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**INSTRUCTION  
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400B**

**400B**



# 400B



Welcome to the Norman family of interchangeable electronic flash equipment.

You have just purchased the 400B, Version 2, battery portable flash system that includes an improved 400B power supply, two B5122 "Super Batteries", a Norman "Super Charger" battery charger, and an LH52K lamphead. Improvements over Version 1 include:

#### 400B Power Supply

Internal improvements maximize dependability. Improved shoulder strap contours to the shoulder and enables the unit to be hung from a light stand.

#### LH52K Lamphead

Stronger housing, and test button is recessed to prevent accidental triggering. The LH52K-ML modeling lamp lamphead has also been improved and its model number has been changed to LH52K-M.

#### B5122 "Super Battery"

Longer battery life, about 25% more flashes per charge and no memory effect. 200+ flashes per charge at 400 w-s with both batteries installed.

#### Norman "Super Charger"

Faster and easier to use than the "Delta V" Charger, and two batteries can be charged using an automobile cigarette lighter.

In addition, the 400B offers these features:

#### Compact Size

About the same size as our previous 200 w-s model (200B).

#### Fast Recycling Time

4/10 second at 50 w-s, 8/10 second at 100 w-s, 1-1/2 seconds at 200 w-s, and 3 seconds at 400 w-s.

#### Low Battery Light

Illuminates when the battery charge is low.

The 400B is interchangeable with the 500 Series line which includes over 50 accessory items. It is our desire that you greatly benefit from the engineering and manufacturing expertise that has brought you this unique system. If you have any questions or suggestions, please feel free to contact us at any time.

#### 400B POWER SUPPLY

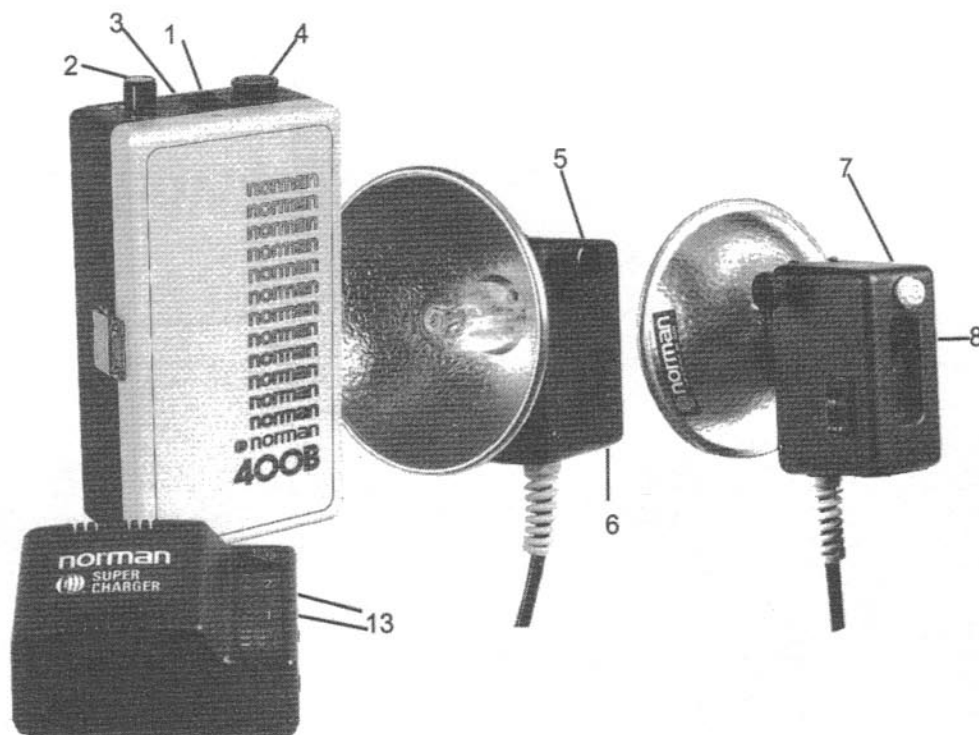
- 1 Power Switch
- 2 Control Switch
- 3 Low Battery Indicator
- 4 Lamphead Connector

#### LAMPHEAD

- 5 Reflector Lock Screw
- 6 Sync Outlet
- 7 Ready Light
- 8 Test Button

#### SUPER CHARGER

- 9 AC Inlet
- 10 115/130 Volt Switch
- 11 Charge Outlet
- 12 Auto Lighter Inlet
- 13 Charge Indicator Lights
- 14 Fuse



## SAVE THESE INSTRUCTIONS

### IMPORTANT SAFEGUARDS

in accordance with UL 122 specifications for photographic equipment.

