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Photogenic
Flashmaster

MODEL AA06

**Operators Manual
and Parts List**



Designers of Fine Lighting Equipment Since 1921

THE PHOTOGENIC MACHINE CO.

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TABLE OF CONTENTS

PART I

	Page
Section 1. Synchronization	1
Section 2. Safety Precautions	1

PART II

THE PHOTOGENIC FLASHMASTER SPEEDLIGHTS

Section 1. General	2
Section 2. Unpacking and Setup	3
Section 3. Use of the Lights	4
A. Power Supply	4
B. Lighting Units	7
Section 4. Technical Characteristics	10
Section 5. Exposure Information	13
Section 6. Service	14
A. Safety Precautions	14
B. Power Supply	14
C. Lighting Units	14
D. General Service Instructions	14
E. Common Symptoms and Their Causes	15
F. Information for Electronic Serviceman	17
Replacement Parts	19

PART I

SECTION 1. SYNCHRONIZATION

An electronic speedlight flashes within a few millionths of a second after it is triggered. The camera shutter should be equipped with contacts of the zero delay type for use with speedlight.

Synchronization is extremely important and the greatest care should be taken in making all connections to the synchronizer cables. If these connections are not made in a careful and workmanlike manner, either an intermittent connection or an electrical leak between the two leads may result. Either will cause unreliable performance. An electrical leak will be especially noticeable during humid weather.

After the synchronizer cable is properly connected, it is well to check the synchronization with the camera. Adjust the lighting unit to the same height as the camera lens and face the light into the lens. The lens aperture should be through the back of the camera to operate the shutter. The flash of the light should then appear as a circle the same size as the aperture. A few sheets of white paper in front of the lens will cut down the brilliance of the flash and aid in making the observation. It is best to perform this test with the modeling lamp turned off. If the circle is flattened on the sides, or if no light appears through the lens, the shutter is not synchronized with the light. Shutter contacts for this light should be X- or zero-delay type. If the light appears not to be synchronized, the shutter contacts should be checked by a reputable camera repairman.

SECTION 2. SAFETY PRECAUTIONS

Despite the extreme measures that have been taken to make this equipment foolproof, it must be recognized that high voltages do exist within the power supply, cables, and lighting units. Therefore, certain precautions must be observed in handling the equipment.

Do not attempt to change flashtubes or modeling lamps unless the unit has been discharged and the lighting unit disconnected from the power supply.

Always make certain that the power supply is disconnected from the 115-volt A.C. line before attempting to service it.

Do not open the power supply case or disassemble any of the equipment unless you are familiar with equipment of this type.

DO'S AND DON'TS

- DO—Turn Power Supply Unit "OFF" when not in use.
- DO—Avoid quick repeated flashing. Damage may result.
The full charging time should be allowed between flashes.
- DON'T—Permit a lighting unit cable to become frayed or loose in a connector.
- DON'T—Insert or Remove a Flashtube unless the Power Supply Unit is fully discharged.
- DON'T—Remove the top cover from the Power Supply Unit or place a hand near any part inside the unit until you are certain that the capacitor bank is fully discharged.
- DON'T—Insert a screwdriver or other metal object into the flashtube socket or any electric outlet, socket or receptacle. Contact with high voltage may result.
- DON'T—Attempt to make repairs to the speedlight outfit if you are not familiar with electronic equipment. Your dealer should be consulted regarding an authorized electronic or radio serviceman.
- DON'T—Plug the unit into any service except 100-125 V. 60-cycle A.C. If this unit is plugged into D.C. service, it may result in serious damage to the component parts.

PART II

THE PHOTOGENIC FLASHMASTER SPEEDLIGHTS

SECTION 1. GENERAL

This manual covers Flashmaster Speedlighting outfits having catalog numbers:

AA06 power pack and 8050-M, 8050-UMB, AA11, AA12, and AA17 lighting units.

The Photogenic Flashmaster is a portable, multiple-light speedlight outfit. It is designed for continuous heavy-duty service, and incorporates many special features which make it ideally suited for school photography, Santa Claus photography and other high production work.

The power pack is voltage regulated to provide the constant light output which is so necessary for quality color photography, especially where the film is processed automatically.

Two, three, and four light outfits, using 6", 11", 16" or umbrella lighting units are available. Each power pack will accommodate up to five lighting units.

The power pack features voltage regulation, a misfire alarm, a very rapid recharge, and components rated for continuous heavy service. All power packs are built around the "DO-IT-YOURSELF" repair concept which is exclusive with Photogenic in the speedlight field. The electronic components are mounted so they can be quickly replaced by anyone without use of a soldering iron.

