and the Spotmatic Motor Drive camera without the Motor Drive Unit, attach the coupler (32) to the base of the camera body.

Insert the threaded portion of the coupler into the receptacle , properly enmeshing the coupler's small gear with the gear of the magazine. Fasten the coupler by turning its knurled knob counterclockwise. Cock the camera's rapid wind lever for shutter cocking and film transport.

(It is unnecessary to use the coupler when using the Motor Drive Unit.)







## Attach Motor Drive Unit and Battery Grip

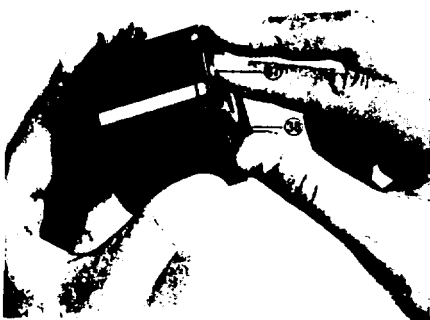
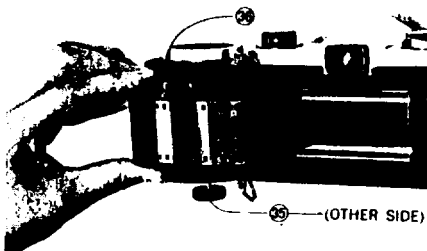
Attach the Motor Drive Unit to the camera body, and the battery grip to the Motor Drive Unit. (Please see page 8.) Plug the exposure counter

cord as illustrated to connect the Motor Drive Unit with the exposure counter of the film magazine.

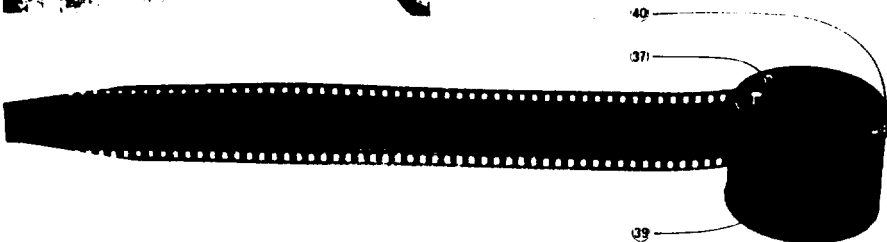
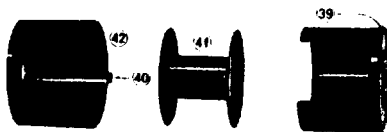
## Film Cartridge—Removal, Disassembly and Insertion



Turn the locking knobs (2 & 6) to the OPEN position, pull out the magazine back lock (33) with a finger nail and pull the back cover away with the nipple (34). Please be careful not to drop the magazine back cover as it is completely detachable. Pull out the release knobs (35) and remove the film cartridges from the film chambers (36).



For disassembly, depress the round release button (37), and turn the inner tube (38) until the cut edge (39) comes under the protrusion (40). You can then disassemble the cartridge into three parts: film take-up spool (41), inner tube and outer tube (42).



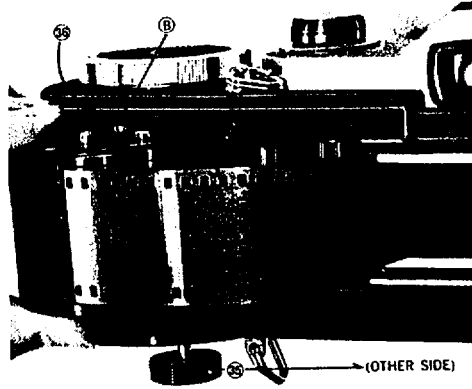
## *For film loading, please see page 20.*

For assembly, insert the take-up spool into the inner tube and place them into the outer tube. Turn the inner tube to either direction until it locks with the outer tube.