When using your photographic equipment, basic safety precautions should always be followed, including the following:

1. Read and understand all instructions.
2. Care must be taken as burns could occur from touching the modeling lamp.
3. Lamphead must be disconnected from power supply when inserting or removing flash tube or modeling lamp.
4. Do not operate the appliance with a damaged cord or if the appliance has been dropped or damaged until it has been examined by a qualified serviceman.
5. If an extension cord is necessary, a cord with a suitable current rating should be used. Cords rated for less amperage than the appliance may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
6. When practical, unplug the appliance from the electrical outlet when not in use. Never yank the cord from the outlet. Grasp the plug and pull to disconnect.
7. To avoid electric shock hazard, do not bypass the ground pin on the AC cord or use this appliance with an ungrounded electrical outlet or an ungrounded AC cord.
8. CAUTION - Do not operate outside in the rain or inclement weather or in the presence of standing water.

# 400B POWER SUPPLY INSTRUCTIONS

## 1. POWER Switch

Switches the power supply on or off. The power supply will not switch on unless the lamphead is connected. This prevents accidental battery drain during storage or transit.

The POWER Switch performs two additional functions in the OFF position:

1. Discharges the main storage capacitors so the circuit card can be safely removed for service.
2. Disables the trigger circuit so the camera can be operated without triggering the flash. This prevents having to disconnect the camera sync cord when the flash is not required, such as when making time exposures.

### Using the POWER Switch to conserve battery power:

To conserve battery power it is suggested that the POWER Switch be left on when the periods between flashes are less than 10 minutes. For longer idle periods battery power is conserved by switching the unit off. The reason that power is lost when the switch is off during short idle periods is that the flash capacitors automatically discharge in the off position.

## 2. 50/100/200/400 Control Switch

Provides four power selections; 50 w-s, 100 w-s, 200 w-s and 400 w-s. You can operate the switch as fast as you wish without damage to the circuit. The power change is instantaneous (unlike some units that require wasting one flash to complete the power change).

The rotary switch design eliminates the possibility of accidentally changing power positions by bumping the switch.

## 3. LOW BAT Indicator

Illuminates when the battery charge is low and about 5-10 flashes remain.

## 4. Lamphead Connector

Any Norman 500 Series lamphead can be utilized with this connector. However, it is important to note that studio lampheads are not equipped with a sync outlet. Hence, using an LH52 lamphead type is recommended. For additional information on lampheads, please refer to the LAMPHEAD INSTRUCTIONS (on the next page).