SECTION 2. UNPACKING AND SETUP

Unpack all units carefully to make certain that all parts are removed from the cartons. Do not discard or destroy packing material until the equipment has been assembled and all parts are accounted for.

After unpacking, all parts should be examined for any damage which may have been caused by rough handling during shipment. IF ANY DAMAGE IS DETECTED, CONTACT THE DELIVERY CARRIER AT ONCE. CLAIM FOR DAMAGE SHOULD BE MADE TO THE DELIVERY CARRIER BEFORE DESTROYING PACKING CASES.

The 6" and umbrella lighting units are shipped completely assembled and ready to operate. It is only necessary to set up the stands and fasten the lighting units to them. The 11" and 16"

lighting units are shipped with the lamps packed separately. After unpacking, install the flashtubes and modeling lamps.

A. Initial Operation

Plug in four lighting units and connect the line cord from the power pack to a wall outlet. Turn the power switch ON.

As soon as the switch is turned on, the red indicator will light. At the same time, the white charge indicator will come on indicating that the power pack is charging. In three seconds, when the power pack reaches full charge, the white charge indicator light will go out. This indicates that the power pack is fully charged and is ready to flash. Plug the trip cord into the power pack and trigger it by touching the ends of the wires together. The lights will flash.

As soon as the lights flash, the charge indicator light will come on again and will go out after the power pack is fully charged.

When the switch is turned off, the power capacitors will be completely discharged by the discharge relay inside the power pack.

SECTION 3. USE OF THE LIGHTS

A. Power Supply

1. Program Plugs—Model AA06 Power Pack

The model AA06 power pack has a total output power of 600 watt/seconds. Many different combinations of output power are available by using different power plugs.

The power output indicated on the plug is obtained when the plug is inserted. See figure #1. This selector is not a turn type switch, but rather a plug which must be physically removed and re-inserted. Power changes should not be made without first turning off the power switch, which will discharge the power capacitors.

#5 (150 w-sec isolated)

#8 (600 w-sec common)

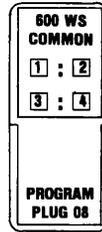
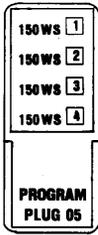


Fig. #1

Two power plugs are supplied with the equipment.

Using plug No. 5 each outlet will provide 150 watts/seconds. All four outlets are isolated. The power supplied to each light is not affected by any other lights which are plugged in.

Using plug No. 8 marked 600 watts/second, the entire 600 watts/second output of the power pack is connected to all four outlets. If a single light is used, the full 600 watts/second power is available to it. If more than one light is used, the power will divide equally among the lights connected. CAUTION: Do not change the power plug with the power pack turned on.

Always turn it off and allow a few seconds for the capacitors to discharge first before changing plugs.

Many other combinations of output power are possible. See listing on bottom of power supply.

PROGRAM NUMBER	OUTPUT POWER (W-S) AT FULL POWER				OUTPUT POWER (W-S) AT HALF POWER			
	1	2	3	4	1	2	3	4
01	300		300		150		150	
	COMBINED				COMBINED			
02			300				150	
	COMBINED				COMBINED			
03	450	0		150	225	0		75
	COMBINED				COMBINED			
04	450	0	0	75	225	0	0	37
05	150	150	150	150	75	75	75	75
06	300	150		150	150	75		75
	COMBINED				COMBINED			
07			450	150			225	75
	COMBINED COMBINED				COMBINED COMBINED			
08				600				300
	COMBINED				COMBINED			

2. Misfire Alarm

When using the No. 5 power plug, the Misfire Alarm will operate. All four of the Misfire Alarm switches should be set to the "ON" position. If any of the four lights should fail to flash, a buzzer will sound, warning the operator to retake the exposure. The Misfire Buzzer can be tested merely by unplugging any lighting unit and flashing the lights.

If fewer than four lights are to be used, turn the Misfire Alarm switch next to the unused outlets. (These switches also turn off an unwanted lighting unit without unplugging it.)

When using the No. 8 power plug, the Misfire Alarm is inoperative. If several lighting units are used, the buzzer will NOT sound if one lighting unit fails to flash.

3. Protection

A circuit breaker is provided to protect the equipment from damage by a short circuit.

4. Flashing Rate

This power pack will not be damaged regardless of how rapidly it is flashed. However, if it is flashed before the indicator light has gone out, the power pack has not reached full charge, and full light output will not be obtained. In addition, continuous rapid flashing can overheat and damage the flashtubes.

