

SUNPAK®

Auto Pro 120J TTL

Electronic Flash Unit

Owner's Manual



ToCAD co., LTD.

TOKYO JAPAN

Made in Japan/Fabriqué au Japon

KAJ0158A 937 19

TTL AUTO OPERATION

(Applicable to TTL Cameras)

Your Auto Pro 120J TTL can work the TTL metering system through the following Interchangeable Shoe Modules with the specific cameras.

- * For further details, refer to the instruction manual of the shoe modules.
 - * In TTL Auto Mode, it is recommended to adjust the exposures in some situations. Refer to the camera's instruction for more details.
- A. Set the Film Speed Dial on your camera at the ISO of film in use.
 - B. Move the Auto/Manual Selector Switch to the "●" position so that the F/stop and Distance information disappear.
 - C. Then set your camera lens opening at any settings you desire.
 - D. Move On/Off Switch to the On position.

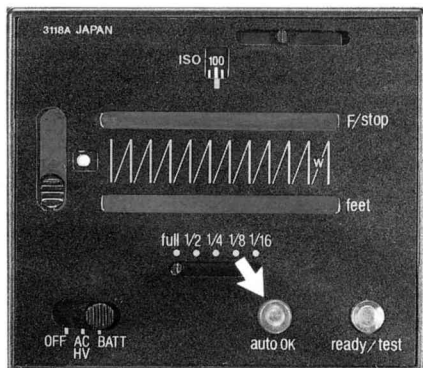
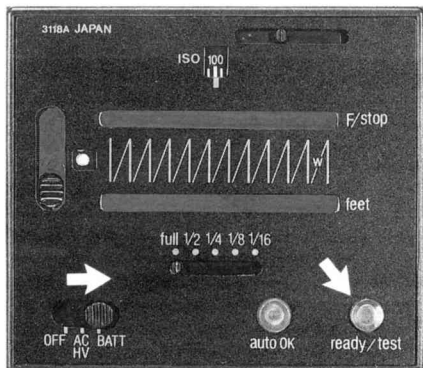
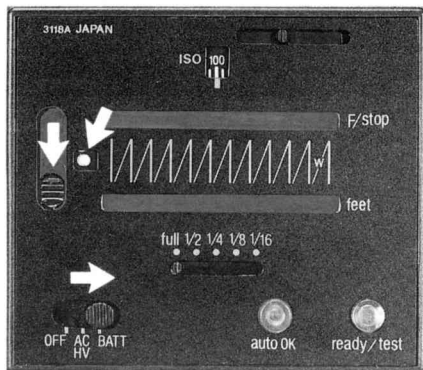
Taking the Picture

1. Move On/Off Switch to the On position.
2. In a few seconds, the Ready/Test Button on the back of the flash unit will start to glow. This confirms that your flash is ready to fire and your camera's shutter speed is automatically set at "X" speed to synchronise the flash.

To Verify the Correct Auto Exposure in TTL Operation

1. Correct exposure can not be verified by firing the Auto Pro 120J TTL with the Test (Open Flash) Button.
2. Auto O.K. Signal is available through the Camera viewfinder or on the back panel of the Auto Pro 120J TTL. If the Auto O.K. Indicator (back panel of the Auto Pro 120J TTL) does not glow, move closer to your subject.

Note: TTL metering is not feasible without installing the film in the camera. Firing your camera, as a test, without film will provide incorrect metering indication.

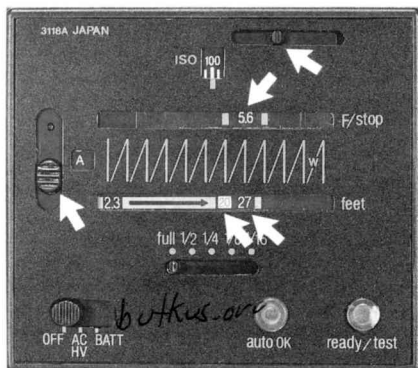


AUTOMATIC OPERATION

(Applicable to AE Cameras or Non-Dedicated Hot Shoe Cameras)

The sensitive Silicon Photo Transistor Sensor of your Auto Pro 120J TTL measures the light reflected by your subject and automatically controls the flash duration to assure correct exposure within a wide range of distances. It's easy to use:

- A. Slide the ISO Film Speed Scale until the ISO of film in use is visible in the ISO speed window.
(Example: ISO 100)



- B. For the maximum distance range in automatic operation, move the Auto/Manual Selector Switch to the green "A" position so that the green "A" is visible in the Auto/Manual Mode Window and f/5.6 will appear. Then set your camera lens opening (for ISO 100 film, the lens opening is f/5.6).

Example:

Maximum automatic distance range, f/5.6 (ISO 100 film)

Wideangle: 2.3' ~ 20' / 0.7 ~ 5.8 m

Standard: 2.3' ~ 27' / 0.7 ~ 8 m

- C. For an intermediate distance range in automatic operation, move the Selector Switch to the yellow "A" position so that the yellow line and f/8 appear. Then set the same aperture on your camera (for ISO 100 film, the lens opening is f/8).

