

Graflite®  
Flash Equipment  
Guidebook

**graflex®**

**Graflite® 3-cell**



**Graflite® 2-cell**



**Graflite® Jr.**



# Performance features of Graflite® 2-cell and 3-cell battery cases

spring-loaded center contact socket

circuit control panel

micromatic trip button

guide screw

connection outlets

end cap



# Performance features of Graflite® Jr. battery case

center contact socket

guide screw

connection outlets

end cap

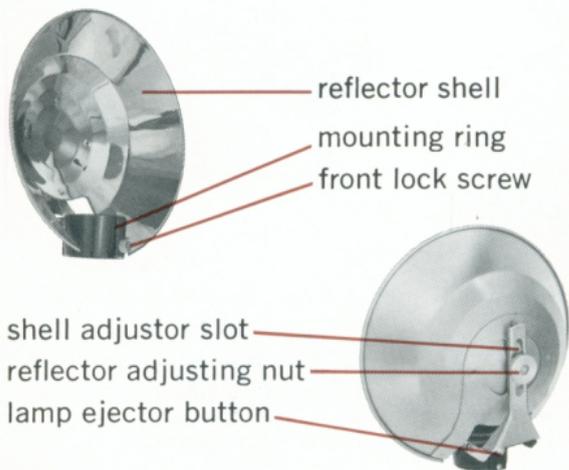


# Graflite® Reflectors

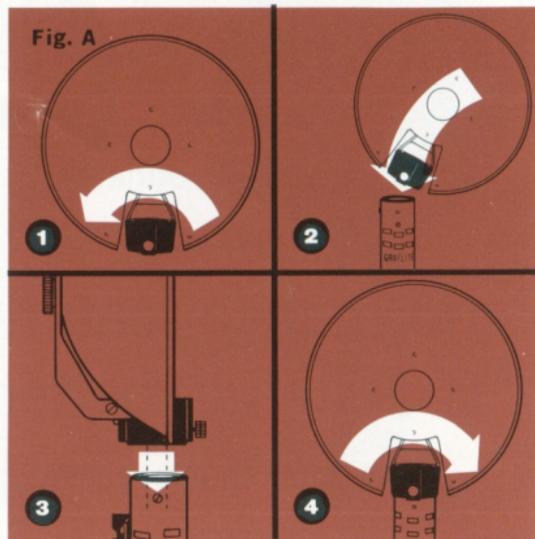
## 7" Reflector

Used with medium screw base flashbulbs only. For example, General Electric 22 and General Electric 31; or Sylvania Press 40 and Sylvania 2A.

### Performance features of 7" Reflector



## Attaching 7" Reflector to Graflite® and Graflite® Jr. battery cases



1 Loosen front lock screw 2 Slide reflector mounting ring onto battery case 3 Let the guide screw center reflector 4 Tighten front lock screw

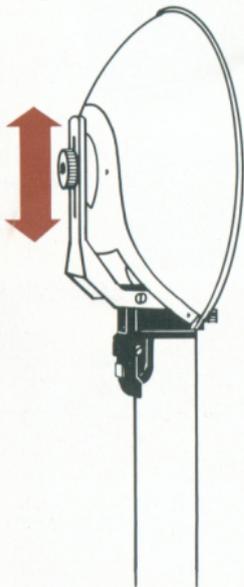
## Adjusting Reflector shell (Fig. B)

1 Loosen reflector adjusting nut

2 Raise or lower shell to center flashbulb

3 Tighten adjusting nut to secure shell

Fig. B



## Using medium screw base flashbulbs

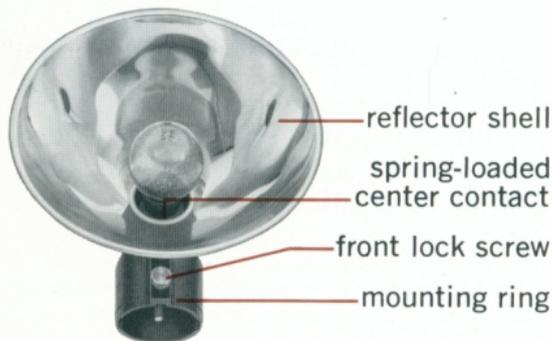
1 Press directly into spring-loaded center contact socket  
2 To remove lamp, press ejector button

**NOTE:** We do not recommend using small flashbulbs with an adapter in the 7" Reflector. The 5" Reflector gives you the best performance with small bulbs.

## 5" Reflector

Used with bayonet base flashbulbs only: such as, No. 5 and Press 25. With small flashbulbs, the 5" Reflector gives you the most uniform light distribution over a field of 60° (the area covered by the "normal" camera-lens combination).

### Performance features of 5" Reflector



reflector  
adjusting screw

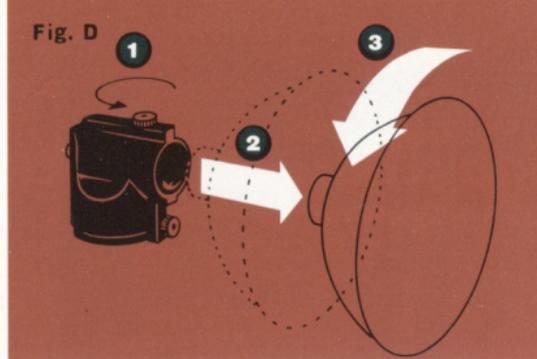
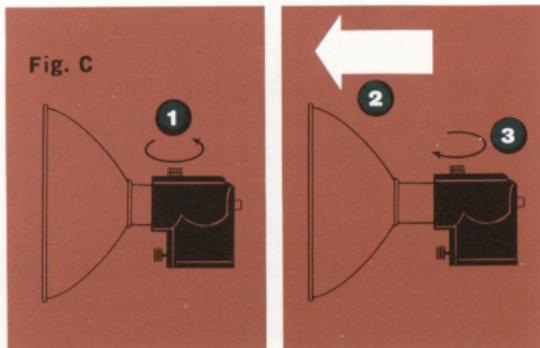
lamp ejector button