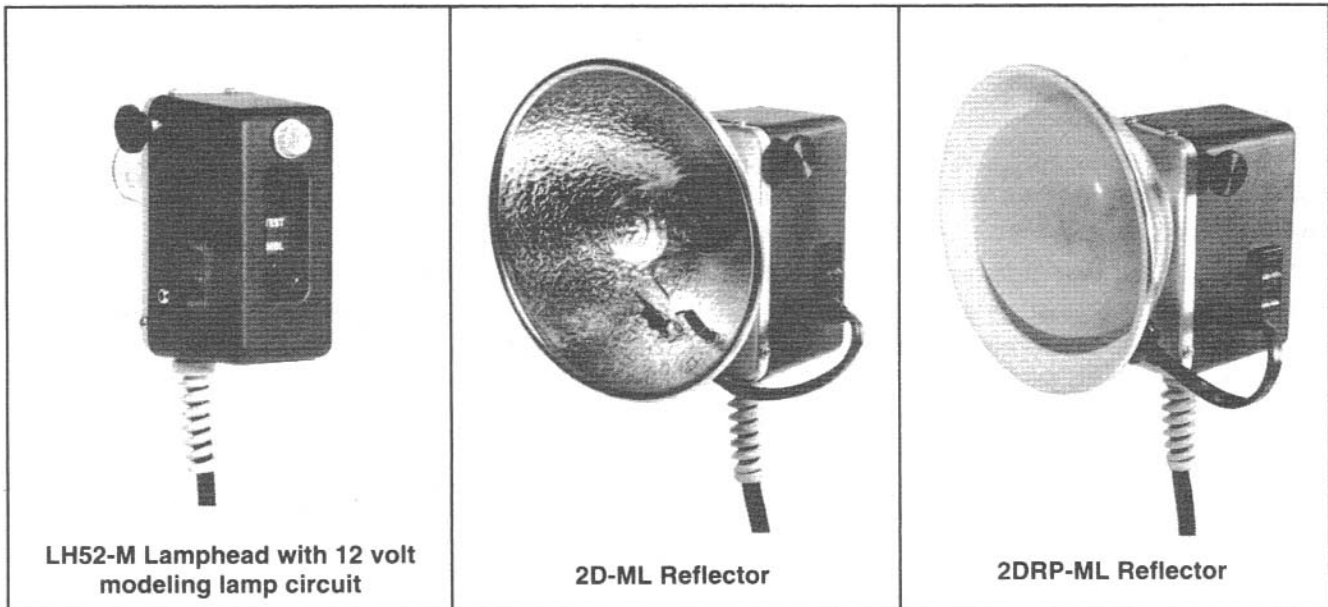
# LAMPHEAD INSTRUCTIONS

Several lamphead models operate with the 400B system;

LH52K	Standard lamphead with 5' coil cord.
LH52-5	Similar to the LH52K, but has a 5' straight cord and 115 volt modeling lamp outlet for use with the 2Q modeling lamp umbrella reflector.
LH52	Similar to the LH52-5, but has a 20' straight cable.
LH52K-ML or LH52K-M	Both of these lampheads have 12 volt modeling lamp circuits for use on the 400B system. The LH52K-M is an improved later model.

When using an LH52 lamphead type with a 115 volt modeling lamp reflector (2Q), do not connect the modeling lamp to the round 2-pin outlet on the lamphead. The 12-volt batteries in the 400B cannot supply the voltage required to operate the lamp and the battery will discharge unnecessarily. However, an R4153 extension cable can be used with the 400B, to connect the modeling lamp to a standard 115-volt wall outlet.

To be completely self-contained with battery power for the modeling lamp, you may wish to use the LH52K-M lamphead, as illustrated.



## 5. Reflector Locking Screw

Locks the reflector to the lamphead. To remove the reflector, rotate the locking screw about one turn counter-clockwise and pull the reflector.

## 6. Sync Outlet

Connects to the camera sync cord for triggering the flash. Cord polarity is important to prevent lamphead misfires. To establish the correct polarity, match the wide blade on the Sync Outlet with the wide blade on the camera sync cord. Numerous manufacturers make camera sync cords. A small number of them may be wired in reverse polarity. If this happens, the male plug on the sync cord would need to be connected backwards.

## 7. Ready Light

Illuminates when the unit is ready to flash.

## 8. TEST Button

Push to trigger the flash. Used for test purposes and for open flash photography. This 400B system includes an improved version of the LH52 that has a recessed TEST Button that prevents accidental triggering.

# NORMAN SUPER CHARGER

The new Norman Super Battery Charger replaces the "Delta V" C55 Single Charger and the C55X2 Dual Charger.

The advantages of this new technology over the previous chargers are faster charging, two batteries can be charged from an automobile cigarette lighter, and the new unit is considerably easier to use.

## STARTING CHARGE

1. Turn off power switch.
2. Attach batteries and charging cable to charger. If only one battery is used, it **MUST BE IN CHANNEL 1**.
3. Turn on power switch.
4. Channel 1 will remain solid red, channel 2 will continue to blink until channel 1 is completely charged, then channel 1 will turn green and channel 2 will become solid red.
5. After charge is complete, remove power and then remove the batteries.
6. To start a new charge, power must be cycled.

