

Canon Camera Co., Inc.

Tokyo, Japan

No. 292

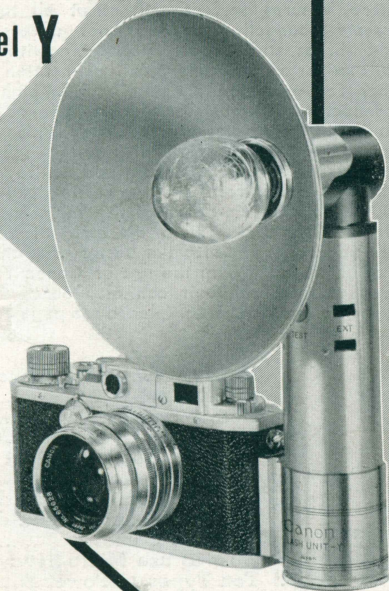
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Daito

# Canon

## FLASH UNIT

model Y



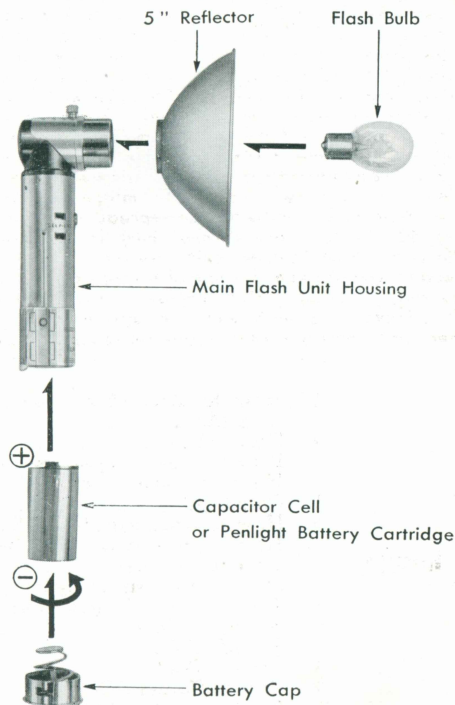
*Instructions*

Canon Flash Unit Model Y is designed for all Canon cameras with built-in flash synchronizer, such as Model II-F, II-S, IV, IV-Sb. A special rigidly constructed mounting device allows instant and direct mounting to the camera which automatically established electrical circuit with the flash synchronizer of camera, assures perfect contact at all times, cumbersome connecting cord is not necessary. Chrome-on-brass sturdy battery housing with two outlets; one for off-the-camera flash connection and the other for extension flash unit (Side Lighting Unit) connection. Micrometer synchronizing adjustment built in the battery housing provides accurate synchronization for all shutter speeds. Five-inch focusing-type reflector for midget (bayonet base) flash bulbs, uniform light spread adjustable from 40° to 70°, satin-chrome finish for soft-tone reflection. Push button bulb ejector. Standard tripod thread (ASA) on bottom of battery cap allows mounting on tripod. With the use of Canon Flash Unit Bracket this flash unit can also be used on other synchronized cameras (please see page 30).

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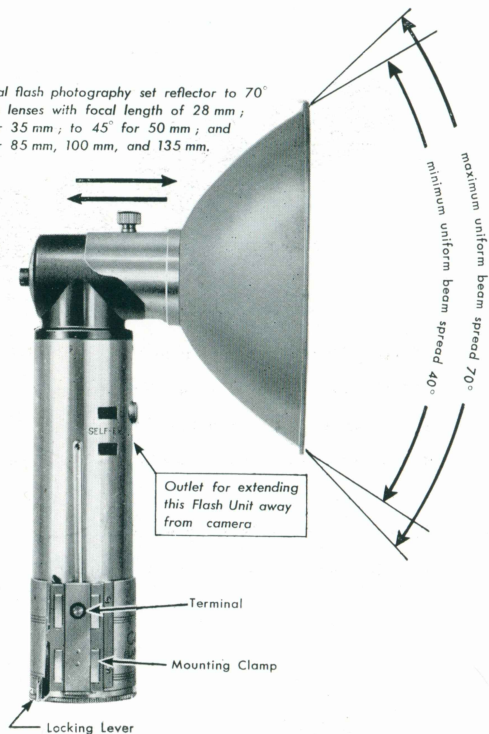
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## 1. How to Assemble Canon Flash Unit Model Y