## Attaching the 5" Reflector to Graflite® and Graflite® Jr. battery cases

1 Loosen front lock screw 2 Slide mounting ring fully onto battery case until seated 3 Let the guide screw center reflector 4 Tighten lock screw

## Adjusting reflector (Fig. C)

You can adjust the reflector for spot focusing. 1 Loosen the reflector adjusting screw 2 Move the reflector forward 3 Tighten the reflector adjusting screw



## Removing reflector shell (as you face reflector — Fig. D)

1 Loosen reflector adjusting screw 2 Pull shell toward you 3 Turn counterclockwise 4 Pull the shell off

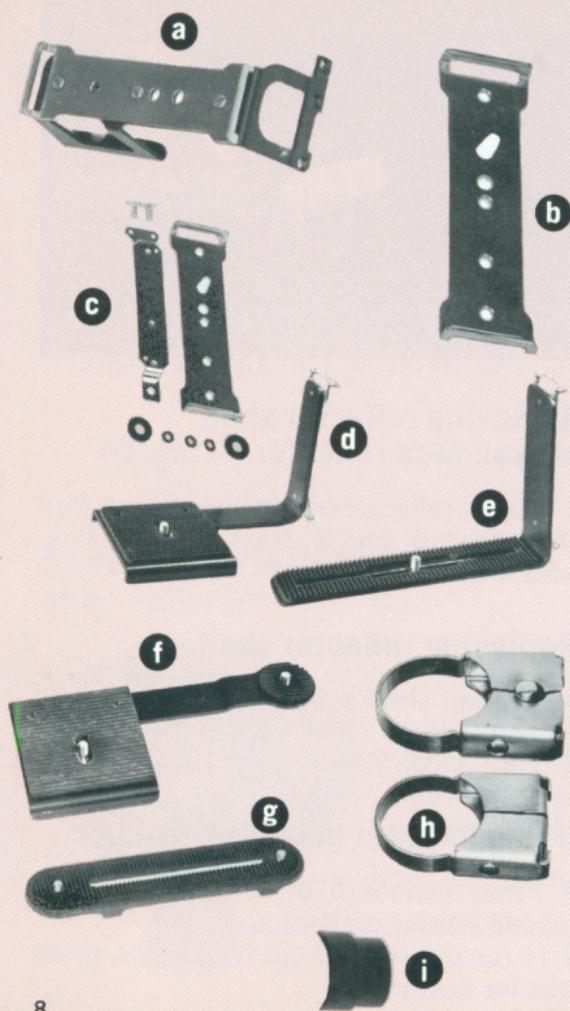
## Replacing reflector shell

1 Position shell with the word "Normal" on top 2 Push shell back until it stops 3 Turn clockwise 4 Push in and lock

## Using bayonet base flashbulbs

1 Press flashbulb directly into spring-loaded center contact socket 2 To remove burned out flashbulbs, press ejector button

## Mounting devices for attaching battery cases to cameras



**a Encircling brackets**—For cameras with a Kalart Rangefinder.  $3\frac{1}{4}'' \times 4\frac{1}{4}''$  and  $4'' \times 5''$  formats. Cat. No. 2752 or 2753.

**b Mounting plate**—Attaches to a Kalart Rangefinder. Yet can also be mounted directly on the side of your camera. Cat. No. 2754.

**c Mounting bracket**—Gives you maximum stability when attaching a battery case to Pacemaker cameras without a Kalart Rangefinder. Cat. No. 2755.

**d Reflex platform bracket**—For  $2\frac{1}{4}'' \times 2\frac{1}{4}''$  square format single-lens or twin-lens reflex cameras. Clamps are used. Cat. No. 2759.

**e L-Bracket**—Lets you use battery cases with smaller cameras. Screws into the tripod socket at the base of the camera. Clamps are used. Cat. No. 2758.

**f Reflex mounting bracket**—For the 2¼" x 2¼" square format single-lens or twin-lens reflex cameras. No clamps are used. This bracket attaches to the socket at the base of the battery case and the tripod socket of the camera. Cat. No. 2760.

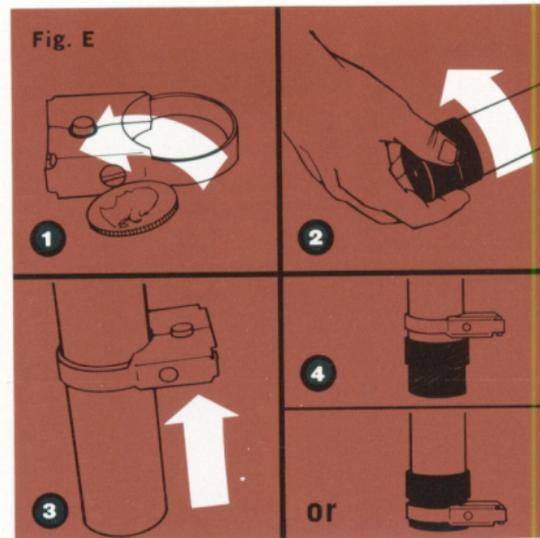
**g Universal flat mounting bracket**—For smaller cameras. Attaches to the socket at the base of the battery case and the tripod socket of the camera. Cat. No. 2757.