Example:

Intermediate automatic distance range, f/8 (ISO 100 film)

Wideangle: 2.3' ~ 14' / 0.7 ~ 4 m

Standard: 2.3' ~ 20' / 0.7 ~ 5.8 m

- D. For maximum depth-of-field (area sharpness in front of and in back of the subject), move the Selector Switch to the red "A" position so that the red "A", red line and f/11 appear. Then set your camera lens opening (for ISO 100 film the lens opening is f/11).

Example:

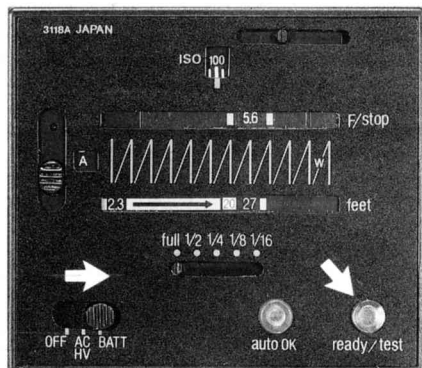
Minimum automatic distance range, f/11 (ISO 100 film)

Wideangle: 2.3' ~ 10' / 0.7 ~ 2.8 m

Standard: 2.3' ~ 14' / 0.7 ~ 4 m

Taking the Picture

1. Move the Batt/AC. HV Switch to the appropriate position for your power source.
2. In a few seconds, the Ready/Test Button on the back of the flash unit will glow. This confirms that your flash is ready to fire.
3. **Take the picture!**
Your flash will automatically provide the correct exposure within the distance range indicated.



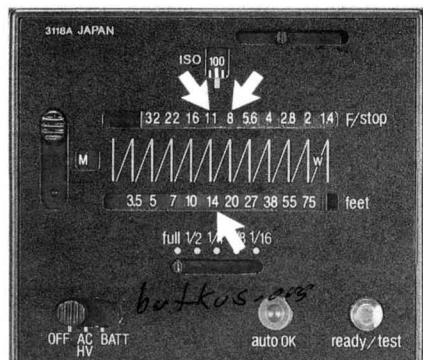
For succeeding exposures...

Wait until the Ready/Test light glows again. Make sure you are within the usable auto distance range for the lens opening in use and... Shoot!

POWER RATIO CONTROL (MANUAL)

With Sunpak's unique Power Ratio Control you can adjust the light output over a five stop range (from full to 1/16 power). This feature gives you greater depth-of-field control, the ability to control battery life and recycle times, precise fillflash capability, macro/close-up capability and the ability to control flash duration.

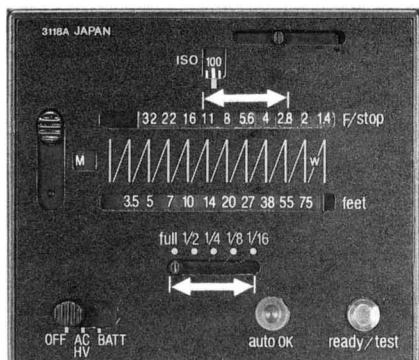
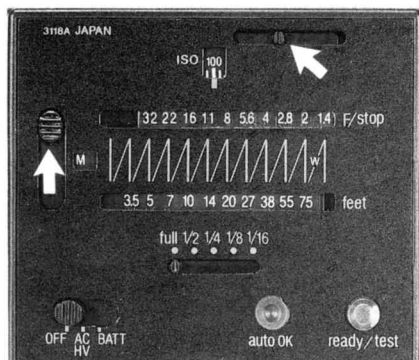
Using Power Ratio Control at Full Power:



1. Set the Auto/Manual Selector Switch (on the back of the flash body) to the top so that the white "M" appears.
2. Set the Film Speed Scale to the desired ISO setting.
(Example: ISO 100)
3. Adjust the Power Ratio Control to full power by sliding the Selector Switch.

4. To determine the correct aperture at a specific distance, find the distance on the Distance Scale on the back of the flash. If the reflector is in the Standard position, follow the straight white line up to determine the proper aperture to set your lens at. If you use the Wide position, follow the diagonal line up to the recommended aperture.
(Example: At 14 feet/4m the correct setting at Standard position is f/11; at Wide position it is f/8.)
NOTE: Make sure that you measure the flash-to-subject distance not the camera-to-subject distance.
5. Set the camera lens to the indicated f/stop.

Using Power Ratio:



1. When using the Power Ratio at full power, set the Film Speed Scale to the appropriate ISO rating and be sure the Auto/Manual Selector is at "M".
2. Determine the distance of the subject from the flash. You can easily do so by focusing the camera lens and reading the distance indicated on the lens barrel.

3. Slide the Power Ratio Control Switch until the desired f/stop appears opposite this distance. ALWAYS SLIDE THE POWER RATIO CONTROL SWITCH TO A MARKED POSITION. DO NOT SET THE POWER RATIO BETWEEN MARKED POSITIONS OR THE UNIT WILL NOT OPERATE PROPERLY.
Example: 14' / 4m (Standard) or 10' / 2.8m (Wideangle) with ISO 100 film, you may choose f/11, f/8, f/5.6, f/4 and f/2.8 (full, 1/2, 1/4, 1/8, and 1/16th power).
4. Be sure the distance scale indicates proper f/stop for the correct exposure of your subject. If not, increase or decrease the power as needed.
5. You are now ready to take a picture. Remember to adjust the aperture on the lens to match the aperture indicated on the calculator scale.