5. Triggering

The power supply can be triggered directly, by means of the trip cord provided, or it can be triggered remotely from the flash of another speedlight by removing the trip cord. When the trip cord is not inserted into the sync jack, the built-in photoslave circuit will operate. To turn the photoslave off, insert the trip cord back into the sync jack.

6. Charge Indicator Light

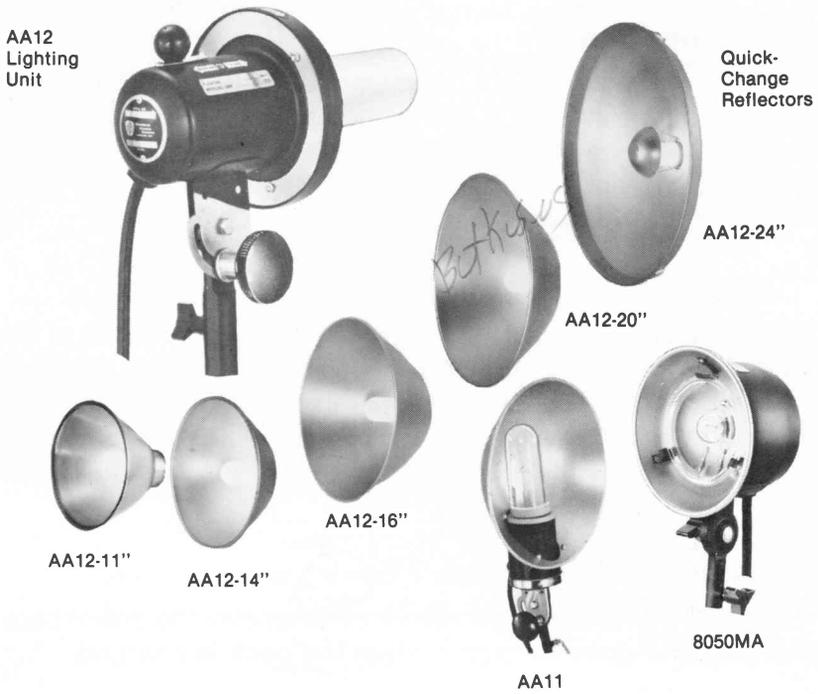
The charge indicator light comes on whenever the power pack is charging and goes out again when the pack is charged.

Under normal conditions, the recharge time is three seconds if the full output power is used; less if only part of the power is being used.

This is a voltage regulated power pack. When comparing the rated charging time on regulated pack, bear in mind the difference in the way the charge time rating is determined. It is customary to rate an ordinary speedlight power pack by the time required to reach only 99% of full charge. To reach 95% of full charge, 1½ times the rated charging time is allowed. To reach 98%, twice rated time must be allowed. A voltage regulated power pack, such as the model AA06, however, will reach 100% FULL CHARGE in the rated charging time. No extra allowance is needed.

1. 6" Lights

The unit is designed principally for use as an auxiliary light. The smaller reflector lends itself well to use as a background light or an accent light. Snoots may be attached for greater control and for spotlight effects. Simply push the snoot into the reflector so that the springs snap over the reflector bead and hold it in place.



The flashtube is permanently mounted in the reflector. It is recommended that the lighting unit be returned to the factory if it should ever be necessary to replace the flashtube, since great care must be taken to prevent cracking it during installation.

The flashtube used in these lighting units is designed to use no more than 400 watts/second of power.

The modeling lamp is a No. 1073 automotive lamp, which is available at most service stations. When it becomes necessary to replace this lamp, remove lens by pressing on the spring clip and removing the lens. If a brighter modeling lamp is required, a No. 1295 lamp may be substituted in place of the 1073.

2. 11" Lights

If a large reflector is desired, the AA11 and AA12 lighting units are available. The AA11 is a wide angle light using a flat 11½" diameter reflector. It provides a softer, broader, flood of illumination, particularly useful for photography of groups, or for school photography, when the operator does not wish to reposition his lights frequently. The AA11 lighting unit uses a 1073 modeling lamp, and an H4-1 plug-in flashtube. It will operate at 400 watts/second. Barndoors and diffusers are available for this light if desired.

3. 16" Lights

The AA12-16 lighting unit uses a 16" diameter studio type reflector for the finest lighting control. The flashtube socket is adjustable to provide two different light patterns. To adjust, loosen the knob on the side of the socket housing, push the knob as far as it will go in the direction of the arrow, then tighten it again.