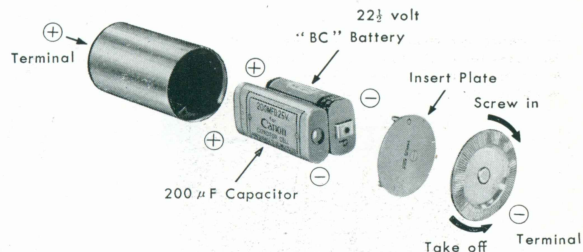


## 2. Description (Right Side)

For general flash photography set reflector to 70° for Canon lenses with focal length of 28 mm ; to 65° for 35 mm ; to 45° for 50 mm ; and to 40° for 85 mm, 100 mm, and 135 mm.

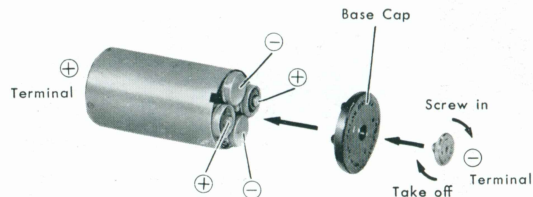


## 3. How to Load Capacitor Cell



1. Load 22.5 Volt "BC" Battery and 200 mfd. Capacitor in a correct polarity as illustrated.
2. Cover the Insert Plate as illustrated.
3. Firmly screw in the base plate in the milled capacitor cell base.
4. Remove a battery from the cartridge when not intended to use for a week or more.

## 4. How to Load Penlight Battery Cartridge



1. Load 4 fresh penlight batteries in a correct polarity as illustrated.
2. Cover the lid as illustrated.
3. Firmly screw in the Milled Screw.
4. Remove batteries from the cartridge when not intended to use for a week or more.

## 5. How to Load Additional Batteries



Battery Extension Case is available for use with Main Flash Unit Y. Battery Extension Case permits the use of Additional Capacitors or D-size batteries.

Battery Case Extension A Batteries, size "D"



Battery Case Extension B Batteries, size "D"



Type A Battery Extension Case is for loading two Additional Capacitors or three D-size batteries.

Battery Case Extension A



Battery Case Extension B



Type B Battery Extension Case is for loading an Additional Capacitor.

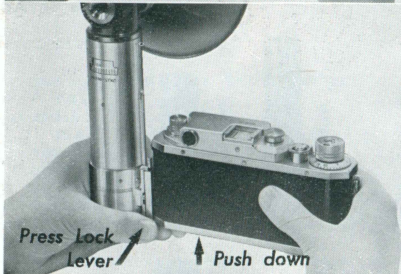


## 6. How to Mount on and Dismount from the Camera

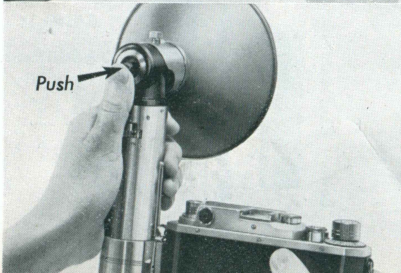
### 1. How To Mount On The Camera



### 2. How To Dismount From the Camera



### 3. Bulb Ejection



## 7. How to Use

### MICRO-SYNC

#### 1. Function of Micro-Sync

Micro Sync is a device to assure perfect flash photography. Based on the type of bulb used and the shutter speed, Micro Sync automatically adjusts the

timing from the moment the shutter button is pushed until the bulb flashes, so that a perfectly synchronized photograph is obtained.

The Time-Lag increases as the Micro Sync dial is advanced from "0" to "30". Micro Sync can adjust the Time-Lag from approximately 2 milli-second up to 15 milli-second.

If the Micro Sync dial is set "off", the Time-Lag is "0" and the Micro Sync Circuit is not in operation.

## 2. How to Use the Micro Sync Dial

Check the type of power which you use in your flash equipment. If you use Model "Y-K", refer to Table I. If you use Model "Y-L", refer to Table II.