**h Heavy-Duty/Quick-Lock Battery Case clamps** — For attaching battery case to Encircling Brackets, Mounting Plate, Mounting Bracket, Reflex Platform Bracket or L-Bracket. Cat. No. 2771.

**i End cap socket** — For attaching battery case to Reflex Mounting Bracket or Universal Flat Mounting Bracket.

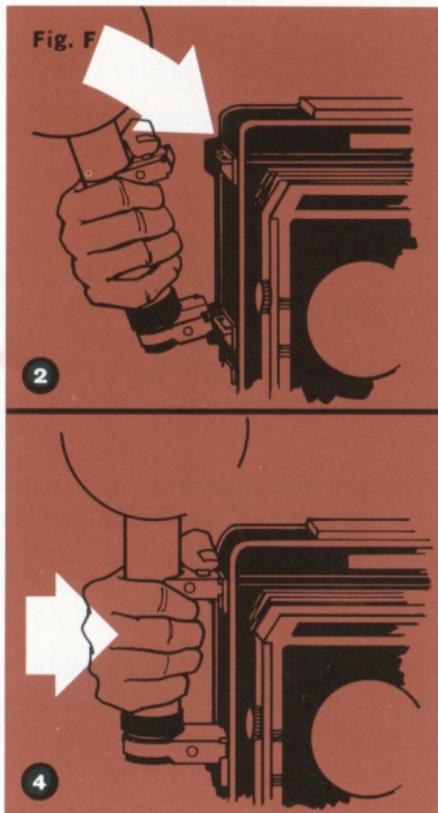
## Attaching Heavy-Duty/Quick-Lock Battery Case Clamps (Fig. E)

1 Loosen lock screws 2 Remove end cap from battery case 3 Slip top clamp onto battery case (release button facing upward) 4 Fasten bottom clamp to battery case or end cap 5 Replace end cap



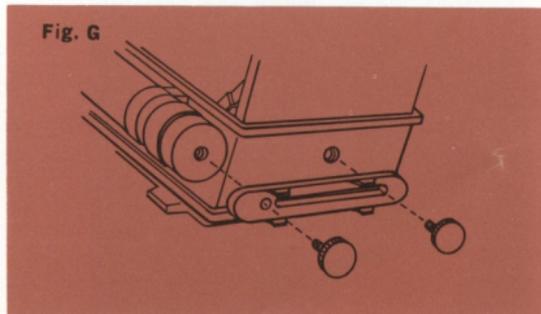
## Attaching battery case to mounting device or handle lugs on camera with Heavy-Duty/Quick-Lock Battery Case Clamps (Fig. F)

- 1 Locate clamps in desired position
- 2 Attach lower clamp to bottom ear of mounting device (or handle lugs on the side of Graphic® cameras)
- 3 Tighten lock screw in bottom clamp
- 4 Press the upper clamp against the top ear to remove all vertical play (snap-lock in top clamp holds battery case rigidly in place)
- 5 Tighten lock screw in top clamp



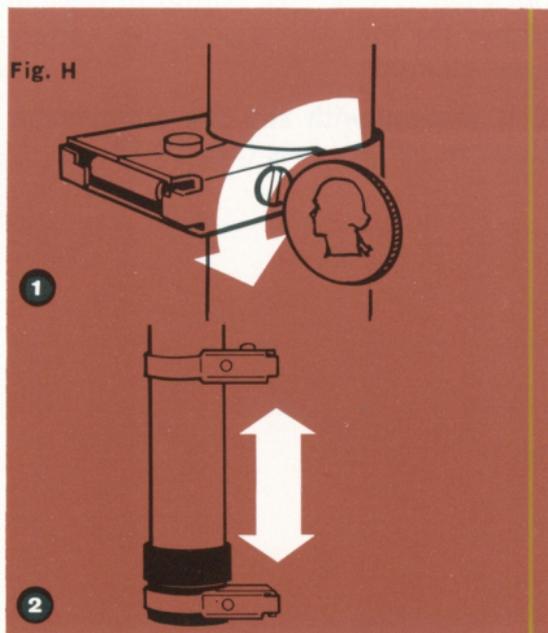
## Attaching battery case with end cap socket (Fig. G)

Attach the mounting device to the socket in the end cap of the battery case and the tripod socket of the camera.



## Adjusting Heavy-Duty/Quick-Lock Battery case clamps (Fig. H)

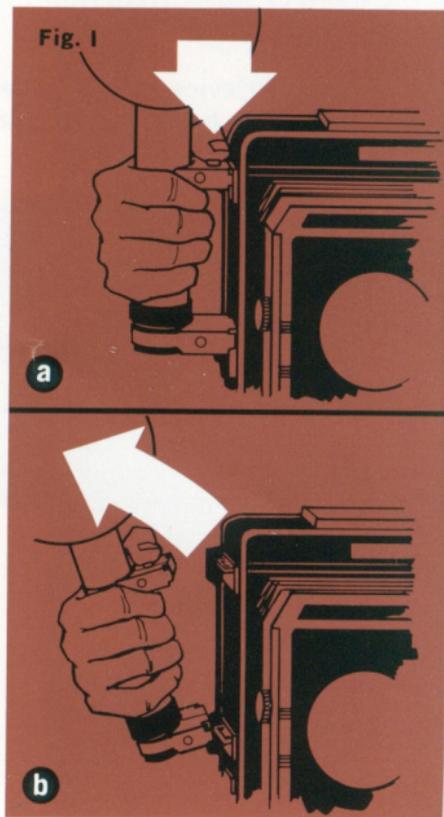
1 Loosen lock screws (with a large screwdriver or coin to prevent slipping or burring screw slots) 2 Locate clamps at desired position 3 Follow steps 2, 3, 4, 5 under "Attaching battery case to mounting device or handle lugs . . ." on p. 10

