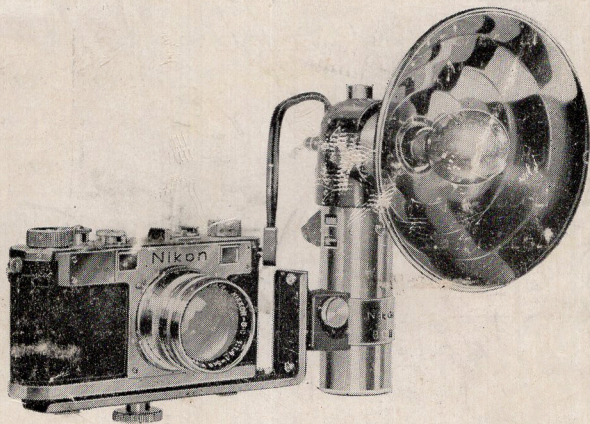


Instruction for Using  
B.C. FLASH UNIT  
Model BCB-II  
for  
Nikon Camera Model "S"



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## 1. Unique Performance of Flash Unit Model BCB-II

B.C. Flash unit Model BCB-II is an improved type over Model BCB-I and enjoys a good reputation in every photographic circle.

Model BCB-II combines the features of the compact and efficient B.C. Nikon flash unit and special new devices inaugurated in reflector and battery case. The new model is designed to use a hearing aid type lamination battery (22.5V) as well as penlight type dry batteries.

Notwithstanding the ingenious performance, the operation is so simple that the power unit is automatically charged by loading a flash bulb into the socket. The bulbs, circuit as well as battery can be checked by two checking midget lamps.

Perusal of these instructions will enable its readers to take flash light pictures, automatic flash synchronization resulting between Nikon camera Model S and B.C. Flash unit by release of shutter.



## 2. Name of Parts and their uses

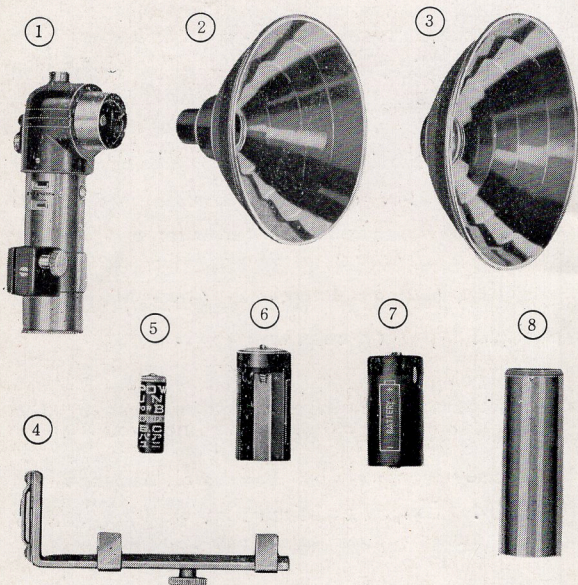


Fig. 1



(1) Main Flash Unit

(2) 5" Reflector

Screwed on the top of the main flash unit.  
Used with a midget bulb, Swan base.

(3) 6" Reflector

Used with ordinary bulb, Edison base.

(4) Bracket (Holder)

(5) Power Unit (Condenser)

Used with a Lamination battery

(6) Case for B.C. Unit

A Lamination battery and a power unit shall  
be loaded as indicated by engraved mark.

(7) Case for Pen-light type batteries.

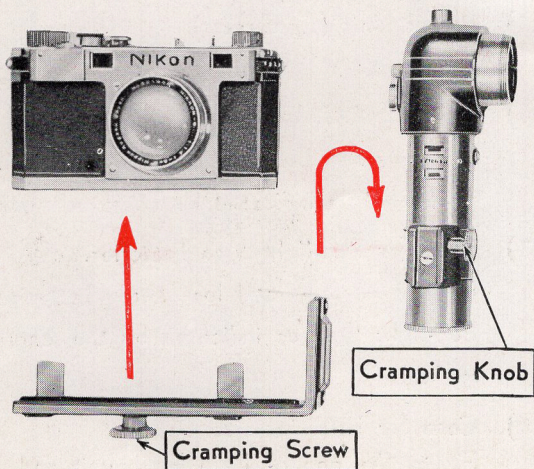
Remove the cap and load three batteries of  
Pen-light type as indicated by the engraved  
mark.