- A. Canon Flash Unit Model "Y-K" is powered by a 200 mfd. capacitor and  $22\frac{1}{2}$  volt battery.
- B. Canon Flash Unit Model "Y-L" is powered by
  - 1) 4 batteries in a penlight battery cartridge,  
or
  - 2) 3 batteries of size "D"  $1\frac{1}{2}$  volt in a battery extension Case A.

### Remarks :

Every combination for a perfectly synchronized flash photograph is listed in the following Tables, so that flash photograph can be accomplished without any difficulties whatsoever.

If you are using new Canon Models IV-Sb, or II-S, refer to Table A. If you are using the old Canon Models IV-Sb, or II-S, II-F, refer to Table B.

**TABLE I****For CANON FLASH Unit "Y-K" with Capacitor Cell**

A. When new model CANON cameras IV-Sb or II-S with Body Numbers 170,000 and Up are used

Shutter Speed		Type of Bulb		
High Speed Dial	Slow Speed Dial	Class FP	Class F	Class M
		Matsuda FP-6 West No. 6 West 6Z G. E. No. 6 Sylvania FP-26	Matsuda F-5 Matsuda F-1 West SM West SF West SS	Matsuda M-5 West No. 5 West No. 3 West No. 0 Phillips PF25N Phillips PF14N Phillips PF3N G.E. No. 5 Sylvania Press 25
30—1	15—1	Off	Off	Off
30—1	+X	—	Off	—
30—1	30	—	—	—
*X	30	5	—	—
60	30	0	—	—
125	30	Off	—	0
250	30	Off	—	—
500	30	Off	—	—
1000	30	Off	—	—

**Notes :** (1) Use the following instructions for shutter-setting:—

When High Speed Shutter is to be used: Set the Slow Speed Dial at "30"

When Slow Speed Shutter is to be used: Set the High Speed Dial at "30—1"

(2) The marks "—" in the above table indicate "non-synchronization".

(3) +The shutter speed at the "X" contact on the Slow Speed Dial is approximately 1/30 second.

\*The shutter speed on the "X" contact on the High Speed Dial is approximately 1/45 second.

(4) The column 1/1000 second applies only to CANON Camera Model IV-Sb.

**Illustrations :**

- When the West No. 6 is used: Set the Micro Sync Dial at "off" if the shutter speed is to be from 1/15 second to one second, and at "0" for 1/60 second.
- When the Matsuda F-5 is used: Use the Micro Sync Dial at "off" if the shutter is set at "X" on the Slow Speed Dial, or at 1/15 second through one second.
- When the Matsuda M-5 is used: The Micro Sync Dial should read "0" for shutter speed of 1/125 second, and "off" for slow shutter speed from 1/15 second through one second.

**Note :**

When Using Flash Y Unit with Canon Camera Model II-F, Micro Sync Setting for the shutter speeds between 1/30-1/500 shown in the table above can be used. "F" class bulb cannot be used with Model II-F.

B. When CANON cameras IV-Sb with Body Numbers up to and including 169,999 are used

Shutter Speed		Type of Bulb				
High Speed Dial	Slow Speed Dial	Class FP		Class F	Class M	
		Matsuda FP-5 West No. 6 West 6Z G.E. No. 6	Phillips PF24N Phillips PF45N	Matsuda F-1 Matsuda F-5 West SM West SS	Matsuda M-5 Phillips PF25N Phillips PF14N Phillips PF3N	West No. 0 West No. 3 West No. 5
25—1	8—1	Off	Off	Off	Off	Off
25—1	+X	—	—	Off	—	—
25—1	25	—	Off	—	—	—
40	25	5	Off	—	—	—
60	25	0	Off	—	—	—
100	25	Off	Off	—	—	—
200	25	Off	Off	—	—	—
500	25	Off	Off	—	—	—
1000	25	Off	—	—	—	—

**Notes :** (1) Use the following instructions for shutter-setting :—

When High Speed Shutter is to be used : Set the Slow Speed Dial at “25”

When Slow Speed shutter is to be used : Set the High Speed Dial at “25-1”

(2) The marks “—” in the above table indicate “non-synchronization”.

(3) + The shutter speed at the “X” contact on the Slow Speed Dial is approximately 1/25 second.