---

For inserting film cartridges, drop them into the film chambers with the protrusion (40) down. Turn the cartridges—usually toward the camera body side—so that the other two protrusions (A) will properly drop into the cut (B). Push back the release knobs (35), and re-install the magazine back—reverse the procedure for magazine back removal. Turn the locking knobs (2 & 6) to the CLOSE position.

For inserting a loaded cartridge, place it into the film chamber (36), and push back the release knob (35). Take out the film (about 10"; 25cm); insert the film leader end into the slit of the take-up spool of the other cartridge. (If



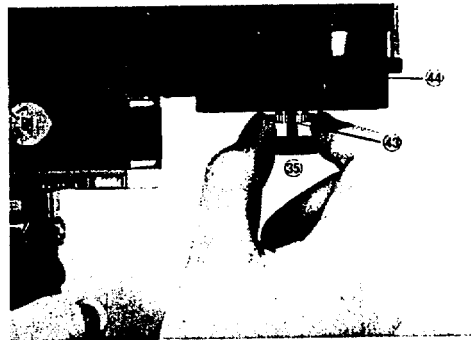
the leader end is not already cut, cut it properly for easy insertion into the slit of the take-up spool.)

Roll the film around the take-up spool about 3 times with the emulsion side facing the spool. After making sure that the film will not come off, assemble the cartridge. Insert the cartridge into the other film chamber, making sure that the sprocket gears of the camera body properly engage with the film perforations. Push back the release knob (35); re-install the magazine back.

---

## Film Magazine Exposure Counter

After inserting the loaded cartridges and closing the magazine back cover, make 5 blank exposures manually with the camera's rapid wind lever. Cock the rapid wind lever again for the 6th exposure position. Pull out the release knob (35), and turn the exposure counter knob (43) clockwise until the index (44) points the number of exposures you wish to make. If the film loaded or remaining in the cartridge contains less than 36 exposure frames, you can set the counter dial of the Motor Drive Unit at 0.



## Check Film Transport

If both release knobs of the film magazine turn clockwise when you cock the camera's rapid wind lever or with the Motor Drive Unit, the film is correctly moving from the

loaded cartridge onto the take-up spool of the other cartridge. If not, re-open the magazine back cover, and reload the film leader end securely onto the take-up spool.

---

## After Exposure

If you wish to stop taking further pictures before you completely expose the loaded film and to have the exposed portion of the film developed, make more than 5 blank exposures so that the exposed portion of the film still remaining outside the take-up cartridge will not be ruined by exposure to light when you open the magazine back cover.

If, however, you wish to make as many exposures as you can with the loaded film, you may take one or two more pictures after the release knob

(35) has stopped turning, even after the index of the exposure counter has reached 0.

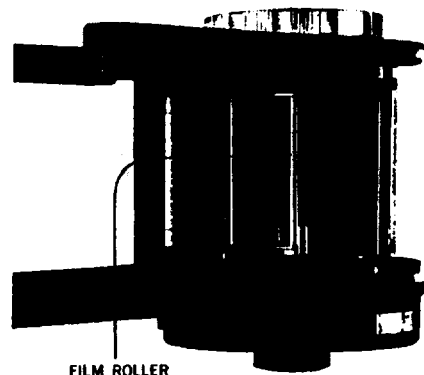
Do not open the magazine back cover or detach the camera body from the magazine unless you are absolutely sure that the exposed portion of the loaded film has been wound up into the take-up cartridge.

Please do not forget to mark the cartridge properly to indicate the type of the loaded film, whether it is exposed, etc.