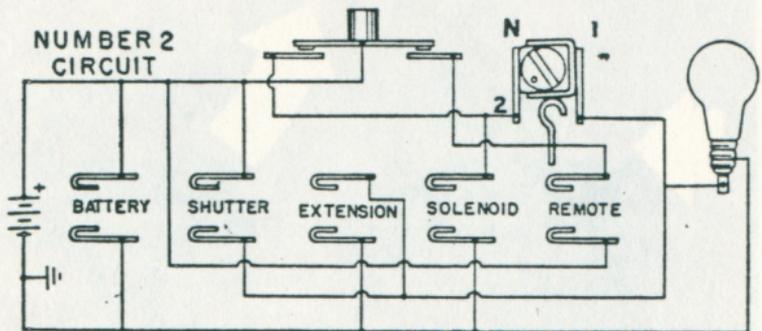
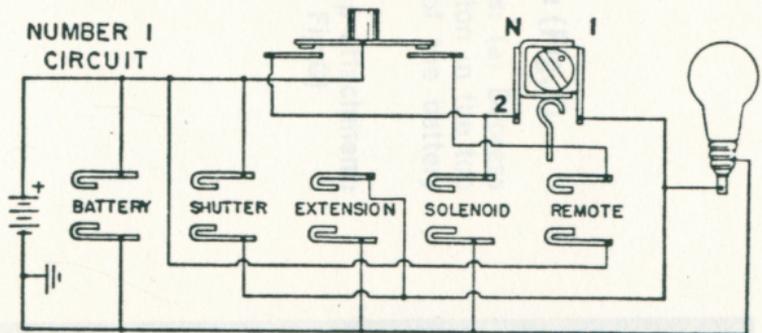
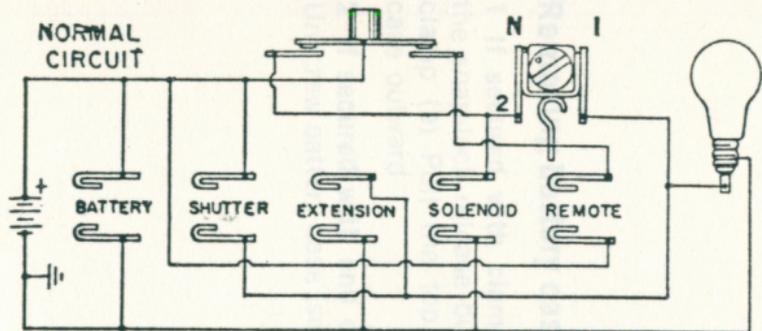


## Removing battery case (Fig. I)

**1 If secured with clamps:** (a) Depress the snap-lock release button in the top clamp (b) Pull the top of the battery case outward

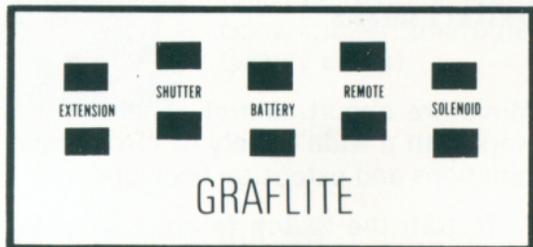
**2 If secured with end cap attachment:**  
Unscrew battery case (see Fig G)





16. Circuit diagrams of the Graflite Battery Case. Normal circuit with two outlets in series and two in parallel. The No. 1 circuit is arranged for tripping the synchronized shutter with the solenoid but firing lamp with built-in shutter contacts. The No. 2 circuit is for multiple battery case use.

## Uses of the outlets on the Graflite® 2- and 3-cell battery cases\*



**EXTENSION:** To connect extension units in parallel for extension flash

**SHUTTER:** To connect cord to flash terminals on synchronized shutter

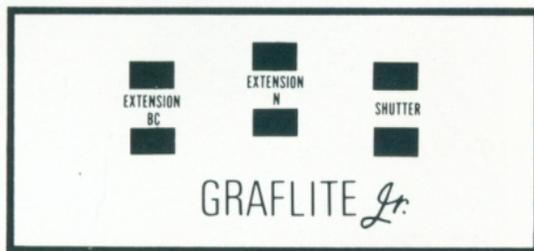
**BATTERY:** Open (hot) outlet for connection to Focuspot or Focalite and for connection to larger 6-volt batteries.

**REMOTE:** For operating equipment with a Remote Control cord

**SOLENOID:** For connection to solenoid release on front shutter and also for extra extension outlets if a solenoid is not used

\*When used with electrified Super Graphic® Cameras, see special instructions in the camera manual.

## Uses of the outlets on the Graflite® Jr.



**EXTENSION N:** For use with D cell batteries, it connects extensions in parallel

**EXTENSION BC:** For use with BC cartridge, it connects extensions in series

**SHUTTER:** For connection to flash terminals on synchronized shutter

## Operating the circuit control panel on Graflite® 2- and 3-cell battery cases

Miniature circuit control panel lets you work with a wide variety of circuit combinations and extension hook-ups.

To turn the switch to any one of the three circuit positions, use a connecting-cord prong or screwdriver.