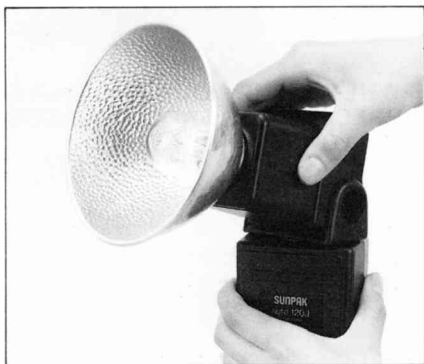
OPERATING ADJUSTABLE BOUNCE FLASH HEAD

Auto Pro 120J TTL can provide bounced-light Photographing without losing TTL mode or Auto mode.

The 120J TTL has a unique flash head assembly which allows you to aim the light in virtually any direction for more pleasing and creative lighting effects.

For added convenience and repeatability, the Adjustable Bounce Flash Head has convenient reference marks for determining the exact angle of the bounce.

1. To rotate the Adjustable Bounce Flash Head, grip with thumb and forefinger and gently turn to desired setting.
2. To adjust the flash Base, simply twist as illustrated with thumb and forefinger.



- A solid white wall or ceiling will reflect the highest quantity and quality of light. It is not recommended to bounce off of colored surfaces since the color will be reflected onto the subject.

CARE OF YOUR Auto Pro 120J TTL

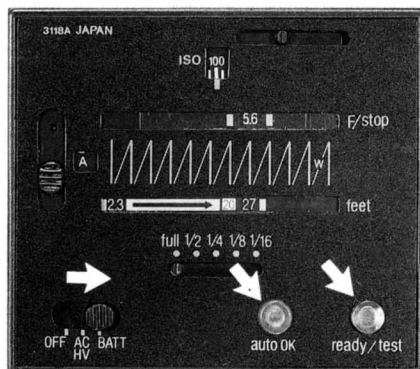
Your Sunpak electronic flash has been engineered to require almost no "maintenance". Still to insure best performance year-in and year-out, follow these basic pointers:

1. **Storage:** If you don't use your 120J TTL for several weeks, or if you plan to take it on a trip, utilizing a camera bag or accessory storage case is recommended. This case will not only hold your Auto Pro 120J TTL but its many accessories. Also be sure to remove the batteries before storage to prevent possible damage due to battery leakage.
2. **Inspect Batteries Frequently:** Check for reasonable recycling time (the

length of time it takes the ready light to come on between flashes): if it's more than 20 or 30 seconds, a fresh set of alkaline batteries should be obtained (or if nickel cadmium batteries are used, they must be recharged). It's also wise to check your batteries for appearance: Sometimes even the best of batteries discharge or leak some chemical material through the jacket... and leave a whitish-powder on the battery which passes onto your Sunpak flash unit's electrical contacts. (If this has happened, replace the batteries after cleaning the Sunpak's internal battery contacts with an eraser).

To Verify Correct Auto Exposure: (Except TTL Mode)

To verify the correct automatic exposure, just aim your flash directly towards your subject and press the Ready/Test Button. This will cause the flash to fire without actually exposing any film. If the automatic exposure is correct for your subject, the green "Auto OK" lamp will glow immediately after the "test" exposure. If the lamp does not glow, move closer to your subject (or, if you are shooting in yellow or red auto mode, switch to green and adjust the aperture accordingly). The Auto OK provides exposure verification in automatic mode only.



Finally, it's a good idea to remove the batteries once in a while and wipe them with a handkerchief. The cleaner the battery surface, the easier it is for the energy to pass through your flashgun's electrical system.

3. **Remove Batteries:** If for some reason you do not intend to use your flash unit for a period of several weeks or more, remove the batteries and store them separately. Inside a plastic bag is one good way.
4. **Maintenance:** If your 120J TTL's reflector or bulb becomes dirty, use one drop of lens cleaner on a lens cleaning tissue. A small amount of lens cleaner and lens tissue or a

slightly moist cloth can be used to clean the rest of the unit. **BE SURE TO THOROUGHLY DRY THE UNIT IMMEDIATELY AFTER CLEANING.**

5. **Service:** In the unlikely event that your Sunpak electronic flash requires service, return it to your dealer or the address shown on Sunpak world wide network. Do not, under any conditions, attempt to disassemble and/or adjust it by yourself: electronic flash operates on high voltage, and should not be taken apart. However, keep in mind that flash failure is more likely to result from weak batteries than any other single cause: if the flash doesn't fire, check batteries and contacts carefully.