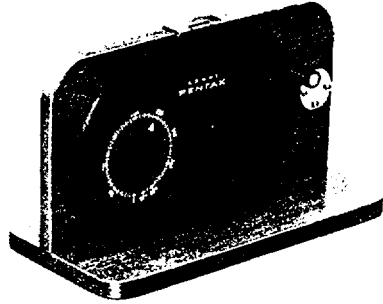
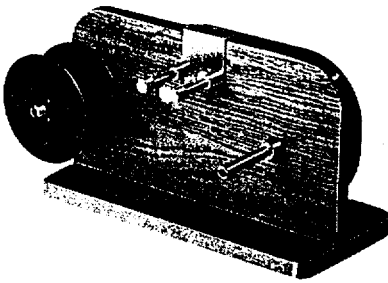
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## Automatic Switch-Off

The film roller in the film magazine, near the take-up cartridge, also functions as an automatic switch for the Motor Drive Unit. After the film has run over this roller, this roller automatically switches off the Motor Drive Unit. Therefore, if the magazine is not loaded—if the roller is not pressed by the loaded film—the Motor Drive Unit will not operate more than the number of times of the figure set in the exposure counter of the Motor Drive Unit. If the exposure counter of the Motor Drive Unit rests at 0 and if the magazine is empty, the Motor Drive Unit will not operate because it is completely switched off.

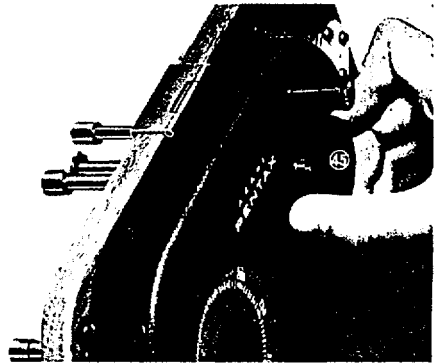


## Film Winder — Dark-Room Loading

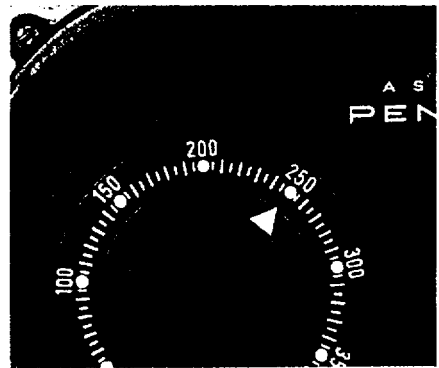


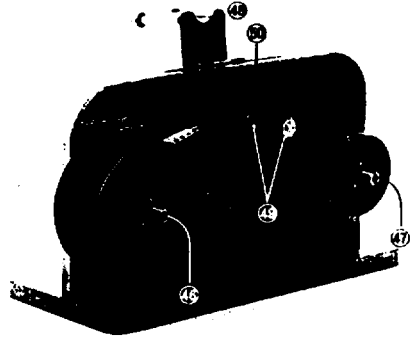
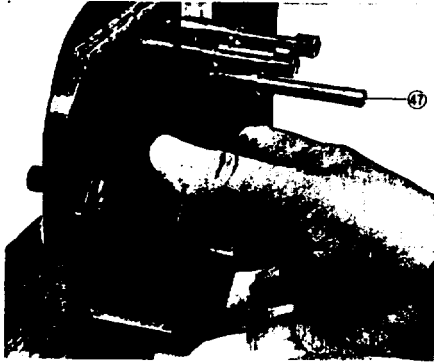
With this winder you can load the film cartridge with the desired length of film from a 100 ft (30m) 35mm film up to about 33 ft (10m), equivalent to 250 exposures.

Pull out the winder handle (45) and turn it to set the dial at the number of exposures you wish to load into the cartridge. When you set the dial at a certain number and start turning the handle, the handle will be automatically locked and will stop when the dial reaches the figure 0 —when you have wound the film for that number of exposures onto the take-up spool.



(DIAL: For visibility in darkness, the positions for the figures 0, 250 and 420 are marked yellow, and the positions for 50, 100, 150, 200, 250, 300, 350, 400 and the triangle index are marked green, with a luminous paint.)