**Circuit "N"** — for solenoid synchronization or for synchronized shutter



**Circuit "1"** — for synchronized shutter and Electros witch (see p.21)



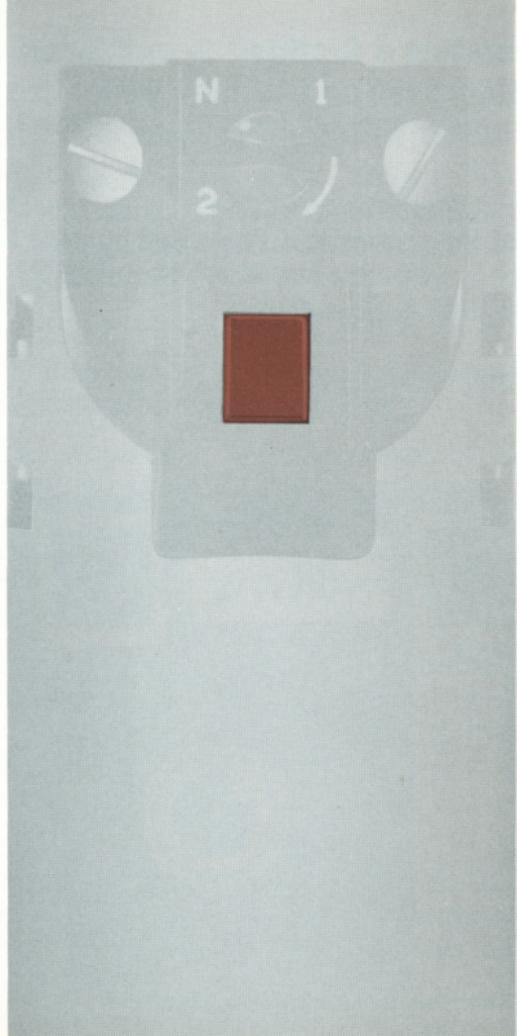
**Circuit "2"** — for hook-ups that require additional power (multiple battery cases)

### **When to push the red micromatic button**

**1** For open flash with circuit control switch at "N". Disconnect cords to SOLENOID and SHUTTER

**2** To trip a solenoid that's synchronized with a shutter. This fires the bulb and trips the solenoid in sync (circuit control switch is at "N").

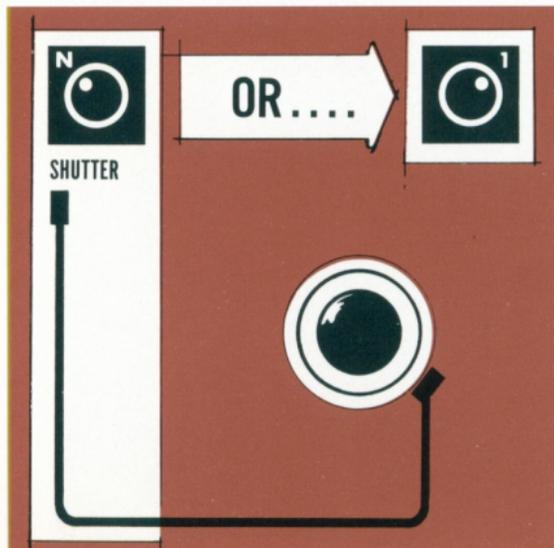
**3** To trip the shutter electrically with a solenoid. Causes shutter sync contacts to fire flashbulbs (circuit control switch is at "1" and shutter cord connects shutter contacts to SHUTTER outlet on battery case.)



## Operating a Graflite® 2- and 3-cell battery case on a camera with a shutter with built-in sync

The Graflite® Flash Unit comes complete with a 2-cell or 3-cell battery case, 5" or 7" Reflector and Heavy-Duty/Quick-Lock Battery Case clamps.

1 Attach battery case to camera



2 Use size D photoflash batteries or a BC cartridge

3 With a shutter cord, connect the shutter flash terminals to the SHUTTER outlet in the battery case

4 Position circuit control panel at "N" or "1". At "N," extension cords can be plugged into EXTENSION and SOLENOID outlets only. With circuit control set at "1," you cannot accidentally fire flashbulbs with red micromatic button. And extension cords cannot be used in the SOLENOID outlet. (For electrified Super Graphic® Cameras, circuit control must be on "1").

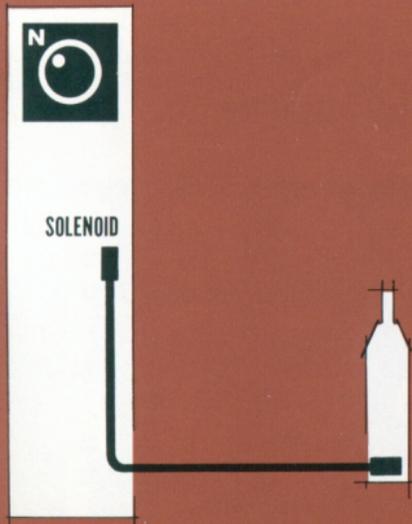
5 Follow instructions that accompany flashbulbs and film being used. (For focal plane shutters, use special flashbulbs recommended in the camera manual).

6 Press shutter release to expose film and fire flashbulbs. Don't push the red micromatic button!

## Operating a 3-cell Graflite® battery case on a camera with solenoid

The Graflite® Solenoid Synchronizer comes complete with 3-cell battery case, solenoid and solenoid mount, connecting cord and a 5" or 7" Reflector.

### 1 Attach battery case to camera



### 2 Use D cell photoflash batteries only

3 With a solenoid cord, connect the solenoid with the SOLENOID outlet in the battery case. Attach extension cords to EXTENSION outlet.

