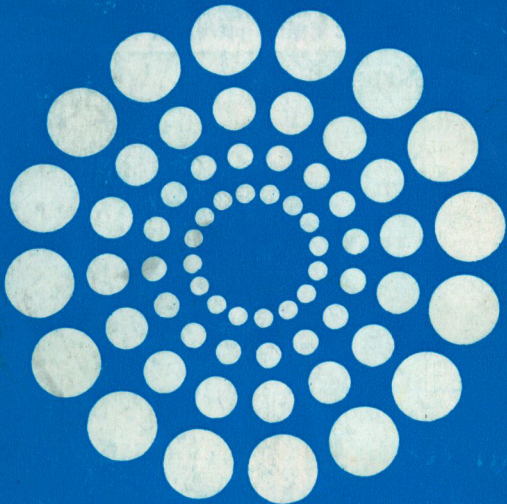


Nikon

**FLASH UNIT
BC-7**

INSTRUCTIONS



NIKON FLASH UNIT BC-7 is the compact and light weight and yet quite powerful flash unit, to fit the Nikon F camera.

FIG. 1



FEATURES

The flash unit BC-7 makes electrical connection with the flash synchronization terminal in the Nikon F, Nikon F Photomic, Photomic-T, TN or FTN camera, only by fitting into the camera accessory shoe, eliminating the need for connecting cord.

- It is provided with a three-way socket which permits the use of three types of flash bulbs: S. C. bayonet base, miniature base (M2) or AG-1 (All-Glass).
- When you insert a flash bulb into the socket, it charges the capacitor instantaneously and automatically, thus avoiding drain of the battery.
- It is provided with test circuits for checking each flash bulb, charging of the capacitor, the synchronization circuit as well as connection of the flash unit.
- The synchronization cord socket, provided besides, permits the use of the unit for extension flash.
- The collapsible, fan-fold type reflector affords compactness and great facility for carrying about the unit.

SPECIFICATIONS

Flash bulb socket

Three-way type socket permits use of any one of the following three types of flash bulbs :

- S. C. Bayonet base
- Miniature base (M 2)
- AG-1 (All-Glass)

Illuminating angle

Approx. 65°

Tilt-back angle of the reflector (for bounce flash)

Click-stops at 0° (for general use), 30° , 60° , 90° and 120°

Power source

B-C type: The capacitor is automatically charged by fitting a bulb to the socket.

Battery to be used

15 V laminated dry battery (Eveready No. 504 or the similar)
(This type battery is available on the market.)

Testing system

Checks the synchronization circuit, connection of the flash bulb and charging circuit.

Connection to the camera

Direct, cordless connection to the flash terminal on the camera accessory shoe.

Synchronization cord socket

P.C. type socket is provided for connecting the cord for extension flash.

Weight

Approx. 180 g (without laminated battery)

NOMENCLATURE

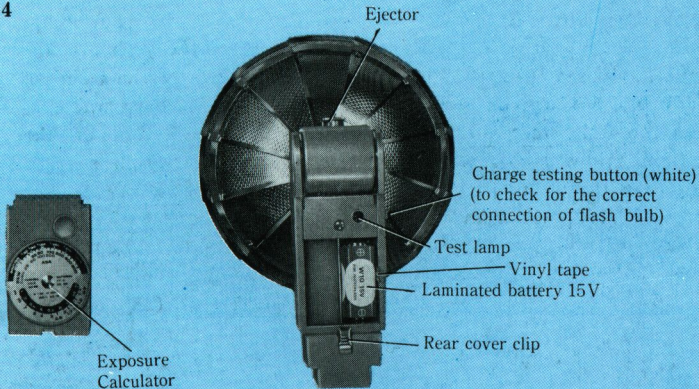
FIG. 2 — Three-way socket



FIG. 3



FIG. 4



LOADING THE BATTERY

Pushing downwards the rear cover clip on the back of the unit, open the cover.

Insert the laminated battery 15V (Eveready No. 504 or the similar), into the unit, according to the plus and minus symbols.

Loop the vinyl tape under the battery to facilitate the removal of the battery.