(8) Case for batteries size D.

Fix to the end of Main Flash unit and load  
three batteries of size D.

### 3. Fixing the Unit and Reflector

- (1) B.C. Flash unit for Nikon camera Model S can be used with the camera without removing the ever ready case.
- (2) Fix the base of the bracket by screwing the cramping screw into the tripod mount of the camera or the ever-ready case.
- (3) Slide the main flash unit on the bracket, and fix it tightly by means of the cramping knob.



- (4) Notice the following combinations of reflector and bulb :-

Use a 5" Reflector for midget bulbs of Swan base  
 (G.E. No. 5, No. 6, SM.  
 Sylvania FP 26, Press 25 etc.)

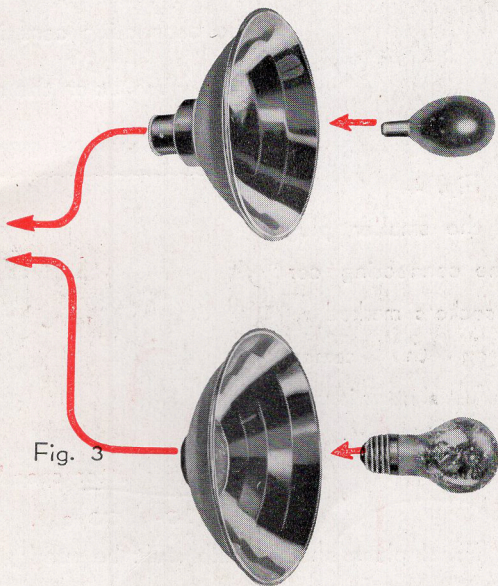


Fig. 3

Use a 6" Reflector for ordinary bulbs of Edison base  
 (G.E. No. 11, No. 31  
 Sylvania No. 2A, Press 40 etc.)



#### 4. Synchronization contacts and selection of flash bulbs.

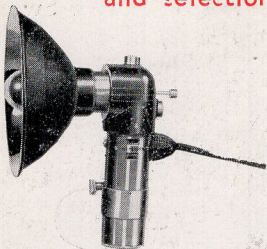
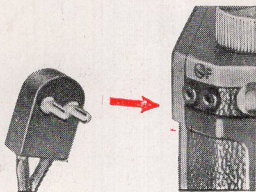


Fig. 4

Push the smaller plugs on the connecting cord into sockets marked "F" on the camera, when fast shutter is used.

Thrust the larger plugs on the connecting cord into yellow socket on the rear side of the flash gun



For fast shutter speeds

$1/20$ - $1/500$  sec.

Focal plane shutter bulb must be used

GE	No. 6	No. 31
Sylvania FP	26	No. 2A

And push the smaller plugs  
on the connecting cord into  
sockets on the camera.

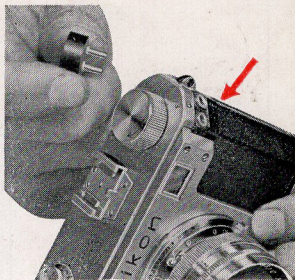
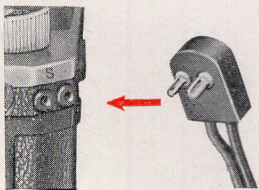


Fig. 5

Push the smaller plugs  
on the connecting cord  
into sockets marked "S"  
on the camera, when  
slow shutter is used.



For slow shutter speeds

1-1/8 sec.