### 4 Turn the circuit control switch to "N"

5 Follow the instructions accompanying the flashbulbs and film you use

**Note:** A properly adjusted solenoid is synchronized with type M flashbulbs throughout the entire shutter speed range. The solenoid must be re-adjusted when additional power is used for extensions.

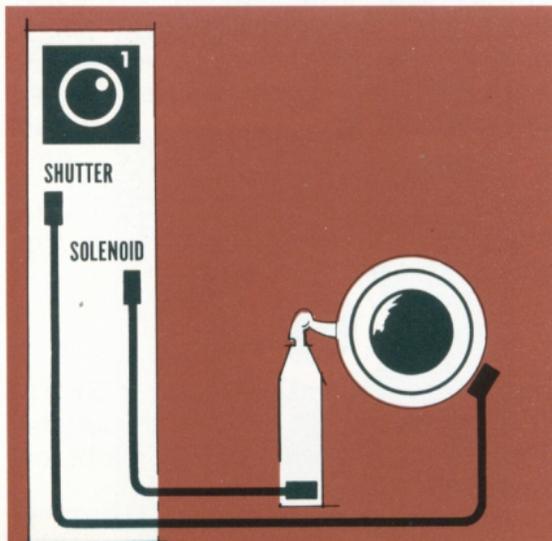
6 Press the red micromatic button or the button on the remote control cord plugged into REMOTE outlet to trip shutter and fire flashbulbs.

### CAUTION:

Don't attach extension cords to SHUTTER, REMOTE OR BATTERY outlets. They're **hot** and will fire flashbulbs on contact!

## Operating a 3-cell Graflite® battery case with an Electroswitch solenoid connection

- 1 Attach battery case to camera
- 2 Use D cell photoflash batteries
- 3 With a shutter cord, connect the shutter flash terminals to the SHUTTER outlet in the battery case. With a solenoid cord, connect the solenoid to the SOLENOID outlet.



- 4 Turn circuit control switch to "1"
- 5 Press the red micromatic button or the button on the remote control cord plugged into REMOTE outlet. (This trips shutter and shutter contacts fire flashbulb).
- 6 Extension units should be attached to extension outlet only. Do not use the REMOTE, BATTERY or SOLENOID outlets for extensions They're hot and will fire flashbulbs on contact!

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## Operating a Graflite® Jr.

Comes complete with 5" Reflector.

- 1 Attach battery case to camera
- 2 Use D cell photoflash batteries or BC cartridge
- 3 Connect shutter cord to shutter flash terminals and SHUTTER outlet in battery case
- 4 Trip shutter to fire flashbulb

## Using extensions with the Graflite® Jr.

1 With D cell photoflash batteries, you can add one extension (plug into EXTENSION N outlet) and fire up to two flashbulbs.

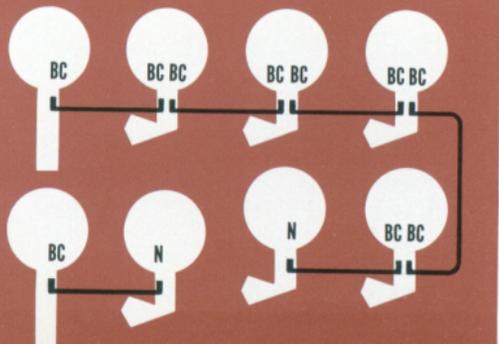
2 With a BC cartridge, you can fire up to 6 bulbs. The Graflite extension cords must be plugged into the EXTENSION BC outlet and connected EXTENSION BC to EXTENSION BC. Except the last extension unit!—it must be connected at the EXTENSION N outlet.

Even if you only use one extension, it is the last and must be connected to the EXTENSION N outlet at the extension unit.

### SPECIAL NOTES ON GRAFLITE® JR.

1 Not used with Solenoid

2 Can only be fired with a shutter connecting cord



## Special circuit connections

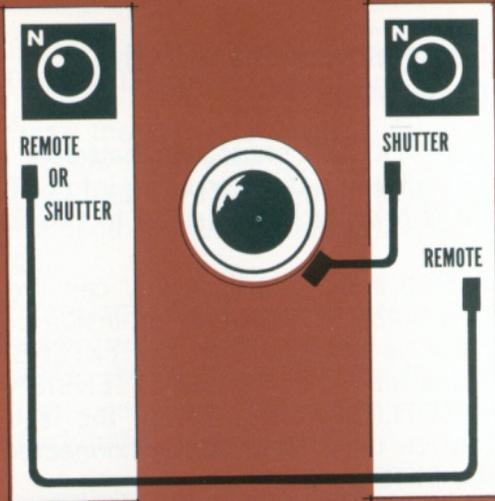
With Graflite® flash equipment, many special battery case combinations and connections are possible. These diagrams (on the right) show the connections we recommend.

Any other connections: (a) may not provide as many useful outlets; (b) will utilize the batteries in only one battery case; (c) may short the batteries directly; (d) may produce hot or live lamp sockets independent of the switches.

If extension tubes are used for more power, add an equal number of extensions to each battery case.