**Illustrations :** (a) When the Matsuda FP-6 is used : Set the Micro Sync Dial at “off” if the shutter speed is to be set at 1/100 second and at “0” for 1/60 second

(b) When the West SS is used : Set the Micro Sync Dial at “off” if the shutter is set at “X”, and also at “off” for slow shutter speeds from 1/8 second through one second.

**Note :**

When Using Flash Y Unit with Canon Camera Model II-F, Micro Sync Setting for the shutter speeds between 1/30-1/500 shown in the table above can be used. “F” class bulb cannot be used with Model II-F.



# TABLE II For CANON FLASH Unit Model "Y-L" used in Combination with 4 Penlight Batteries or 3 Size "D" (1 1/2 Volt) Batteries

A. When new CANON cameras Models IV-Sb and II-S with Body Numbers 170,000 and Up are used

Shutter Speed		Type of Bulb		
High Speed Dial	Slow Speed Dial	Class F-P	Class F	Class M
		Matsuda FP-6 West No. 6 West 6z G.E. No. 6 Sylvania FP-26	Matsuda F-5 Matsuda F-1 West SM West SF West SS	Matsuda M-5 West No. 5 West No. 3 West No. 0 Phillips PF25N Phillips PF14N Phillips PF3N G.E. No. 5 Sylvania Press 25
30—1	15—1	Off ° (30)	Off	Off
10—1	+X	—	Off	—
30—1	30	10	—	30
*X	30	5	—	20
60	30	0	—	10
125	30	Off	—	0
250	30	Off	—	—
500	30	Off	—	—
1000	30	Off	—	—

- Notes :**
- (1) Use the following instructions for shutter-setting:—  
When High Speed Shutter is to be used: Set the Slow Speed Dial at "30"  
When Slow Speed Shutter is to be used: Set the High Speed Dial at "30-1"
  - (2) The marks "—" in the above table indicate the "non-synchronization",
  - (3) +The shutter speed at the "X" contact on the Slow Speed Dial is approximately 1/30 second.  
\*The shutter speed at the "X" contact on the High Speed Dial is approximately 1/45 second.
  - (4) The column 1/1000 second applies only to the CANON Camera IV-Sb.
  - (5) \* (30) is only for Model II-F.

- Illustrations :**
- (a) When the Matsuda EP-6 is used: Set the Micro Sync Dial at "off" for shutter speed of 1/125 second, and at "10" for 1/30 second.
  - (b) When the West SM is used: Set the Micro Sync Dial at "off" if the shutter is to be set at "X" on the Slow Speed Dial and also at "off" for slow shutter speed from 1/15 second through one second for perfect synchronization.
  - (c) When the Matsuda M-5 is used: Set the Micro Sync Dial at "0" if the shutter is to be set at 1/125 second, and at "20" if the shutter is to be set at "X" on the High Speed Dial.

**Note :**  
 When Using Flash Y Unit with Canon Camera Model II-F, Micro Sync Setting for the shutter speeds between 1/30-1/500 shown in the table below can be used. "F" class bulb cannot be used with Model II-F.

B. When CANON cameras IV-Sb with Body Numbers up to and including 169,999 are used

Shutter Speed		Type of Bulb				
High Speed Dial	Slow Speed Dial	Class FP		Class F	Class M	
		Matsuda FP-6 West No. 6 West 6Z G.E. No. 6	Phillips PF24N Phillips PF45N	Matsuda F-1 Matsuda F-5 West SM West SS	Matsuda M-5 Phillips PF25N Phillips PF14N Phillips PF3N	West No. 0 West No. 3 West No. 5
25—1	8—1	Off ° (30)	Off	Off	Off	Off
25—1	*X	—	—	Off	—	—
25—1	25	10	Off	—	30	25
40	25	5	Off	—	25	20
60	25	0	Off	—	15	15
100	25	Off	Off	—	—	—
200	25	Off	Off	—	—	—
500	25	Off	Off	—	—	—
1000	25	Off	—	—	—	—

**Notes :** (1) Use the following instructions for shutter-setting:—

When High Speed shutter is to be used: Set the Slow Speed Dial at “25”

When Slow Speed Shutter is to be used: Set the High Speed Dial at “25—1”

(2) The marks “—” in the above table indicates “non-synchronization”.

(3) \*The shutter speed at the “X” contact on the Slow Speed Dial is approximately 1/25 second.