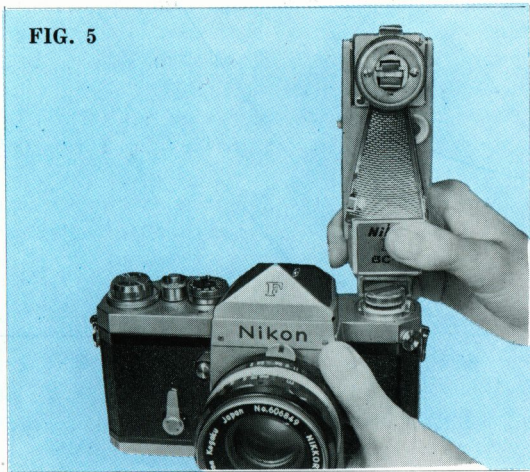
FITTING TO THE CAMERA

Slide in the foot of the flash unit from the rear of the camera into the camera accessory shoe as far as it will go, where the terminal on the flash unit comes into contact securely with that on the rear of the accessory shoe.

To detach the unit, reverse the above procedure.

It is convenient to fold up the reflector in mounting or dismounting the flash unit. (Fig. 5)

FIG. 5



CHECKING SYNCHRONIZATION CIRCUIT

Checking of the circuit should be done before the camera is loaded with the film.

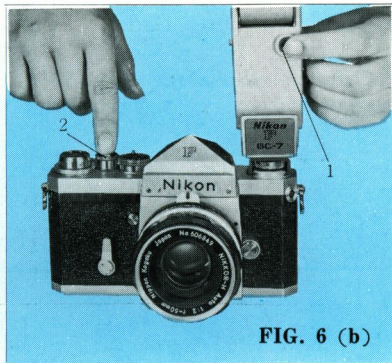
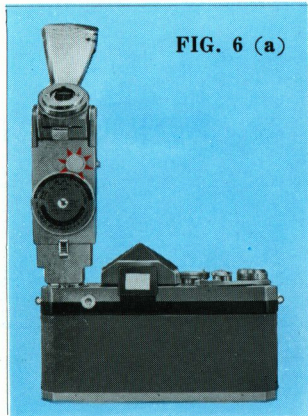
1. Tilt upwards the reflector, attached to the camera, to the position for bounce flash as illustrated. (Fig. 6 (a))
2. Keep pushing the red button for 3-4 seconds.

While pushing this button, depress the shutter release button on the camera. (Fig. 6 (b))

If the inside test lamp glows instantly (visible through the back cover of the flash unit), it indicates that the circuit is functioning properly.

Note : If the test lamp does not light in this test, check the following :

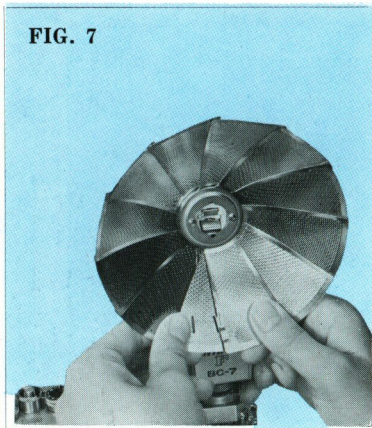
- Imperfect contact of the terminals
- Drain of the battery
- Trouble in the capacitor
- Disconnection of the test lamp, etc.



OPENING THE REFLECTOR

Spread out the reflector. When fully opened, the ends of the reflector are to be hooked up together.

For closing, release the ends of the reflector.



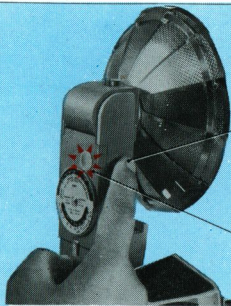
ATTACHING THE FLASH BULB

Push the bulb into the socket on the flash unit so that it is held securely.

To remove the bulb from the unit, push the bulb ejector button on the head. The bulb will drop off.

CHECKING THE FLASH BULB

FIG. 8



Attach a flash bulb by inserting its base into the socket. A few seconds afterward, push the charge testing button.

If the inside test lamp glows briefly, this indicates that the flash bulb is good and the capacitor has been charged.