**Red blinking - waiting to charge.**

**Red solid - channel charging.**

**Green solid - channel charging complete.**

## AC Inlet

Connects the AC Power Cable to the charger. The AC input voltage can be either a standard 110 volt or 220 volt household circuit, 50 - 60 Hz.

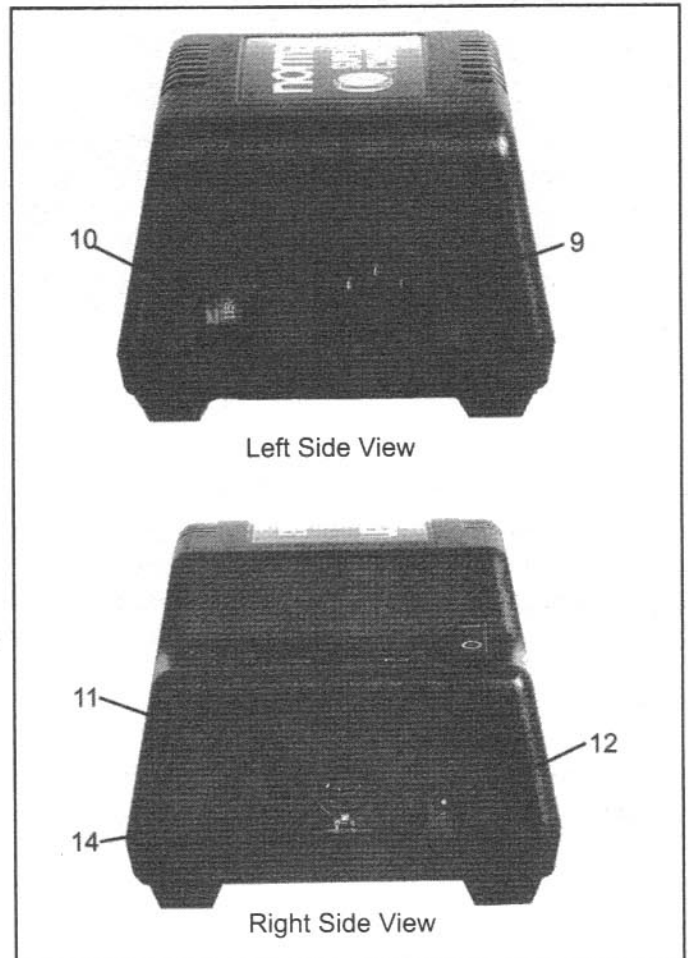
### IMPORTANT

1. Before connecting the AC Power Cable, check to see that the 115/230 Volt Switch is set to correspond with the incoming AC line voltage.
2. Do not use the AC Power Cable (R4157) with Norman AC operated power supplies, as the wire size is small (for compactness) and insufficient for high current usage.

The R4157 AC Cable (included) is a light-duty compact cord. It is gray in color to make it easily distinguished from the heavy-duty black AC cables that are utilized on Norman power supplies.

## 115/230 Volt Switch

Enables the Super Charger to operate on 115 or 230 volts. Before operating the charger, be sure that the 115/230 Volt Switch is set to match the incoming AC line voltage.



## CHARGE Outlet

Connects the charge cable to the charger and to the batteries or power supply. Optional cables are available for use with the batteries and power supplies.

## CIGARETTE LIGHTER Inlet

Enables the Super Charger to operate from a standard 12 volt DC automobile cigarette lighter. Requires the use of an R5200 Auto Cigarette Lighter Cable (not included). Power is 12 volts DC at 3 amps. To operate, connect the R5200 Cable to the CIGARETTE LIGHTER inlet and to an auto lighter socket. The power pack and Super Charger should be situated in a manner that prevents them from making contact with the metal chassis of the vehicle. If contact is made the charger will automatically switch off and the charge indicator light will extinguish.

## Charge Indicator Lights

The Super Charger charges channel 1 and then channel 2. If only one battery is used, it must be used in channel 1. In the 400B, channel 1 is the short cable in the lid. Red blinking=waiting to charge. The charger will be in this state if there is no battery, channel 2 will be in this state if channel 1 is charging, or the battery is at an unsafe charging voltage (voltage too low). Red solid = channel is charging. Green solid = channel is complete. The charger can be left on continuously without causing damage to the battery. The charge time is about three hours for two batteries, AC or DC.