(4) \*(30) is only for Model II-F.

**Illustrations :**

- When the West No. 6 is used: Set the Micro Sync Dial at “off” for shutter speed of 1/100 second, and at “5” for 1/40 second.
- When the Matsuda F-5 is used: Set the Micro Sync Dial at “off” if the shutter is to be set at “X” or at slow shutter speeds from 1/8 second to one second.
- When the Phillips PF-25N is to be synchronized with shutter speed of 1/60 second, set the Micro Sync Dial at “20”. Set the Micro Sync Dial at “30” for 1/25 second.

**Note :**

When Using Flash Y Unit with Canon Camera Model II-F, Micro Sync Setting for the shutter speeds between 1/30-1/500 shown in the table above can be used. “F” class bulb cannot be used with Model II-F.

## Remarks

- (1) Conversion from High Speed to Slow Speed is made at 1/30 second in the case of new Canon Camera Models IV-Sb and II-S, and at 1/25 second in the case of old Canon Camera Models IV-Sb and II-S.
- (2) The figures from "0" to "30" on the Micro Sync Dial should in no way be understood to correspond to the Time Lag. (see "Functions of Micro Sync")
- (3) There are many reasons for failure in flash synchronization. Bulb may be poor or of uneven quality, or there may be a drop in the power source. It is therefore advisable to use a new, qualified power source. A 22½ volt battery should give not less than 20 volts, and a single light battery should generate not less than 3 amperes in short-circuit.
- (4) In case a slight failure in synchronization shows on the film, make a small adjustment in the Micro Sync settings listed in the preceding Tables.  
Hold the negative in such a manner so that the image thereon will show properly on the bright surface of the film.
  - a) If an insufficiency of light shows on the left side, decrease the Micro Sync Dial reading.
  - b) If an insufficiency of light shows on the right side, advance the Micro Sync Dial reading.
- (5) In case the bulb fails to flash, check the following points:
  - 1) The deterioration of the power source (See the Paragraph 3 above).
  - 2) Contacts in the circuit:
    - a) For Flash Unit Model "Y-K"  
Make sure that the spring terminals inside the Capacitor Cell maintain proper contact with the battery and capacitor. If not, adjust the springs so that they make proper contact. (see page 5)

## b) For Flash Unit Model "Y-L"

Adjust the spring terminals in the penlight battery cartridge so that they make proper contact. (see page 6)

- (6) After the Flash Unit Model "Y-L" is used, take batteries out of the battery case. If they are left in the case too long, the batteries will deteriorate and become unserviceable.
- (7) After the Flash Unit Model "Y-K" is used, detach the Capacitor Cell from the Flash Unit. Otherwise the battery remains switched-on and will deteriorate rapidly.
- (8) A 200 m.f.d. Capacitor, which lasts almost indefinitely when used frequently, may become unserviceable, if left unused too long, due to chemical changes. Therefore, if the Capacitor is not used for a long time, charge it once a month or so. For that purpose, mount the battery and Capacitor to the Capacitor Cell and push button (A) shown in the illustration below for a while.
- (9) When a Side-Lighting Unit is used in combination with two or more bulbs for a simultaneous flash, the number of additional bulbs required, based on ampere, is as follows:

### When Flash Unit Model "Y-L" is Used

Ampere	3~4	4~6	6~8	8~10	10~
Penlight Batteries	2	3	—	—	—
Single Battery	2	3	4	5	6

## Remarks :

- 1) In combination with Flash Unit Model "Y-K", up to two bulbs may be used with the Micro Sync set at "off".
- 2) If the Micro Sync circuit is used, reduce the number of bulbs listed above by one.





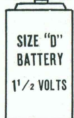
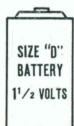
# TEN TYPES OF POWER SOURCES FOR CANON FLASH UNIT



Type "A"



Type "A"



Type "A"



Type "C"



Type "C"



Type "C"



Type "C"



## MULTIPLE FLASH



*Canon Side Lighting Unit*



*Canon Self Extension  
Adapter*



*Canon Extension  
Cord "A"*



## 10. SPEED LIGHT (ELECTRONIC FLASH UNIT)

is connected to CANON CAMERA through Canon SELF EXTENSION ADAPTER AND EXTENSION CORD "A" (see page 17.)