In your dark room, take the bulk film out of its can and place the film onto the reel as shown in the photograph. (To detach one of the rims of the reel, turn it counterclockwise while holding the other rim.) Place this reel onto the shaft (46) of the winder, and place the take-up spool of the cartridge onto the other shaft (47). Erect the film holder (48) and let it fall to the other side. Pull the film over the sprocket gears (49), and insert the leader end of the film into the slit of the take-up spool. Cut the leader end properly, if it is not already cut, for easy insertion into the slit.

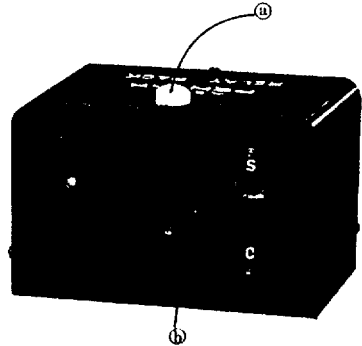
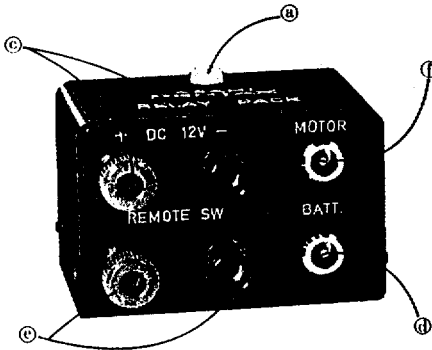
Do not attach the film leader end onto the take-up spool with a tape! When using these cartridges, you never re-

wind the film — one cartridge keeps taking up the film from the other loaded cartridge. Therefore, if you attach the film end onto the take-up spool with a sticky tape, you will have difficulty when you wind the film into the other cartridge after completing exposure.

Put down the film holder (48) to hold the film perforations engaged with the sprocket gears (49). The magnetic button (50) keeps the film holder down in its working position.

Start winding the film with the winding handle until it stops automatically. Cut the film. Put the bulk film (if remaining) back into its can. Remove the loaded take-up spool and assemble the cartridge.

# Relay Pack



- (a) Trigger button
- (b) C/S switch
- (c) DC input
- (d) Connection with battery grip
- (e) Remote-control terminals
- (f) Connection with remote-control socket (11) of Motor Drive Unit

When using the loaded battery grip with the Relay Pack, connect the "BATT" (battery) (e) socket with the remote-control socket (51) (page 12) of the battery grip with an extension cord. Then connect the "MOTOR" socket (d) with the remote-control socket (11) of the Motor Drive Unit. You can depress either the trigger button (a) of the Relay Pack or of the battery grip: the Relay Pack activates the Motor Drive Unit with whichever trigger button depressed, or the remote-control terminals (e) short-circuited, first.

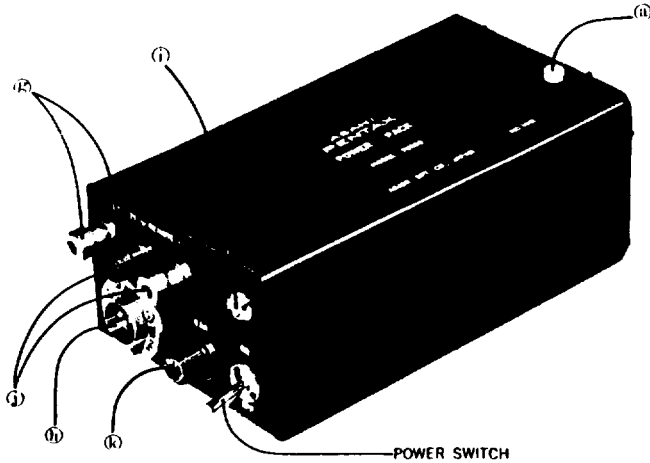
Use the DC input terminals (c) when using other 12V DC source, such as an automobile battery, etc.