Specifications

Guide Numbers:	Standard Position	Wideangle Position
In feet (ISO 100):	150	120
In meter (ISO 100):	45	36
Flash Power:	Barebulb Position: 115 watt seconds	
BCPS:	3900	
Angle of Illumination:	Horizontal	Vertical
Standard Position:	45°	45°
Wideangle Position:	63°	63°
Barebulb Position:	360°	360°
Automatic Aperture Setting:	f/5.6, f/8, f/11 (ISO 100)	
Automatic Distance Range:	Standard	Wideangle
at Maximum Aperture:	2.3' ~ 27' / 0.7 ~ 8m	2.3' ~ 20' / 0.7 ~ 5.8m
at Medium Aperture:	2.3' ~ 20' / 0.7 ~ 5.8m	2.3' ~ 14' / 0.7 ~ 4m
at Minimum Aperture:	2.3' ~ 14' / 0.7 ~ 4m	2.3' ~ 10' / 0.7 ~ 2.8m
Variable Power Ratio Range:	16:1, 5-stop range	
Sensor Acceptance Angle:	15°	
Bounce Flash:	Adjustable Bounce Flash Head at 330 degree rotation and 90 degree elevation.	
Flash Duration:	1/600th ~ 1/8000th second depending on Auto distance.	
	1/600th ~ 1/6500th second depending on manual Power Ratio setting in use.	
Number of Flashes and Recycling Time:	Maximum Power	Minimum Power
With 4 × AA Nicad Batteries:		
Number of Flashes	30	300
Recycling Time	8 sec.	0.3 sec.
With 4 × AA Alkaline Batteries:		
Number of Flashes	70	700
Recycling Time	13 sec.	0.3 sec.
With Sunpak Multi-Voltage AC Adapter (AD-26):		
Recycling Time at 120V	15 sec.	0.3 sec.
With Sunpak Powerpak for 510V Battery:		
(with Eveready #497 or equivalent):		
Number of Flashes	300	4000
Recycling Time	1 sec.	0.3 sec.
(with Sunpak NC510 Rechargeable Battery):		
Number of Flashes	80	450
Recycling Time	3 sec.	0.3 sec.
With Sunpak TR-PAK IIa Rechargeable Battery Pack:		
Number of Flashes	180	1500
Recycling Time	2 sec.	0.3 sec.
Color Temperature:	Most suitable for daylight color films.	
Dimensions:	5.7" × 3" × 3.6" / 145 × 75 × 92mm (body only)	
Weight:	14.8 oz./420g (less batteries/body only)	

* Features and specifications are subject to change without prior notice.

Quick Detachable Interface Modules

Cat. No.	Shoe Module	Interface with
651-040	CA-2D	Canon A-1, AE-1 PROGRAM, AE-1, AL-1, AV-1, New F-1, T-50, T-70
651-141	CA-3D	Canon EOS 620, 630, 650, 850, 10, 1, 1000
651-049	OT-1D	Olympus OM-1N, OM-2N, OM-2 S/P, OM-3, OM-20, OM-30
651-044	YC-1D	Yashica/Contax 137 MD/MA Quartz, 139 Quartz, RTS II Quartz
651-047	RX-1D	Ricoh XR-1000S, XR-S, XR-2S, XR-6, XR-7
651-041	KX-1D	Konica FC-1, FP-1, FS-1, FT-1, FT-1 MOT
651-146	NE-2D	Nikon F4, 301, 401, 501, 801, FM-2, New FM-2, FE, FE-2, EM, FA, FG, FG-20,
651-246	NE-3D	Nikon F3
651-143	MX-2D	Minolta α 5000, 7000, 9000, XD, XG, X300, X500, Leica R4MOT
651-148	PT-2D	Pentax 645, SFX, LX, Super A, Program A, ME-Super A, MV, MG, ME-F
651-142	HA-2D	Hasselblad 500ELX, 503CX, 553ELX,
651-042	STD-1D	For all Non-Dedicated Cameras.

SUNPAK®

Connecting the Module to the Flash Body

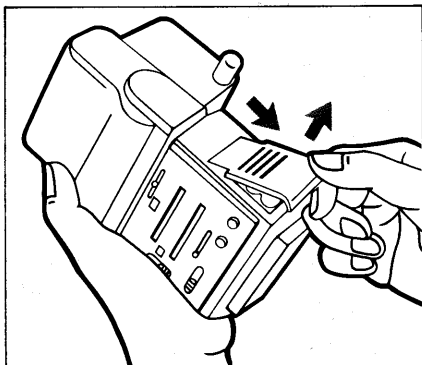
Your Sunpak Auto Pro 120J TTL Flash Unit is so designed that by changing its interface modules, the flash unit will be fully interfaced with any dedicated cameras. (A separate instruction leaflet is available for the detail of the interface modules.)