Open flash bulb must be used

GE	No. 5	No. 11
Sylvania Press 25,		40

## 5. Loading of Lamination battery

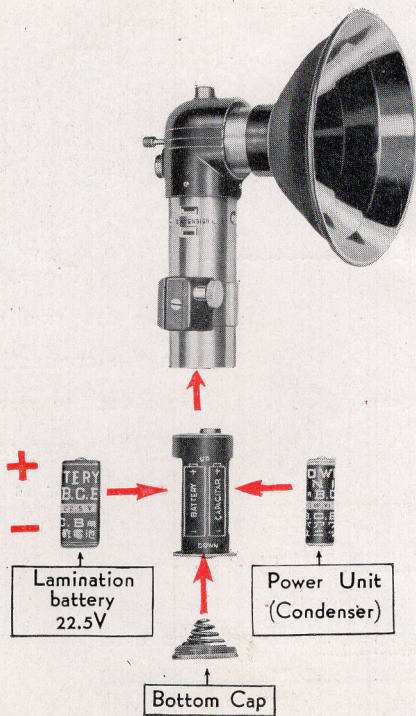


Fig. 7



- (1) Lamination battery of hearing aid type shall be used.
- (2) The lamination battery and the power unit shall be loaded in the B.C. unit case (Fig I-6) according to engraved indication, care being taken in which they are inserted, namely:  
Place both the lamination battery and the power unit with the plus ends up and minus ends down.  
The incorrect direction of the battery may impair the proper working of the power unit.
- (3) Insert into the main flash unit the case (6) properly loaded with battery and power unit as above, the end of the case with the spring facing upwards, in accordance with the engraved indication.
- (4) When the flash unit is not used, remove the battery.

## 6. Circuit checking

### (a) Circuit checking without the bulb

(1) Push the midget lamp.

(2) 4 ~ 5 seconds after, push the shutter release button.

(3) See that the midget lamp flicks.

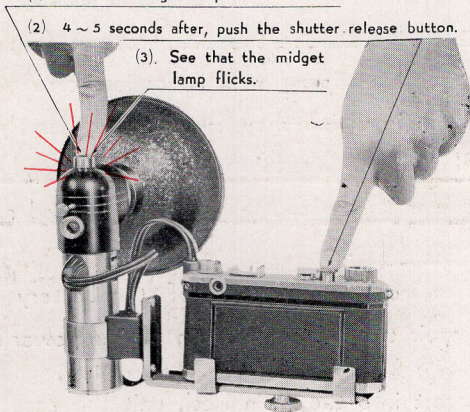


Fig. 8

As the above check as well as check described on the next page, can be made before shutter winding, the film remains unexposed.

The circuit can also be checked by releasing shutter after shutter winding.

The film is exposed in this case.

## (b) Circuit checking with the testlamp

(1) Put the test lamp into the socket.

(2) 4 ~ 5 seconds after, push the shutter release button.

(3) See that the test lamp flicks.

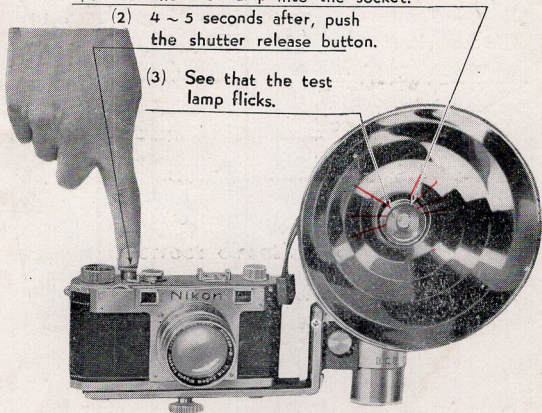


Fig. 9

A 6.3 volt bulb used in a radio set is preferable for the midget lamp.



### (c) Flash bulb check

(To detect snapped flash bulbs)

- (1) Put the bulb into the socket.
- (2) 4 ~ 5 seconds after, push the midget lamp.  
The bulb is sound and the power unit is charged when the midget lamp flicks.