You can activate the Motor Drive Unit by short-circuiting the remote-control terminals (e). This can be used for a number of trick photographs: connect these terminals with extension cords with a door, window or a stepping board so that when somebody opens the door or window, or steps upon the stepping board, the Relay Pack will activate the Motor Drive Unit.

**Please always make sure that the C/S switch is set correctly.**

*Operate the C/S switch and the trigger button as if you operate the C/S switch and the trigger button of the battery grip.*

# Power Pack



Operate the C/S switch and the trigger button as if you operate the C/S switch and the trigger button of the battery grip.

- (b) Trigger button
- (c) C/S switch
- (d) Connection with remote-control socket (11) of Motor Drive Unit
- (e) Connection with battery grip
- (f) Connection with radio control
- (g) Connection with FP terminal
- (h) DC input
- (i) AC input
- (j) Pilot lamp
- (k) Remote-control terminals
- (l) Fuse

## Applications

### 1) As Relay Pack

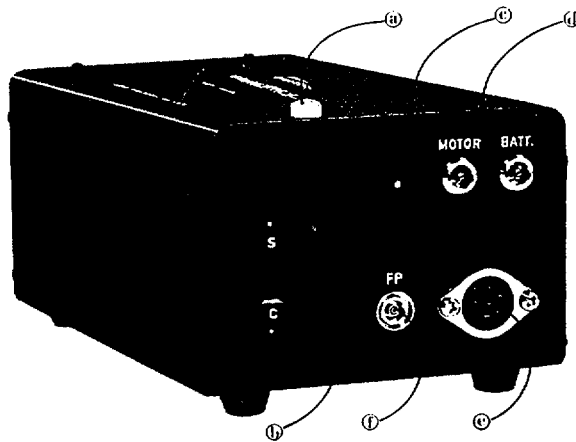
The Power Pack also works as the Relay Pack; therefore, if you have a Power Pack, it is unnecessary to obtain a Relay Pack.

\*Connect the DC input terminals (h) with a separate 12V DC source; or connect the "BATT" socket (i) with the loaded battery grip. Connect the "MOTOR" socket (d) with the remote-control socket of the Motor Drive Unit. Depress the trigger button (b) of the Power Pack or of the battery grip if used. (Use the remote-control terminals (j) in the same way as you use the remote-control terminals of the Relay Pack.)

\*When using the DC input terminals (h) connected with other 12V DC source, keep the AC input and "BATT" sockets (i) (d) plugged off.



**Please be sure that the C/S switch is set correctly.**



\*When attaching the loaded battery grip to the Power Pack, keep its switch OFF; when using the Power Pack with other 12V DC source, you can keep its switch either ON or OFF. In either case, the pilot lamp does not light.

## 2) As AC Pack

The Power Pack also works on one of the following AC mains: 100V, 110V, 120V, 200V, 220V and 240V/50 – 60 cycles. When ordering, please correctly specify the voltage of the AC main on which you will operate the Power Pack.

Connect the AC input socket with an AC main outlet. Connect the "MOTOR" socket with the remote-control socket (11) of the Motor Drive Unit. When you turn on the Power Pack switch, the pilot lamp lights, indicating that the Power Pack is in operation. Depress the

trigger button or short-circuit the remote-control terminals for activating the Motor Drive Unit.

## 3) As Battery Charger

You can use the Power Pack to charge your NiCad battery in the battery grip. Connect the NiCad battery-loaded grip with the "BATT" socket of the Power Pack—connect the AC input socket with an AC main outlet—turn on the switch—the pilot lamp lights—charging starts. The full-charge time will be about 14 hours; however, it greatly depends upon the characteristics of NiCad batteries. While charging a NiCad battery, you can still operate the Motor Drive Unit with the Power Pack.

(FUSE: If the pilot lamp does not light when you connect the Power Pack with an AC main outlet and turn on the switch, check the fuse by removing the "FUSE" cover.)