1. Slide the Battery Compartment Cover toward the bottom of the unit. Now gently fold up the cover in direction shown. (Figure 1)
2. Pull Interface Module Locking Lever outward as illustrated (Figure 2), and mount Blade and Locking Pin firmly to the interface receptacles of the flash body.
3. Push Locking Lever backward to the locking position. (Push until the bar mark on Locking Lever aligns with the triangle mark on the flash.) (Figure 2)

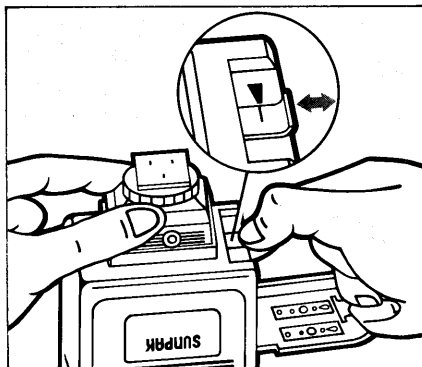
* Detaching the Module from the Flash Body.

Pull Interface Module Locking Lever outward as illustrated (Figure 2) and dismount the module from the flash body.

Caution: The Battery Compartment Cover must be opened prior to attaching or detaching Interface Modules.



1

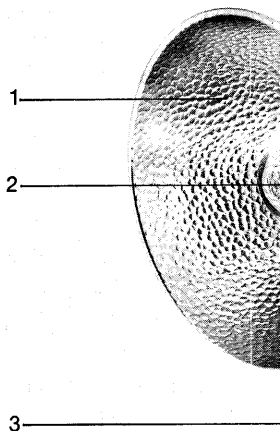


2

Mounting to the Camera

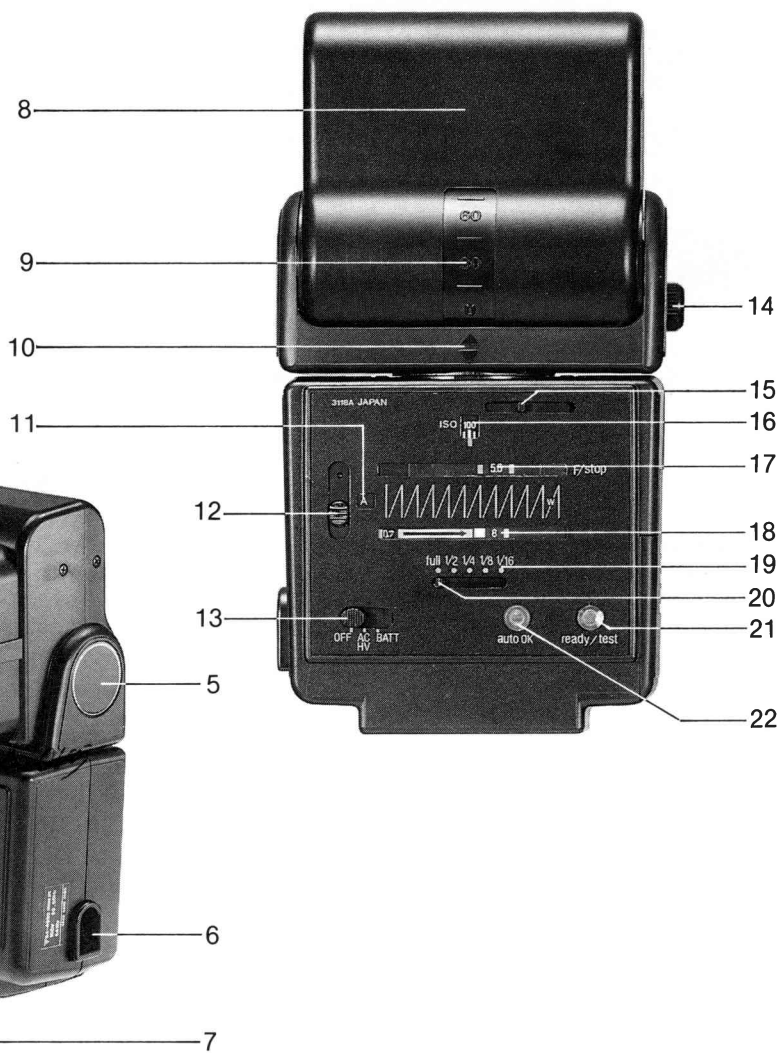
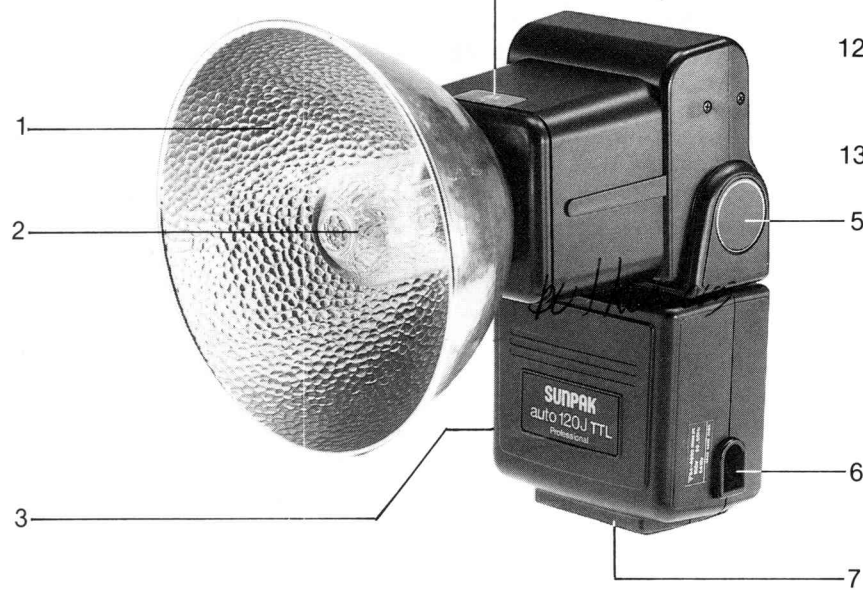
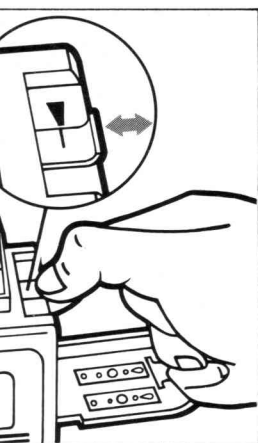
Caution: For mounting or detaching the Flash Unit on or from the camera, always make sure the **On/Off Switch** is at "**OFF**" position or the camera may be damaged.