USE OF SYNCHRONIZATION SELECTOR ON THE NIKON F

For positive synchronization, set the synch selector according to the flash bulb and shutter speed used. See the table on next page.

Lift up the milled selector ring on the outer edge until the desired colored dot and/or figure appears on the selector window adjacent to the dial; then drop the ring into place.

In case of Nikon Photomic T, TN or FTN camera, it is necessary to once remove the finder from the camera beforehand.

| Flash Bulb | | | | Shutter Speed | | | | | | | | | | | | | |
|------------|-------------------|-----------------|-----------------------|---------------|-----|-----|-----|----------|------------|----|---|---|---|---|---|--|---|
| Class | Type | Make | | 1000 | 500 | 250 | 125 | 60 | 30 | 15 | 8 | 4 | 2 | 1 | B | | |
| | | G.E. | Sylvania | | | | | | | | | | | | | | |
| FP | Bayonet | No. 6 No. 6B | FP 26 FP 26B | ● Green | | | | ● Red | ○ White | | | | | | | | |
| M | Bayonet | No. 5 No. 5B | Press 25 Press 25B | — | — | — | — | | | | | | | | | | ● |
| | Miniature (M2) | M 5 M 5B | M 3 M 3B | — | — | — | — | | | | | | | | | | — |
| MF | Miniature (M2) | M 2 M 2B | M 2 M 2B | — | — | — | — | | | | | | | | | | — |
| | AG-1 | AG-1 AG-1B | AG-1 AG-1B | — | — | — | — | — | | | | | | | | | |

HOW TO USE THE EXPOSURE CALCULATOR

The calculator provided on the flash unit BC-7 is primarily designed to facilitate the use of a flash bulb for focal-plane shutter.

Set the film speed (ASA) graduated on the upper revolving dial to the shutter speed graduated on the inside fixed dial, and the correct exposure will be obtained by reading the lens aperture on the fixed dial or the subject distance on the revolving dial, either being brought into coincidence with each other.

Example 1.

Flash bulb : G.E. No. 6 or
Sylvania FP 26

Shutter speed : 1/125 sec.

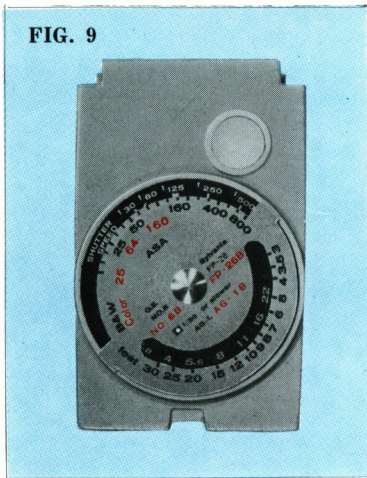
(Turn the synch selector dial
on the Nikon F until the green
dot appears in the window.)

Speed of film : ASA 160

Distance to the subject : 10 ft.

1. Turn the revolving dial to set the ASA figure 160 for black-and-white film (in black) to the shutter speed figure 125.
2. The correct exposure will be obtained with an aperture of about $f/11$ at the distance of 10 ft.

FIG. 9



Example 2.

Flash bulb: G.E. No. 6B or
 Sylvania FP 26B

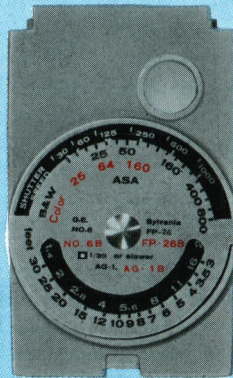
Shutter speed: 1/125 sec.
(Turn the synch selector dial
on the camera until the green
dot appears.)

Speed of film: ASA 64

Distance to the subject: 10 ft.

1. Turn the revolving dial to set the ASA figure 64 for color film (in red) to the shutter speed figure 125.
2. The correct exposure will be obtained with an aperture of about halfway between f/4 and f/5.6 at the distance of 10 ft.

FIG. 10



Example 3.

Flash bulb: G.E. AG-1 or
Sylvania AG-1

Shutter speed: 1/30 sec.