In the FLOOD position, the reflector has a coverage of 60 degrees and has no hot spot in the center. This pattern is best for floodlighting of groups.

In the MODELING position, the reflector has a coverage of 45 degrees with a suitable hot spot in the center so that the light can be feathered to obtain correct gradation between highlight and shadow.

Best results are obtained by using these lights between 36 inches and 42 inches from the subject, for head and shoulder work. By feathering the main source light, it then will be possible to shade the ear, etc., of the subject. The fill light may also be feathered in order to obtain the proper shadow illumination to balance with the main source. It is essential to feather all lights away from the background so that unwanted illumination and shadows will not fall in this area.

Barndoors may be used to increase the effectiveness of feathering the light. It attaches to the front of the reflector and may be rotated as requires. The barndoor is equipped with a removable matte finish acetate diffuser.

The socket housing of the AA12 lighting unit is fitted with a quick-change mechanism which permits the reflector to be attached or detached in seconds. The reflectors nest for easy carrying, and protective cover (Cat. No. AA47) is available to prevent flashtube breakage.

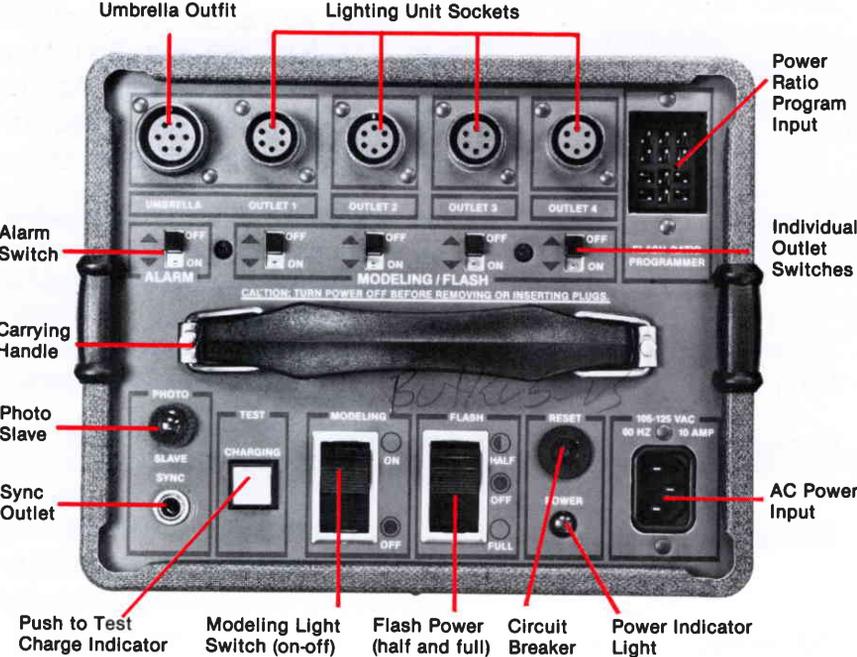
The AA12 uses a 1073 modeling lamp and H4-1 flashtube. It will operate up to 400 watts/second.

For background lighting or special effects, this unit will also accommodate the small reflector used with the Photogenic Studiomaster background light. If ordered with these reflectors instead of the 16" reflector, the catalog number is AA13.



The AA17 lighting unit has a 250-watt quartz modeling lamp with a variable dimmer control. The modeling lamp is correctly designed for placement in the center of the plug-in flashtube for a time visual modeling lamp versus flash effect. Plug-in long life flashtube/reflector assembly. Rigid tilting yoke holds standard umbrella including Photogenic's 54-inch, 45-inch, or 28-inch. The umbrella bracket is adjustable. The 8050-UMB is a smaller light with a 150-watt quartz modeling lamp. The flashtube is permanently mounted. The umbrella bracket is preset for optimum focus and is non-adjustable.