1. Slip the unit onto the camera's hot shoe. Turn the knurled lock ring clockwise to insure secure mounting to your camera's shoe.
- * For cameras without a hot shoe, Basic Grip GP-04 (cat. No. 651-772) is available as an "optional" accessory.



Description of Parts

1. Two Position/Removal Reflector
2. Flashtube
3. Battery Compartment Cover
4. Wideangle Flash Guide
5. Bounce Flash Control Base
6. AC/High Voltage Inlet
7. Interface Module Connector
8. Bounce Flash Head
9. Vertical Bounce Control Scale
10. Bounce Control Indicator (Vertical/Horizontal)
11. Auto/Manual Mode Window
12. Auto/Manual Selector Switch
13. Battery/AC. HV Selector (On/Off) Switch
14. Reflector Locking Screw
15. Film Speed Selector
16. Film Speed Indicator Window (ISO)
17. F/Stop Scale
18. Distance Scale (Wideangle/Standard)
19. Power Ratio Control Scale
20. Power Ratio Control Selector
21. Ready Light/Test (Open Flash) Button
22. Auto OK Indicator



Power Sources

Your Sunpak Auto Pro 120J TTL may be used with six different power sources:

1. Four AA alkaline batteries: (not included)
2. **Sunpak QB-3 NiCad Batteries:** 4 pcs. (optional) cat. No. 651-732
Sunpak QBC-3 NiCad 3-hour Charger: (optional) cat. No. 651-731, for use with Sunpak QB-3 NiCad Batteries
3. **Sunpak Multi-Voltage AC Adapter AD-26:** (optional) cat. No. 651-741
Note: When using the AC Adapter AD-26 with the 120J TTL a **Plug Adapter** (optional) is required. This part can be obtained from your local Sunpak dealer or directly from Sunpak. Please look in the Sunpak worldwide distributor list for the nearest Sunpak parts department
4. **Sunpak Powerpak for 510V Battery:** (optional) cat. No. 651-723 requires a 510 Volt Drycell battery or Sunpak NC510 rechargeable battery. An accessory **Sunpak 10' coiled Cord** (cat. No. 651-754) is also available
5. **Sunpak NC510 Rechargeable Battery for Sunpak Powerpak:** (optional) cat. No. 651-727
Sunpak QBC-5 Charger: (Optional) cat. No. 651-809, for use with Sunpak NC510 Rechargeable Battery

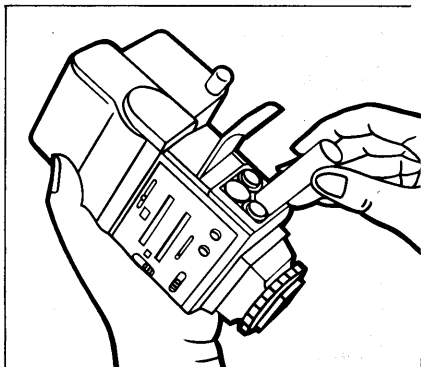
6. **Sunpak TR-PAK IIa Rechargeable Battery Pack and Sunpak CHG-20 Charger:** (Supplied in Auto Pro 120J TTL Kit)
Sunpak TR-PAK IIa: cat. No. 651-620A
Sunpak CHG-20 Charger: cat. No. 651-621

Caution:

- Even when your Auto Pro 120J TTL is used with external power sources, always store batteries inside for dedicated function. Your Auto Pro 120J TTL is not interfaced to the camera without internal batteries.
- When using the Auto Pro 120J TTL with **External Battery Packs**, you must allow the unit to **cool down for over 10 minutes** if more than **15 full power flashes** are fired in rapid succession.
- In case of **4 × "AA" Alkaline or NiCad Battery, or through AC Adapter**, you must allow the unit to **cool down for over 10 minutes** if more than **20 full power flashes** are fired in rapid succession.