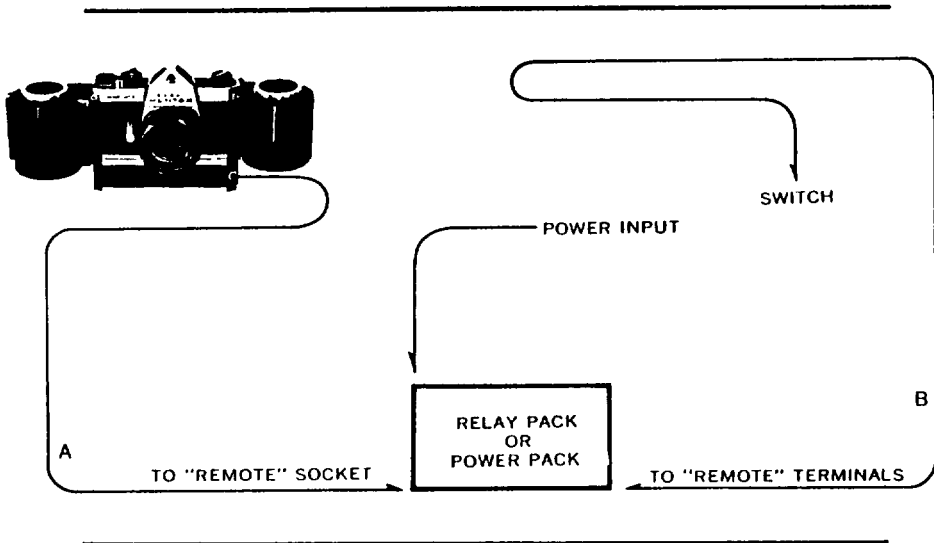
# Remote Control

If you wish to control the Motor Drive Unit at a distance of more than 32.8 feet (10M):

1. Connect the Motor Drive Unit with the Relay Pack or Power Pack with the extension cord (A).
2. Connect the Relay Pack or Power Pack with the battery grip, other

DC sources, or AC main using the Power Pack.

3. Connect the remote-control terminals of the Relay Pack or Power Pack with the extension cord (B). By attaching a small switch at the end of this extension, or by short-circuiting this end, you can control the Motor Drive Unit.



The length of the extension (A) should be shorter than 32.8 feet (10M); if longer, the voltage will go down slightly due to the increased resistance of this extension cord. (Page 12)

Since the extension (B) constitutes a relay switch circuit, the length of this extension can be as long as 19,685 feet (6,000M) depending upon the type of extension cord used. Since the operating current of the micro relay of the Relay Pack and Power

Pack is 16mA (DC), and its coil resistance is 385Ω, the maximum permissible resistance of the extension (B) can be obtained from the following formula:

$$R = \frac{E}{I} - 385 \quad (E = \text{voltage} / I = \text{current})$$

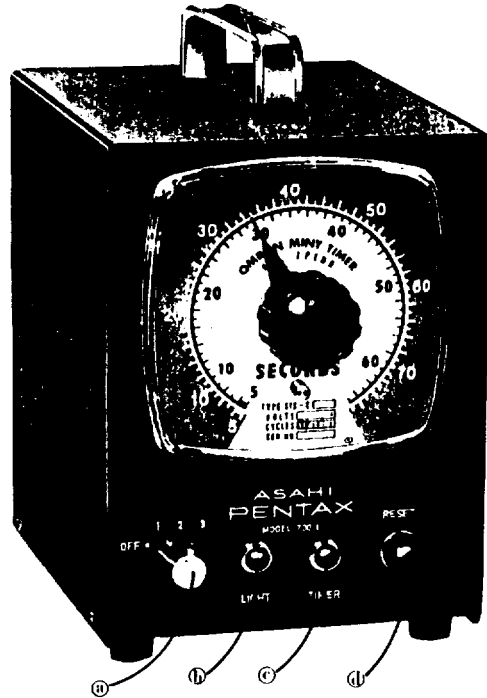
Therefore, since the micro relay operates at a current of more than 16 mA, the maximum permissible resistance of the extension (B) is 365Ω.