SECTION 4. TECHNICAL CHARACTERISTICS



Power Supply Engineering Specifications

- Flash Power 600 watt/second maximum.
- Flash Duration 1/1000 second to 1/250 second.
- Recycling Time 3 seconds to 100%, 2.5 seconds to 90% with 115-volt, 60HZ line voltage.
- Power Distribution 8 program ratio plugs provide 82 power level combinations to 5 outlets. Full and half-power switch is standard.
- Modeling Light Power Replaceable low voltage 1073 lamp, standard with portrait reflectors. 33% brighter 1295 is optional. 115-volt, 150 ESP lamp with 8050-UMB umbrella light. 115-volt, 250-watt EHT lamp with AA17 umbrella light. Approximately 10-amp main power required with 4-1295 modeling lamps.
- Triggering Low voltage SCR with built-in photo cell. Instantaneous by means of trip cord connected to camera sync. Push to test switch on panel.
- Main Supply 105, 125 VAC, 60 HZ 10-amp power.
- Consumption 1½ amps idling. Eight amps maximum, recharging.
- Voltage Stabilization Rugged ferro-resonant static magnetic regulation. 490 ± 5VDC regulated for constant repeatable light output.
- Duty Cycle Continuous 1 flash every 6 seconds.
- Synchronization Instantaneous with trip cord connected to camera sync with zero delay.

- Light Output 12,800 BCPS at 600 watts/second, using an 8050-MA lighting unit 6" reflector. Guide No. 260 for ASA 100.
- Color Temperature Balanced for daylight film approximately 6000 Kelvin.
- Overload Protection Rugged circuit breaker.
- Packaging Heavy-duty vinyl-coated case.
- Internal Construction Heavy-duty long life transformer photoflash capacitors and connectors. Plug-in modular components. 100% factory-tested and calibrated.
- Safety Automatic safety discharge circuit when power is removed. Safety discharge when changing program plugs. Circuit breaker protection.
- Weight 15 lbs., 12 oz.
- Dimensions 9³/₈" wide, 7³/₈" deep, 9" high.

FLASHTUBES

8050-M

Lighting Unit — Type C4-1; permanently mounted, maximum power 400 watts/second, 1073 modeling lamps.

AA11, AA12 and AA13

Lighting Units — Type H4-1 plug-in type: maximum power 600 watts/second.

8050-UMB: Type permanently mounted, maximum power 600 watts/second, ESP modeling lamp.

AA17

Lighting Units — Type C4-2 plug-in type: maximum power 600 watts/second, EHT modeling lamp.

Modeling lamps: No. 1073, all lights except AA17. 1295 may be substituted for 1073 if brighter modeling lamp is desired.

AA17: 250-watt (ENT) quartz halogen. 8050 UMB: 150-watt (ESP) quartz halogen.

SECTION 5. EXPOSURE INFORMATION

In the first table below, find the light output in BCPS for the main light at the power you are using. Look up the guide number in the second table in the BOPS column nearest this light output.

BEAM CANDLEPOWER SECONDS OF PHOTOGENIC UNITS							
Find the Beam Candlepower Seconds of the lighting unit at the watt-second rate being used, and refer to the guide number chart.							
LIGHTING UNIT	SETTING	BEAM CANDLEPOWER SECONDS					
		600-W-S	400-W-S	200-W-S	100-W-S	50-W-S	25-W-S
8050M	60°			3400	1700	851	430
8050L	60°			4247	2115	1060	530
AA11	80°		6000	3000	1500	750	375
AA12	45°		9300	4650	2324	1162	580
AA12	60°		6080	3040	1520	760	380
*AA17 w/28" Umbrella	100°	3450	2300	1150	575	287	
*AA17 w/45" Umbrella	100°	3900	2600	1300	650	325	
*AA17 w/54" Umbrella	110°	4020	2680	1340	670	345	

* Measurement made with Photogenic's Soft White Umbrella.