To Install Batteries:

1. Slide the battery compartment cover toward the bottom of the unit. Now gently fold up the cover in direction shown.
2. Insert four AA size batteries (alkaline or nickelcadmium) as shown. The battery compartment has a guide showing the correct positioning of the batteries for proper polarity (+, - contacts).
3. Press the cover until it snaps into place



Attaching the Flash Tube

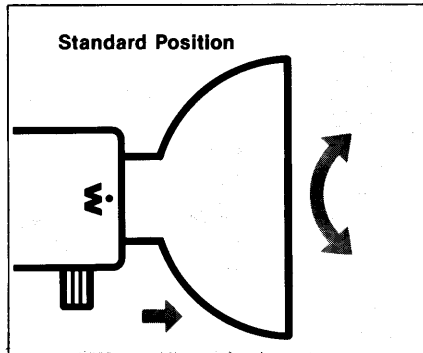
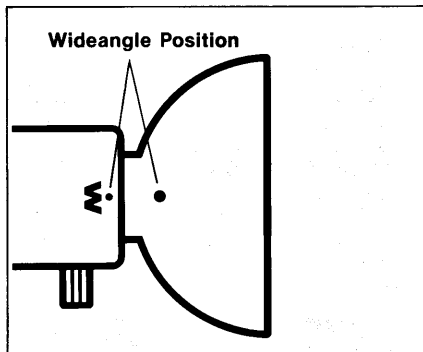
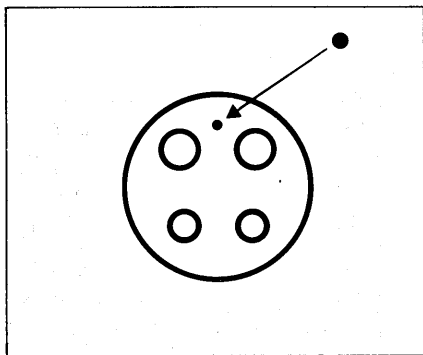
1. Match the positioning dimple on the flash tube base (located between two thick pins) with the dimple on the socket and push in until the tube is seated properly.

Attaching the Reflector to the Flash Head

1. Loosen the Reflector Locking Screw, located on the left side of the flash head, by turning the screw in a counterclockwise direction.
2. To position the reflector for Wideangle coverage, align the black "●" on the reflector with the "W" on top of the flash head. Push the reflector in until it is seated properly. For Standard angle of coverage, position the reflector so that the "●" does not align with the "W".
3. Tighten the Reflector Locking Screw by turning clockwise. Do not overtighten.

Changing Angle of Coverage

1. To change from Standard coverage to Wideangle, loosen the Reflector Locking Screw and turn the reflector until the "●" aligns with the "W". The reflector will slide in approximately 1/4 inch. Lock the reflector in position.
2. To change from Wideangle to Standard coverage, loosen the locking screw and pull the reflector out until it can be turned left or right. Rotate the reflector so that the "●" on the reflector aims away from the "W". Push the reflector in to make sure it is fully seated. Lock the reflector in position.
3. If you remove the reflector (bare bulb photography) the flash coverage is 360 degrees.



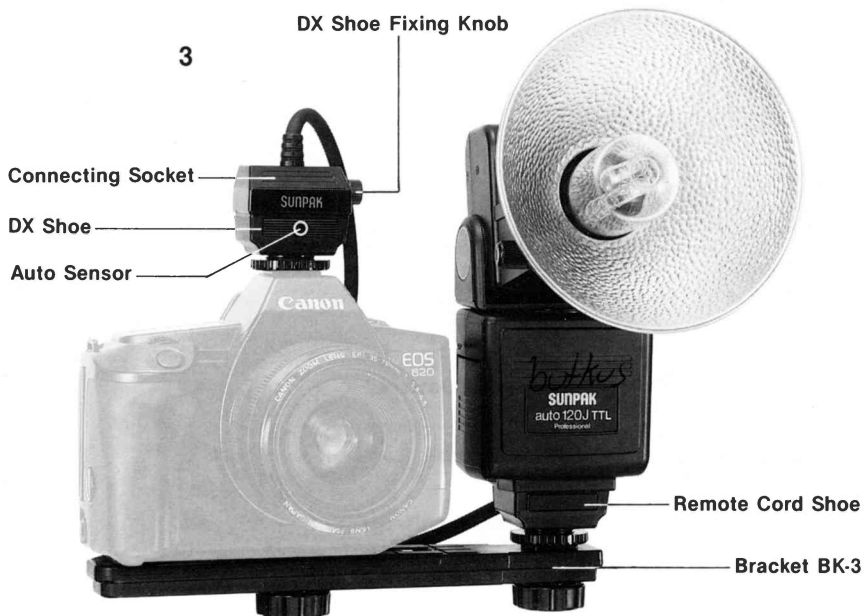
Remote Cord EXT-10 (optional) and Bracket BK-3 (optional)

Remote Cord EXT-10 (cat. No. 651-846) and Bracket BK-3 (cat. No. 651-755) are available as "optional" accessories. With the optional Remote Cord EXT-10, Auto Pro 120J TTL can be used off the camera, held by hand, still maintaining the TTL mode and Auto mode. Also, if mounted on the optional Bracket BK-3 together with camera, the flash can be used more easily in better weight balance with the camera.