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the High Shutter Speed Dial is set at 30-1. (or 1/25)

a) For Improved IV-Sb (2) and II-S

Operate just the same way as mentioned in paragraph 1-A. If the lamp light just before the dial finishes its rotation the circuit of slow shutter speed is in good order.

(Note)

The high shutter speed dial will stop at nearly the end of turning as the shutter brake comes to operate. Turn it further applying a little bit of force until it completely stops. If the lamp lights instantly as soon as the dial moves, the circuit is all right.

b) Old IVSb and IIS

Just press the shutter release button. (Shutter Winding is unnecessary.) If the lamp lights instantly (BC Type) or continuously as long as the pressure remains (in B Type), the circuit is in good condition.

II. CIRCUIT TEST included MICRO SYNC CIRCUIT

A. when Type B power source is used

The Circuit condition of flash synchronizer including micro sync is easily found by setting necessary micro sync dial through the same way as described in paragraph I. A. (if test lamp lights the function of micro sync is in good order)

B. When BC Type power source is used

Set the Micro sync dial at requisite number (0-5) and test in the same way as described in the paragraph 1-A. When the lamp does not light but a click of micro sync is heard, the circuit may be regarded as in good condition and flash bulb can be fired.

(Note)

(1) The sound of Micro sync can be heard at more than 5 on the dial but flash bulb will not fire because of the energy required is insufficient. Test Button

Circuit test can be done with Canon Flash tester or or Canon Flash Meter.

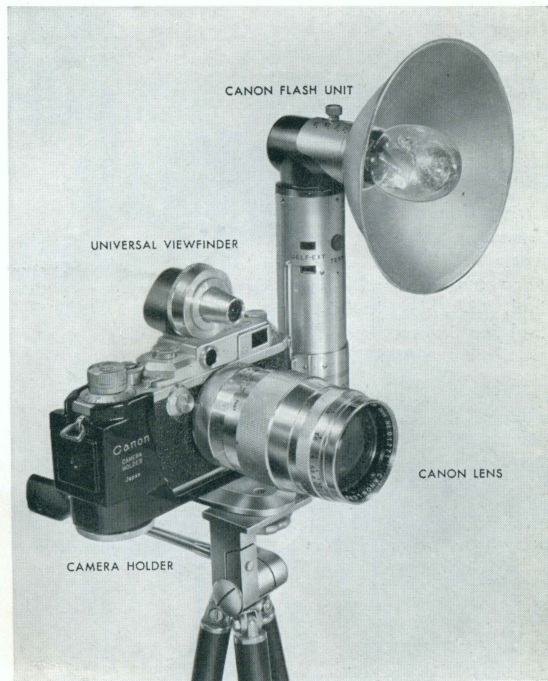
The test button on flash main housing is used for the checking both the self extension circuit and side lighting unit circuit by inserting the flash tester or flash meter to the "EXT" outlet of self extension adapter or the side lighting unit.

(Note)

If you use test lamp instead of Flash bulb, it doesn't light by pressing the red test button.



## 12. CANON CAMERA HOLDER



## 13. FLASH UNIT BRACKET S1 and R1

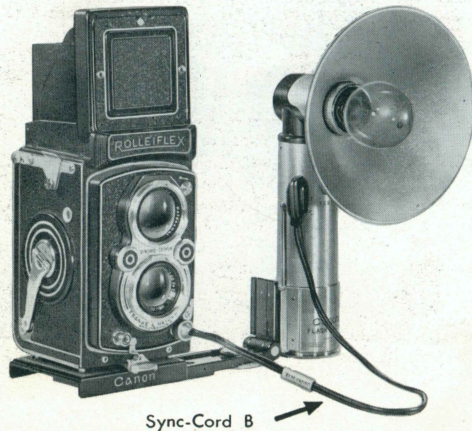
### Flash Unit Bracket-S1

(for using Canon Flash Unit Model Y with any synchronized camera other than reflex type)

### Flash Unit Bracket-R1

(for using Canon Flash Unit with synchronized reflex type cameras)

Both are available with Sync Cord "A", with ASA type terminal, "B", with Rollei type terminal, or "S1", without terminal for Camera.





## 14. ACCESSORIES FOR CANON FLASH UNIT