GUIDE NUMBER CHART																
ASA FILM SPEED FOR DAYLIGHT	BCPS OUTPUT OF ELECTRONIC FLASH UNIT															
	350	500	700	1000	1400	2000	2800	4000	5600	8000	12000	16000	23000	32000	45000	64000
10	13	16	18	22	26	32	37	45	55	65	75	90	105	125	150	180
12	14	18	20	24	28	35	40	50	60	70	80	95	115	135	160	201
16	17	20	24	28	34	40	50	55	65	80	95	115	135	160	190	230
20	18	22	26	30	36	45	55	61	75	90	102	120	145	170	205	240
25	20	25	30	35	43	50	60	70	85	100	120	145	170	205	245	290
32	24	30	34	40	50	55	70	80	95	115	140	165	195	230	275	330
40	26	32	38	45	55	65	75	90	110	130	155	185	220	260	310	365
50	30	35	43	50	60	70	85	100	120	145	170	205	245	290	345	410
64	34	40	48	55	70	80	95	115	140	165	195	230	275	330	390	465
80	38	45	55	65	77	90	110	130	150	180	220	260	310	365	435	520
100	43	50	60	70	85	100	120	145	170	205	245	290	345	410	490	580
125	48	55	70	80	95	115	135	160	190	230	270	325	385	460	545	650
160	55	65	80	90	110	130	155	185	220	260	310	365	435	520	615	730
200	60	70	85	100	120	145	170	205	245	290	345	410	490	580	690	820
250	68	80	95	115	135	160	190	230	270	320	385	460	545	650	770	915
320	75	90	110	130	155	180	220	260	310	370	435	520	615	730	870	1035
400	85	100	120	145	170	205	245	290	345	410	485	580	690	820	975	1160
500	95	115	135	160	190	230	270	320	385	460	545	650	770	915	1090	1295
650	110	130	155	185	220	260	310	370	440	520	620	740	880	1045	1245	1480
800	120	145	170	205	245	290	345	410	490	580	690	820	975	1160	1380	1640
1000	135	160	190	230	270	325	385	460	545	650	770	915	1090	1295	1540	1830
1250	150	180	215	255	305	360	430	510	610	725	860	1025	1220	1450	1720	2050
1600	170	205	245	290	345	410	490	580	690	820	975	1160	1380	1640	1950	2315
2000	190	230	270	325	385	460	545	650	770	915	1090	1295	1540	1830	2180	2590
3000	235	280	340	400	470	560	670	790	940	1120	1330	1585	1885	2240	2665	3170

* This table is intended as a starting point only, for best results tests must be made.

SECTION 6. SERVICE

A. Safety Precautions

Every effort has been made in the design and manufacture of this equipment to make it completely safe in operation or during servicing. In addition, a safety discharge relay completely discharges the power capacitors whenever the equipment is turned off.

CAUTION: This equipment uses voltages which can cause uncomfortable and dangerous shock. In spite of the above safety features, **ALWAYS BE CAREFUL.** We recommend:

1. First turn off power switch and then disconnect line cord before changing modeling lamps or opening power supply cover.
2. Never insert a screwdriver or any other metal object into any outlet, socket, or receptacle.
3. Do not attempt to operate the equipment with case removed, unless you are familiar with electronic equipment and the hazards involved.

B. Power Supply

To open the case, slide the two Flashmaster trim strips out of the trim plates on each side. Remove the three screws.

C. Lighting Units

For information on replacement of modeling lamps and flashtubes, see Section 3.

D. General Service Instructions

In order that you may expect long and trouble-free service every precaution has been taken in the design and manufacture of this equipment. Frequent servicing is not likely to be necessary; however, the suggestions offered here will assist the photographer in recognizing the cause of any trouble which may arise, and will aid him in having it corrected as quickly and as inexpensively as possible.

When trouble arises, try the following simple things first:

1. Reset breaker.
2. Try a new flashtube.
3. Try another line cord.
4. If the unit is not triggering properly, make sure the camera shutter or trip cord is not at fault.
5. Try to determine whether the trouble is in the lighting units or the power supply.

Disconnect them and try the suspected lighting unit with a good power supply and the suspected power supply with a good lighting unit if available.

A word about intermittent defects: often equipment will not be completely inoperative, but will operate satisfactorily part-time. If the equipment happens to be operating satisfactorily at the time a test is being made, the test will not find the defect because the intermittent defect is sometimes very difficult to locate. In troublesome cases, be very systematic, keeping a record of each step taken and noting that the results are consistent. Care and patience will usually uncover the trouble.

E. Common Symptoms and Their Causes

1. LIGHT FLASHES BY ITSELF WITHOUT APPARENT REASON.

Probable cause:

- (1) Defective trip cord, or trip cord incorrectly polarized.
- (2) Bright light falling on photoslave.
- (3) Defective power capacitor.
- (4) Poor connection in line cord.
- (5) Reverse polarity on trip cord connection at camera.

2. TRIP CORD WILL NOT FLASH, BUT CHARGE INDICATOR SHOWS THAT THE PACK HAS CHARGED.

Probable cause:

- (1) Defective trigger SCR.
- (2) Defective trip cord.
- (3) Defective lighting unit.
- (4) Defective trigger capacitor.

3. ONE LIGHT WILL NOT FLASH.

Probable cause:

- (1) Try the non-flashing lighting unit in the other outlets. If it does not flash, suspect a defective flashtube or trigger coil. See section 3.
- (2) Try the good lighting unit in the non-flashing outlet. If it does not flash, suspect a defective trigger capacitor.

4. CHARGE INDICATOR LIGHT DOES NOT GO OUT.

Probable cause:

- (1) Defective power capacitor.
- (2) Defective lighting unit.
- (3) Defective flashtube "afterglow."