## **Wireless Remote Control**

A Radio Control Unit will be available for the Asahi Pentax Motor Drive System. It consists of a transmitter and receiver; the receiver is connected with the radio control terminals of the Power Pack. The Radio Control Unit enables you to operate the Motor Drive Unit, change the C/S switch of the

Power Pack and check whether the camera shutter is working properly —the pilot lamp of the transmitter lights whenever the focal-plane FP contact of the camera closes. The maximum outdoor operating distance of the Radio Control Unit is 1,640 feet (500M) on a flat ground.

# Timer



The AC-powered Timer, connected with the remote-control terminals of the Relay Pack or Power Pack, automatically activates the Motor Drive Unit at a desired pre-set time interval.

There are three kinds of Timers:

1. Second-Timer for time interval between 5 and 60 seconds.
2. Minute-Timer for time interval between 2 and 60 minutes.
3. Hour-Timer for time interval between 1 and 24 hours.

When ordering, please specify the working AC voltage and whether you want the Second-, Minute- or Hour-Timer.

The Timer has two scales: one for 50 cycles and the other for 60 cycles. Remember to set the needle of the

dial at the correct calibration of the scale depending upon the cycles of the AC main with which the Timer is connected. In the back of the Timer is an AC outlet for using flood light or for other illumination purposes. The maximum output of the AC outlet is 600W.

The rotary switch ③ operates as follows:

1. At the position 1, only the AC outlet in the back of the Timer is switched on. The Timer is not yet switched on.
2. At the position 2, both the AC outlet and the Timer are switched on. By setting the needle of the Timer dial at a certain calibration of the scale, the remote-control terminals in the back of the Timer are short-circuited, activating the

Motor Drive Unit, when the dial needle reaches the calibration 0 after each elapse of the pre-set time.

When you turn the switch from the position 1 to 2, the remote-control terminals are short-circuited first, and from then on, they are short-circuited at the pre-set time interval. Therefore, whenever you wish to activate the Motor Drive Unit before the needle reaches 0, turn the switch from the position 1 to 2.

3. At the position 3, the Timer is switched on; the AC outlet will be switched on two seconds before shutter release—before the needle reaches 0—before short-circuiting