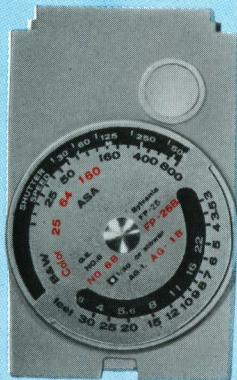
(Turn the synch selector dial on
the Nikon F until the white dot
and F appears in the window.)

Speed of film: ASA 160

Distance to the subject: 10 ft.

1. Turn the revolving dial to set
the ASA figure 160 for black-
and-white film (in black) to the
white dot (for AG-1).
2. The correct exposure will be
obtained with an aperture of
about f/11 at the distance of
10 ft.

FIG. 11



EXPOSURE DETERMINATION BY GUIDE NUMBERS

The maker of each type flash bulb publishes the guide numbers, which are conveniently used to determine the correct exposure. Divide the guide number (GN) by the subject distance (D) or the f-number (A), and you will be given the f-number or the subject distance to be set, respectively.

$$\frac{\text{GN}}{\text{D or A}} = \text{A or D}$$

However, since such guide numbers are generally given on the basis of a fixed-type, large-diameter reflector with a polished reflecting surface, and not of a fan-fold, wide-angle type reflector with a light scattering reflecting surface, such as of the BC-7 flash unit, it is necessary to increase the exposure by opening the aperture about a half stop larger than the value obtained by the above calculation.

Example 1.

Flash bulb:

G.E. M2 or Sylvania M2

Shutter speed:

1/30 sec. (Turn the synch selector dial on the Nikon F camera until a white dot and F appear in the window.)

Speed of film:

ASA 125

Guide number:

About 200

Subject Distance:

15 ft.

$$\frac{200}{15} = 13.3$$

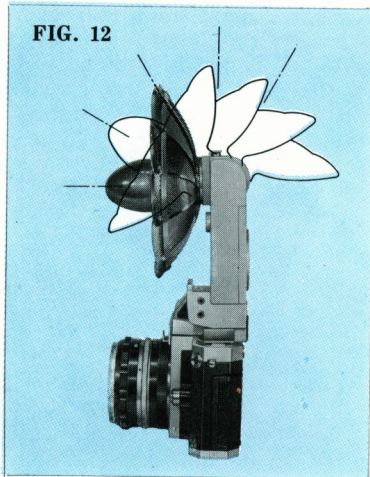
Then, open the aperture of lens a half stop, larger than f/13.3, that is, about f/11.

BOUNCE FLASH

The reflector of the BC-7 flash unit can be tilted upwards and backwards through an angle of 120 degrees (with click stop at every 30 degrees) for bounce flash. The bounce flash which produces indirect, diffuse light reflected from the surrounding wall or ceiling is useful for making a picture of soft tone without involving sharp shades or shadows.

However, as the intensity of light in this case is much reduced, it is necessary to increase the exposure as compared with the direct, front flash. The degree of this increase varies with the reflecting ratio, distance of the reflecting surface, etc.

FIG. 12



FLASH OFF THE CAMERA

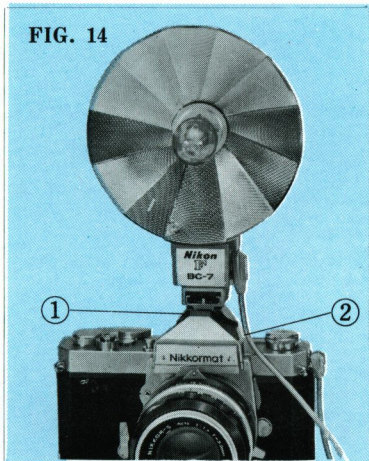
The synch cord terminal, provided besides the cordless terminal on the unit, permits the use of the flash unit held at any desirable angle and distance from the camera. For this purpose a 1 m synch cord is available on order.



ATTACHING TO NIKKORMAT

To attach the flash unit onto the Nikkormat FS, FT or FT_N use the accessory shoe ① exclusively designed for the camera, and the synch cord ② (20 cm long). The accessory shoe is fastened under the finder eyepiece once removed from the camera.

On the flash synchronization, refer to the instructions of Nikkormat.





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