"Afterglow" is a condition in which a flashtube continues to glow dimly after the main flash is over. While this glow persists, the charge indicator light will not go out. Persistent or continuous afterglow indicates a defective flashtube. A slight afterglow, lasting a second or less, may occasionally occur in a normal flashtube.

5. CHARGE INDICATOR FAILS TO LIGHT.

Probable cause:

- (1) Defective charge indicator lamp.
- (2) Defective power transformer.
- (3) Defective discharge relay.
- (4) Capacitor C5 short-circuited.
- (5) Defective rectifier.

6. MISFIRE ALARM BUZZER SOUNDS AFTER FLASH.

Probable cause:

- (1) Relay K2 defective.
- (2) Defective power capacitor.

7. MISFIRE ALARM SOUNDS AFTER FLASH.

Probable cause:

- (1) Defective lighting unit.

8. MISFIRE ALARM BUZZER SOUNDS EVERY FLASH, ALL LIGHTS FLASHING.

Probable cause:

- (1) Alarm switch left on when a light is unplugged. See page 9.
- (2) Defective misfire alarm switch.

9. MISFIRE ALARM BUZZER DOES NOT SOUND EVEN WHEN A LIGHT IS MISFIRING.

Probable cause:

- (1) Wrong power plug is being used.
- (2) Misfire alarm switch turned off, or switch defective.
- (3) Defective relay K2.
- (4) Defective alarm.
- (5) Defective resistor R4, R5, R6, R7 and R9 or diode, D18, D38 thru D41, also diode D5 thru D8.

F. INFORMATION FOR THE ELECTRONIC SERVICEMAN

First read the general information given above in the preceding parts of Section 6. Isolate the trouble as far as possible using the chart of symptoms and probable causes.

The section below gives a detailed description of circuit operation to aid in servicing.

AC Power is stepped up to a high voltage in transformer T1 and rectified by a bridge rectifier to provide the direct current which charges the capacitor bank. Transformer T1 is not an ordinary transformer. It has a special magnetic circuit tuned with capacitor C5 which provides a stabilized high voltage output from the second winding. Approximately 320 volts AC is tapped from this regulated winding and output which charges the capacitor bank.

At full charge, the DC voltage in the capacitor bank will be held within the range of $490 \pm 10V$ regardless of line voltage variations between 100 and 125 volts. Line current must be 60 cycles AC. This transformer will not perform properly on 50-cycle current. At half-power, the DC voltage will be $390 \pm 10VDC$.

The main capacitor bank consists of C1, C2, C3, and C4. These four capacitors are charged separately through the isolation rectifier. Each of these capacitors is separately connected to one of the output plugs, J1, J2, J3, and J4. By inserting a properly wired power plug in socket J8, the capacitors can be connected in any combination desired. A wide choice of output power is thus available to the photographer merely by changing the power plug.

Relay K1, operated by the 115-volt power line, is provided to discharge the power capacitor bank when the unit is turned off. When K1 de-energizes, the capacitor bank discharges through resistor R8, bypassing the isolation rectifiers.

A misfire alarm system is provided to alert the operator when a lighting unit fails to flash. When a lighting unit fails to flash, the power capacitor associated with it will not discharge. The difference in voltage between this capacitor and the discharged flow through one of the misfire alarm resistors, R4, R5, R6, or R7 through relay K2. Relay K2 operates a buzzer which gives an audible alarm for several seconds. Switches S1, S2, S3, and S4 are provided to disconnect the misfire alarm from any outlet. These switches also disable the trigger pulse and modeling lamp from the outlets.

All lighting units are provided with modeling lamps which operate from a low voltage winding on transformer T1A.

The trigger circuit, using a trigger SCR, is connected across the power capacitor bank.

As the power capacitors charge, the trigger capacitors C15, C16 also charge. When shutter contacts operate, the triggering SCR is gated, causing it to fire. C15 and C16 are discharged through trigger capacitors, C11 through C14 and their respective trigger transformers.

The high voltage spark from the secondary of the triggering transformer ionizes the flashtube, causing it to discharge the power capacitors with a brilliant flash.