1. Connect Remote Cord Shoe of Remote Cord EXT-10 to the flash body in the same manner as "Connecting the Module to the Flash Body".

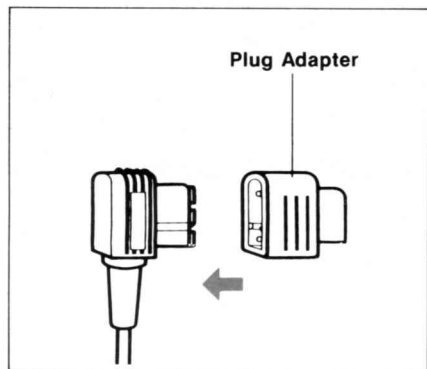
2. Turn DX Shoe Fixing Knob of Connecting Socket counterclockwise to connect DX Shoe to the socket. Fix connected DX Shoe tight by turning the knob clockwise. (Figure 3)
3. Turn the knob counterclockwise and pressing the knob to disconnect DX Shoe from Connecting Socket.
4. Mount DX Shoe to the Camera's accessory shoe. Fix DX Shoe to the camera by tightening the knob of DX Shoe.
5. Set the camera and Remote Cord Shoe to Bracket BK-3. (Figure 3)

Caution: Be careful to keep Remote Cord off the lens of the camera.



Using the Sunpak TR-PAK IIa, the Sunpak Powerpak for 510V Battery or the Sunpak AC Adapter AD-26

When you use the Sunpak TR-PAK IIa, Powerpak for 510V Battery or AC Adapter AD-26, first attach the supplied **Plug Adapter** (AC Adapter AD-26: refer to the "Power Sources" #3/Note) to the end of Powerpak or AC Adapter cord.

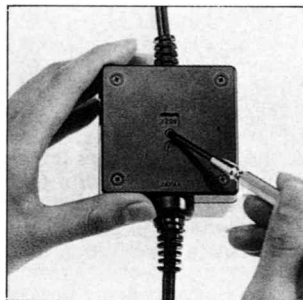
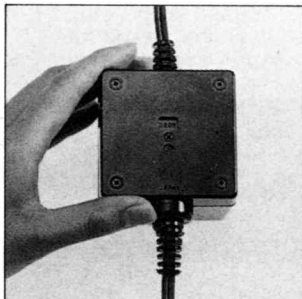


1. Set Battery/AC.HV Selector Switch to AC/HV position.
2. Insert four AA size batteries. (When using your Auto Pro 120J TTL with external power sources, always keep batteries inside the unit to maintain the Automatic Functions.)
3. Plug into the AC/High Voltage Inlet on the flash. (AD-26: The other end plugs into a standard electrical outlet.)

CAUTION: AC Adapter AD-26

Before attaching the power cord determine that AC Adapter is set for 110-120 V operation (United States, Canada, or other countries with this standard).

If Adapter is not set for correct voltage, loosen the Phillips-head screw on the back of Adapter, re-set the selector to the correct voltage, and tighten the screw securely. Important: if the voltage selector is set incorrectly, your flash and adapter may be damaged.



IMPORTANT SAFEGUARDS

WHEN USING YOUR PHOTOGRAPHIC EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED, INCLUDING THE FOLLOWING:

- 1. READ AND UNDERSTAND ALL INSTRUCTIONS.**
- 2. CLOSE SUPERVISION IS NECESSARY WHEN ANY APPLIANCE IS USED BY OR NEAR CHILDREN. DO NOT LEAVE THIS APPLIANCE UNATTENDED WHILE IN USE.**
- 3. DO NOT OPERATE APPLIANCE IF IT HAS BEEN DROPPED OR DAMAGED UNTIL IT HAS BEEN EXAMINED BY A QUALIFIED SERVICEMAN.**
- 4. TO PROTECT AGAINST ELECTRICAL SHOCK HAZARDS, DO NOT IMMERSE THIS APPLIANCE IN WATER OR OTHER LIQUIDS.**
- 5. TO AVOID ELECTRIC SHOCK HAZARD, DO NOT DISASSEMBLE THIS APPLIANCE, BUT TAKE IT TO A QUALIFIED SERVICEMAN WHEN SOME SERVICE OR REPAIR WORK IS REQUIRED. INCORRECT REASSEMBLY CAN CAUSE ELECTRIC SHOCK HAZARD WHEN THE APPLIANCE IS USED SUBSEQUENTLY.**
- 6. DO NOT OPERATE APPLIANCE WITH A DAMAGED CORD.**
- 7. DO NOT LET CORD HANG OVER EDGE OF TABLE OR COUNTER OR TOUCH HOT SURFACES.**
- 8. IF AN EXTENSION CORD IS NECESSARY, CARE SHOULD BE TAKEN TO ARRANGE THE CORD SO THAT IT WILL NOT BE TRIPPED OVER OR PULLED.**
- 9. ALWAYS UNPLUG APPLIANCES FROM ELECTRICAL OUTLET WHEN NOT IN USE. NEVER YANK CORD TO PULL PLUG FROM OUTLET. GRASP PLUG AND PULL TO DISCONNECT.**