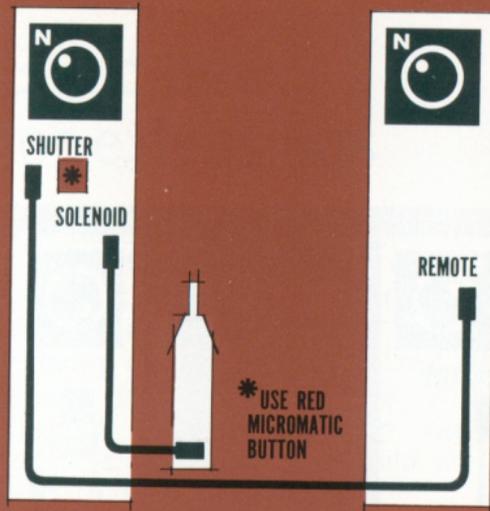
To make two case-connecting cords, Polarity must be observed. Top contacts must be connected to top contacts. Mark plugs for identification.

If you wish to experiment with other connections, use test lamps in all sockets . . . test all connections with a volt meter before using any flashbulbs. Remember that you can't increase voltage by connecting two BATTERY outlets. In fact, this connection may exhaust the batteries.



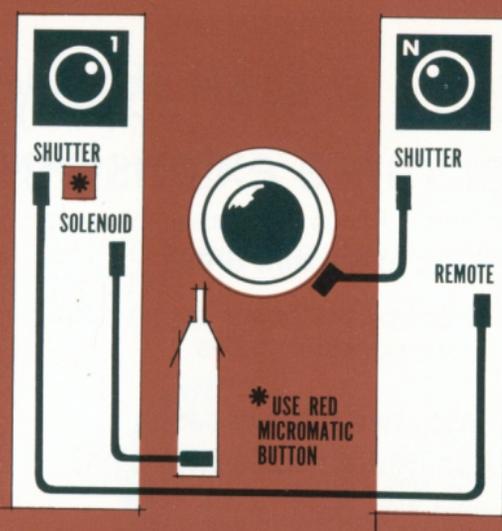
## Synchronized Shutter

- 1 Connect as shown
- 2 Press shutter release to operate
- 3 Attach extension cords to EXTENSION or SOLENOID outlets. Don't attach to REMOTE, SHUTTER or BATTERY outlets. They're **hot** and will fire flashbulbs on contact!



## Solenoid

- 1 Connect as shown
- 2 Press red micromatic button or the button on the remote control cord connected to any SHUTTER or REMOTE outlet to operate
- 3 Attach extension cords to EXTENSION or SOLENOID outlets. Don't attach to REMOTE, SHUTTER or BATTERY outlets. They're hot and will fire flashbulbs on contact!



## Electroswitch

- 1 Connect as shown
- 2 Press red micromatic button or the button on remote control cord attached to battery case set at "1" to operate
- 3 Attach extension cords to any EXTENSION or SOLENOID outlet. Don't connect to REMOTE or BATTERY outlets. They're hot and will fire flashbulbs on contact!

# Extra Power supply for more extensions

## A With extension tubes

To increase the power supply, add one or more extension tubes.

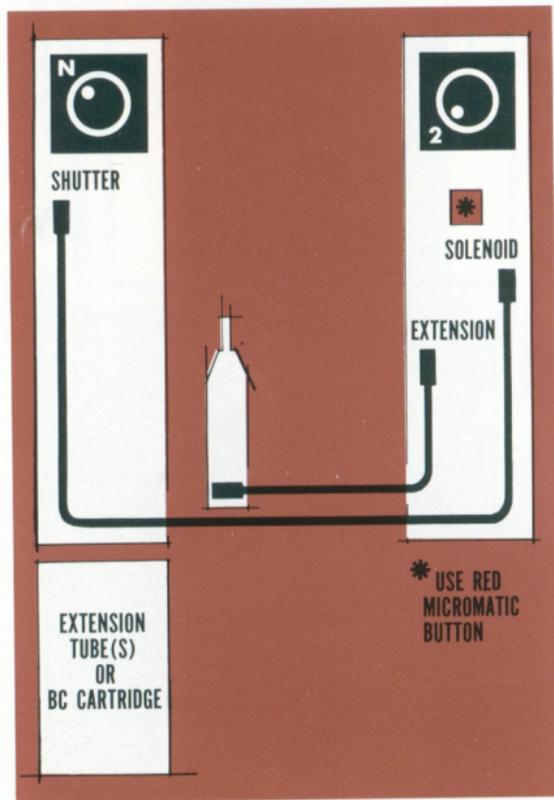
## B With two battery cases (solenoid synchronization)

1 Connect as shown

2 Press red micromatic button or the button on the remote control cord (cord must be connected to REMOTE outlet in battery case set at "2")

3 Additional extensions can be connected to the remaining SOLENOID and EXTENSION outlets. They will fire flashbulbs with the combined power of both battery cases.

4 Extension must not be attached to SHUTTER, BATTERY or REMOTE outlets. They're **hot** and will fire flashbulbs on contact!



## Basic power for extensions

This table tells you the recommended number of extensions to use when each battery is supplying at least 1.5 volts (7 amperes) in the circuit. The table includes solenoid operation and firing a bulb in the battery case. Without solenoid, another extension can be added. Extension cords should not exceed 15' per cord.