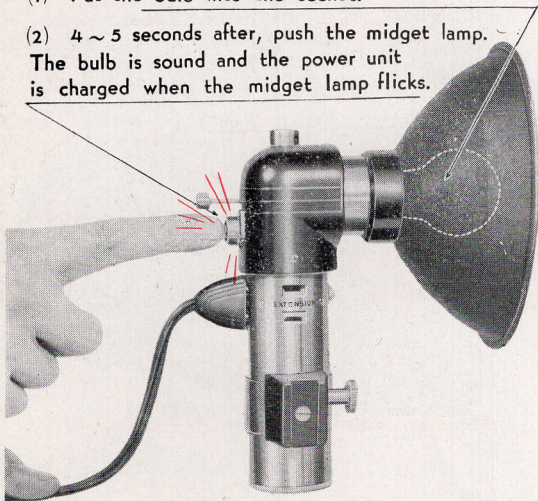


Fig. 10

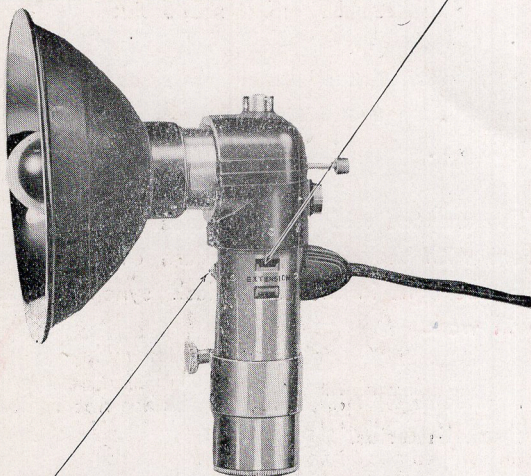
## 7. Caution for Checking

1. In the above tests, if the midget lamp or the test lamp is not lighted, check the filament which may be found snapped.
2. To change the damaged midget lamp for a new one, unscrew the metal piece containing the lamp. Use a 6.3 volt, 150 mA bulb used in a radio set.
3. The snapped midget lamp bulbs do not interfere with the circuit; therefore even if they do not light in the test, flash synchronization will work.
4. If undamaged midget lamp bulbs are not lighted, check batteries.
5. After the circuit and Flash bulb tests and the socket connection found perfect, the camera is ready for flash shooting. Wind up the shutter and push the release button, and the Flash synchronizes with the shutter release.

## 8. Independent unsynchronizing flash and Multiple flash

### Multiple Flash

Push the plugs on the extension cord into the sockets (blue) for the side light unit.



Independent Unsynchronizing Flash  
Press the trigger down to shoot the flash.

Fig 11

For the material of plugs of side lights, rubber is preferred to plastic.



## 9. Ejecting used bulbs

When the shooting is finished, push the ejector, then the bulb drops off.

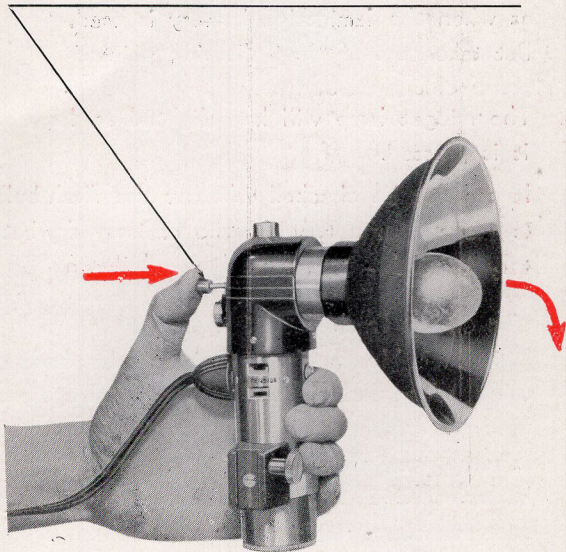


Fig. 12

## 10. Use of ordinary dry batteries

1. When the lamination battery is not available, use pen-light type batteries or size-D batteries.
2. The circuit check is carried out the same way as when the lamination battery is used.  
But take care of the following points :
  - a. The midget lamp will keep lighted as long as it is pressed.
  - b. It can not be checked whether the flash bulb is snapped or not, when the ordinary dry battery is used.
3. Use always fresh batteries.  
It is advisable to check their voltage before using. When batteries with dropped voltage are used, flash synchronization becomes inaccurate because of the insufficient current of the batteries which tends to augment the time lag between shutter release and flash.
4. When the flash unit is not in use, remove the batteries.