REPLACEMENT PARTS FOR AA06

Schematic #	Part #	Description
Alarm	001200-00	Misfire Buzzer
C1 thru C4	013596-00	Capacitor Main Storage
C5	205507-00	Capacitor 2 MFD 660VAC oil
C6	177002-00	Capacitor 170 MFD 200VDC
C7, C11 thru C14	224630-00	Capacitor 0.22 MFD 630VDC
C8	205005-00	Capacitor 2.2 MFD 450VDC
C9, C18, C20	474050-00	Capacitor 0.47 MFD 50VDC
C10	503005-00	Capacitor 0.05 MFD 500VDC
C15, 016	226205-00	Capacitor 22 MFD 250VDC
C17	227025-00	Capacitor 220 MFD 25 VDC
C19, C21	104035-00	Capacitor 0.1 MFD 35 VDC
D20, 22, 24, 26	005626-00	Diode, 3A, 600 PIV
D1 thru D41 (except above)	005061-00	Diode, 1A, 600 PIV
CB-1	000028-40	Circuit Breaker
DS-1	185291-00	Pilot Light Red Neon
DS-2	000085-00	Charging Indicator #85 Lamp
J1-2-3-4	011284-00	Connector Power Output
J11	013451-00	Connector Power Output
J5	000367-00	Connector AC Input
J6*	480283-00	Connector Body 8 SOC
P6*	480284-00	Connector Body 8 PIN
J7	000012-00	Connector 1/4" Sync Jack
J8	003312-00	Connector Power Programmer
J6*	061117-01	Terminals AMP Socket For J6
P6*	061118-01	Terminals AMP Pins for P6
K1	013695-00	Relay Power Discharge
K2-K3	002530-03	Relay Buzzer Alarm, Afterglow
R-1	222505-00	Resistor 2.2K 5W W.W.
R3-R20	102992-00	Resistor 1K 1/4W
R4, 5, 6, 7	103501-00	Resistor 10K 1W PWR ox
R8	201540-00	Resistor 200 OHM 40W W.W.
R9, R12	180995-00	Resistor 18 OHM 40W W.W.
R10	159540-00	Resistor 1.5 OHM 40W W.W.
R11	222901-00	Resistor 2.2K 1W
R13	754595-00	Resistor 750K 1/2W
R14	475995-00	Resistor 4.7M 1/4W
R15	184592-00	Resistor 180K 1/4W
R16, 17, 18, 19	394595-00	Resistor 390K 1/2W
R21-22	335995-00	Resistor 3.3M 1/2W
R23	104902-00	Resistor 100K 2W
R24	100540-00	Resistor 10 OHM 40W

REPLACEMENT PARTS FOR AA06

Schematic #	Part #	Description
R25	473592-00	Resistor 47K 1/4W
R26, 27, 28, 29	224902-00	Resistor 220K 2W
R30	333992-00	Resistor 33K 1/4W
R31	226592-00	Resistor 22M 1/4W
R32	224592-00	Resistor 220K 1/4W
R33	273992-00	Resistor 27K 1/4W
R34	105592-00	Resistor 1M 1/4W
S5	013705-00	Switch Power Rocker 3 Pole
S6	013706-00	Switch Modeling Rocker 2 Pole
S7	656521-01	Switch Test P.B. Lighted
S1, 2, 3, 4, 8	050209-00	Switch Slide Alarm & Channel
Q1	000146-00	Thyristor Triac SC-146M
Q2	040833-00	Thyristor Triac S-2600M
Q3	000740-01	Thyristor MRD 740
Q4	005429-00	Transistor 2N5249
Q5	000106-03	Thyristor MCR 106-3
T1	013694-00	Transformer Assembly Power
T2	112000-02	Transformer Pulse
—	013702-00	P.C. Board Assembly
—	013687-00	P.C. Board Assembly
—	013701-00	Control Panel Assembly
—	013697-00	Wire Harness Assembly
T3	011248-00	Transformer Trigger, Model L
—	001073-00	Modeling Lamp 1073
—	001295-00	Modeling Lamp 1295
—	150031-00	Modeling Lamp ESP
—	000584-00	Modeling Lamp EHT
—	H4-1	Flashtube AA11, AA12
—	C4-1	Flashtube 8050-MA
—	C4-2	Flashtube AA17
—	C4-6	Flashtube 8050-UMB
—	013692-00	Cable Line Cord AA06
—	013786-00	Cable Trigger Sync Cord AA06
—	012929-00	Cable Lighting Unit 8050M
—	010733-01	Cable Lighting Unit AA11 & 12
—	011101-00	Cable Lighting Unit AA17
—		Cable Lighting Unit 8050-UMB
AA06-PPS	013745-00	Power Programmer Set

Order parts by Photogenic part number and description.
State model number and serial number of power supply or lighting unit.