BATTERIES	EXTENSIONS
2	1 (no solenoid)
3	1 (with solenoid)
4	2
5	3
6	4
BC	6 (Graflite® Jr. only)

## Accessories

### Extension Flash

Includes 15' extension cord less reflector. For BC cartridge and battery use.  
**Cat. No. 2778.**





## Shutter cords Synchronized shutter to SHUTTER outlet (A.S.A. double post)

20" Cord ..... **Cat. No. 2701**

36" Expand-O-Cord .. **Cat. No. 2810**



## Shoe Cord

20" Unicord ..... **Cat. No. 2723**



## Bayonet Cord

36" Expand-O-Cord .. **Cat. No. 2908**



## Cap Cord (PC)

20" Cord ..... **Cat. No. 2721**

36" Expand-O-Cord .. **Cat. No. 2821**



## Solenoid Cords Solenoid to SOLENOID outlet

20" Cord ..... **Cat. No. 2703**

36" Expand-O-Cord ..... **Cat. No. 2809**



## Remote Control Cord

(with momentary switch)

15' Cord ..... **Cat. No. 2720**



## Extension Cord

15' Cord ..... **Cat. No. 2706**



**Cord Clip** ..... **Cat. No. 2711**

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**5" Reflector** ..... **Cat. No. 2745**

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**7" Reflector** ..... **Cat. No. 2747**

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**Shield for 5" Reflector** ..... **Cat. No. 2746**

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### **Extension tubes**



May be used in multiples ..... **Cat. No. 2774**

# Use and Care

To insure steady, peak performance and the fullest use of light, keep your Graflite® flash equipment clean.

Do not use abrasive materials on contact posts or solenoid cord prongs. These prongs are silver plated to give you better contacts.

Polish and clean contacts on battery cases or cords with a cloth dipped in chlorothene or other suitable non-corrosive solvent.

Reflector surfaces give off the fullest light when they're brightly polished. Remove dust or smudges from these surfaces with a dry cloth. Polish off stubborn spots with a cloth dipped in chlorothene or other non-corrosive solvent.

**Broken wires:** Check for a broken wire if: the solenoid does not always operate; or the flashbulb does not always flash.

To find a broken wire in the solenoid cord, insert old batteries in the battery case. Press down the main switch and hold. Twist or jiggle the cord attached to the SOLENOID outlet. If the solenoid

does not stay energized all the time the switch is closed, the wire is broken.

To check extension cords, put a small test lamp in an extension socket at the end of the cord. And plug the cord into a battery case. Press the main switch at the back of the battery case whose circuit control is set at "N." If the lamp flickers, the wire is broken.

To locate a broken wire in the shutter sync cord, plug the cord into the SHUT-TER outlet in battery case. Put a test lamp in the spring-loaded center contact socket. Short contact at the open end of the cord. The lamp should light! Twist or jiggle the cord; if the lamp flickers or goes out, a wire is broken.

**Cords:** Electrical cords require careful handling. Twisting, jerking or yanking can damage the cord. Always remove connecting cords before the battery case is put away. (This prevents shorting out batteries and corrosion in the battery case.) You can keep the case and cord together by winding the cord around the case and tying it in a loose knot. Never leave both ends of the cord plugged into the same battery case.

## YOUR GRAFLEX WARRANTY:

*To the initial retail purchaser of Graflex merchandise:*

Skilled craftsmen have produced the Graflex merchandise you have purchased. They have built into it a level of quality and performance which will insure your enjoyment of its use.

Graflex merchandise is warranted by Graflex and the Graflex Dealer from whom you purchased the same, to be free from faulty materials and workmanship, except as hereinafter set forth. If any time during your first year of ownership, (90 days in the case of any electronic components and parts, including without limitation, tubes and projection lamps), any servicing is necessitated by faulty material or workmanship, it will be provided (or the equipment replaced at our option) without charge except for transportation charges by your nearest Graflex Service facility. Returns for servicing should be made through your Graflex Dealer; or if this is not convenient, the merchandise should be carefully packed in a stiff container with adequate packing (not excelsior). Attach name and address and any *specific instructions* to the package, which should be adequately secured and fully insured.

THIS WARRANTY IS NOT APPLICABLE:

- A. To Graflex merchandise which in our judgment has been damaged, abused, or requires replacement of parts due to wear and tear from use, or for any reason other than faulty materials and workmanship. Such merchandise will be serviced at factory-established rates.
- B. To Graflex merchandise which has been tampered with or serviced by persons other than Graflex approved personnel.
- C. If adaptations or accessories of other than Graflex recommendations have been made or attached.
- D. Where the Graflex merchandise bears serial numbers, if it has not been registered with Graflex by means of the attached registration card or appropriate substitute within 60 days from date of purchase.

No liability is assumed for film which is damaged or is unsatisfactory for any reason (due to equipment malfunction or otherwise), nor is Graflex, Inc., obligated to replace such film.

EXCEPT AS EXPRESSLY SET FORTH HEREIN NO OTHER WARRANTIES ARE MADE BY GRAFLEX OR YOUR GRAFLEX DEALER WITH RESPECT TO GRAFLEX MERCHANDISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY. No liability is assumed for expenses or damages resulting from interruptions in operation of equipment, nor for incidental or consequential damages of any nature.

In order that we may be able to pursue our continuing program of product improvement, Graflex reserves the right to make changes in design, or add improvements to any product without incurring any obligation to include such revisions in equipment previously produced.

The warranties hereinbefore expressly set forth are made only to the *original retail purchaser*. Graflex's liability under the within warranty is limited to repair or replacement as hereinbefore provided.

SERVICE FACILITIES:

Graflex Approved Service Stations are conveniently located in all major cities. Contact your Graflex Dealer or write to the Manager, Graflex Service Sales, for the address of the Graflex Approved Service Station nearest you.

Record below such serial numbers as your equipment bears for your insurance file and future reference.

**Home Office:**

3750 Monroe Avenue  
Rochester, New York 14603

**Western Division:**

800 North Cole Avenue  
Hollywood, California 90038

**Midwest Service Department:**

1345 Diversey Parkway  
Chicago, Illinois 60614

**Graflex of Canada Limited:**

47 Simcoe Street  
Toronto 1, Ontario, Canada



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Equipment Corporation