## II. Loading pen-light type batteries

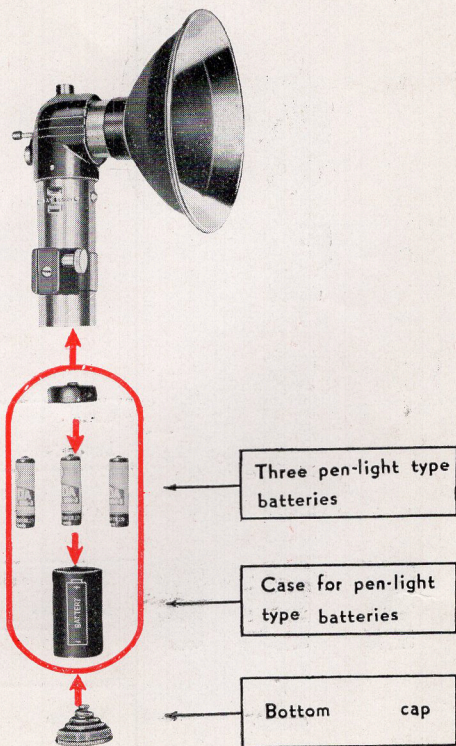


Fig. 13



## 12. Loading size-D batteries

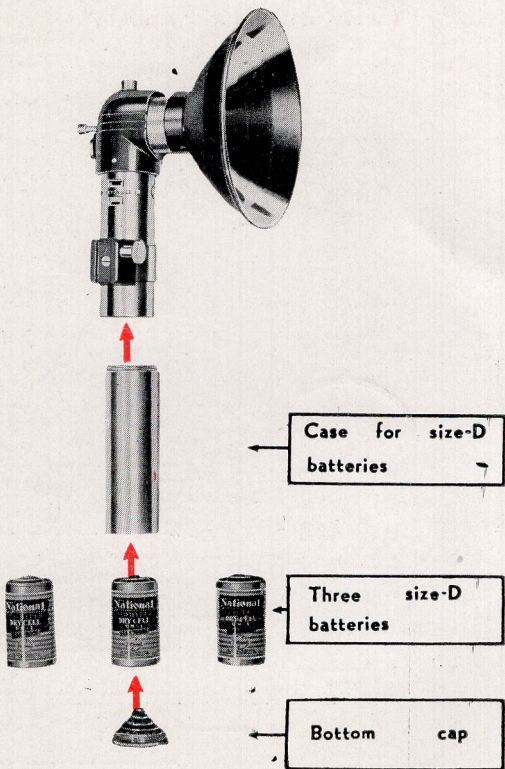


Fig. 14

### 13. Characteristics of Flash Bulbs

#### Focal plane shutter Bulbs

No.	Time lag	Flash duration above $\frac{1}{2}$ peak	Total light output
	m. sec.	m. sec.	Lumen sec.
G.E. No. 6		30	15,000
Sylvania No. FP-26		24	15,000
G.E. No. 31		53	77,000
Sylvania No. 2A		64	77,000

#### Open Flash Bulbs

G.E. SM	5	7	5,000
G.E. No. 5	20	13	16,000
G.E. No. 11	20	12	28,000
Sylvania SF	5	5	5,000
Sylvania Press 25	20	14	20,000
Sylvania Press 40	20	17	30,000

## EXPOSURE GUIDE NUMBER

(Distance in ft  $\times$  F value)

No. of Bulbs	Shutter speed	Speed of film (ASA)				
		10	20	40	80	100
G.E. No. 6	sec. 1/100	42	65	90	135	190
	1/200—1/250	29	47	65	95	137
	1/400—1/500	21	33	46	65	90
G.E. No.31	1/200—1/250	45	70	100	140	195
	1/400—1/500	32	50	70	100	140
G.E. SM	Less than 1/8	50	70	100	140	195
G.E. No.5	Less than 1/8	90	135	190	270	380
G.E. No.11	Less than 1/8	100	150	210	295	415

Example: Bulb used : G.E. No. 6

Film speed: ASA 40,

Shutter speed: 1/100 sec

Corresponding guide number = 90.

For the distance 20ft

$$F \text{ value} = \frac{90}{20} = 4.5$$



## REMARKS

- 1 The flash lamp is automatically lighted with the release of the shutter button, which must not be touched until all is ready.
- 2 Before the flash bulb is inserted, make sure that the winding of film is in the "advance" direction indicated by "A" on the camera top. When the film winding is in the "reverse" direction indicated by "R", the circuit will have already been closed without the shutter being released, so that the flash bulb will go off instantly when it is inserted.
3. For high speed shutter, open flash bulbs must not be used. Use folcal plane shutter bulbs only.
4. Voltage of lamination battery must not exceed 22.5V, if it does, the power unit may be damaged.



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