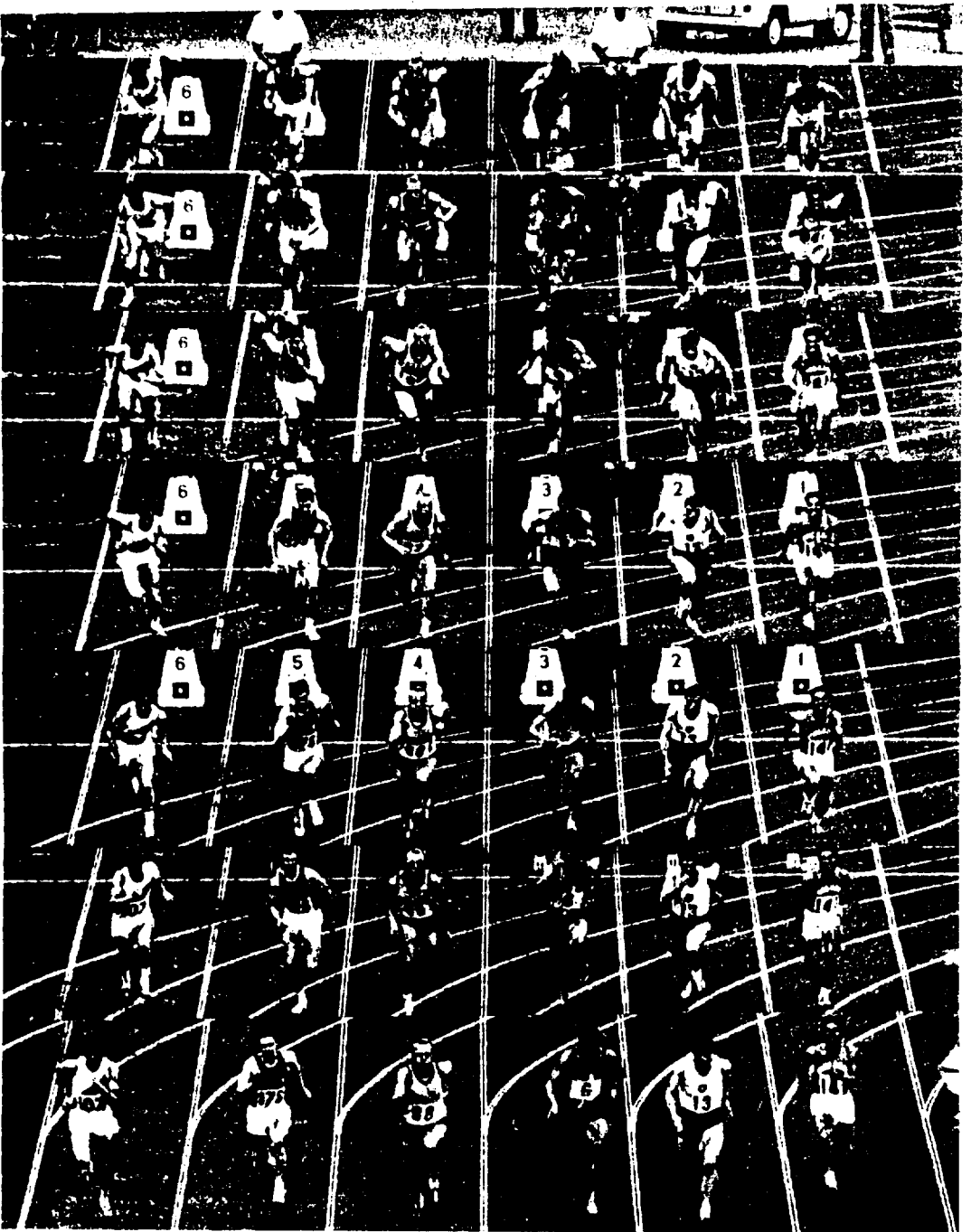
of the remote-control terminals. The AC outlet is switched off when the remote-control terminals are opened.

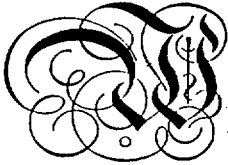
At this position, you can have flood lights automatically switched on just before each shutter release and switched off after each exposure.

The pilot lamp ① lights when the AC outlet is switched on; the pilot lamp ② lights when the Timer is switched on.

When you wish to reset the needle to the pre-set calibration of the scale before it reaches 0 during the operation of the Timer, depress the RESET button ④.

WEIGHT: 2.41 kg (5.3 lbs)





# WARRANTY POLICY

All Asahi Pentax cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered and defective parts will be replaced without cost to you within that period, provided the equipment has not been abused, altered, or operated contrary to instructions. Because the tolerances, quality, and design compatibility of lenses other than Pentax-Takumar lenses are beyond our control, damage caused by use of such lenses will not be covered by this warranty policy. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as hereinbefore provided.

## PROCEDURE DURING 12-MONTH WARRANTY PERIOD

Any Asahi Pentax which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representative of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required in Japan in importing and re-exporting photographic equipment. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your Asahi Pentax was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your Asahi Pentax returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy. In any case, however, shipping charges and customs clearance fees are to be borne by the sender. To prove the date of your purchase when required, please keep the receipts or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their accredited repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation of the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing required, or send the equipment for servicing, if not yet delivered.





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