## FUSE

Protects the charger in the event of a circuit overload. The part number of the fuse is 802-1910, 2 amp. If replacement fuses continue to blow, the charger requires service.

### SUPER CHARGER SPECIFICATIONS

HEIGHT	3 1/2"
LENGTH	6 1/4"
WIDTH	4 1/2"
WEIGHT	3 LBS.

## BATTERY CARE

To remove the batteries:

1. Open the lid of the 400B - Release the latch by sliding the lever sideways.

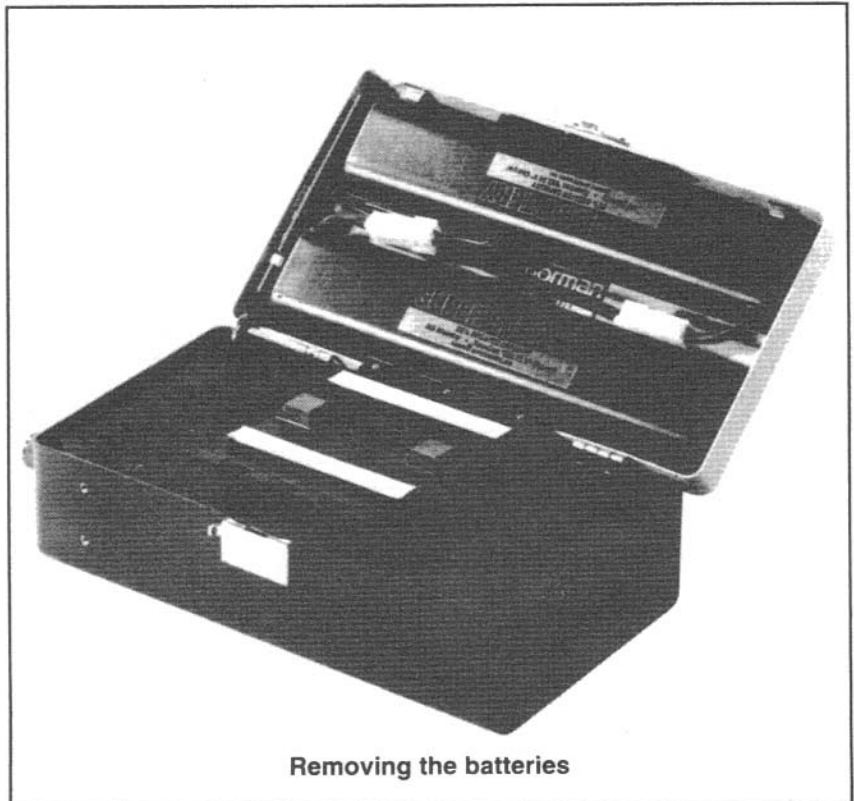
2. Open the retainer bracket inside the lid - Push down on the battery hold-down bracket and slide the small top part of the bracket toward the top of the lid.

3. Disconnect the battery connectors - Depress the connector release lever and pull the connectors apart.

**Battery storage:**

It is best to store batteries at room temperature. It does not matter whether or not they are left on the C55x2 Dual "Delta V" charger or super charger. Leaving the batteries on a C5120 Thermomatic™ Charger will cause the batteries to heat which shortens battery life.

Do not freeze the batteries, as this will cause permanent damage. Do not store in hot locations, such as a trunk of an automobile, as this will shorten battery life and cause the batteries to discharge. When it is necessary to store the batteries in a hot location, it is best to place them in an insulated compartment, such as in a Styrofoam ice chest. Use a frozen plastic module, as opposed to ice, to reduce the risk of moisture damage to the battery. When using an ice chest, it is advisable to protect the batteries from moisture by wrapping the unit in a dry towel or other suitable material.



**Removing the batteries**

**ATTACHING THE IMPROVED R4127 CONTOUR SHOULDER STRAP (included)**

Align the strap so that the shoulder pad curves toward the shoulder when the 400B is worn with the chassis lid facing outward.

Attach the strap to the 400B with the supplied hardware (four 6-32x3/8" screws and four #6 flat washers), as illustrated.

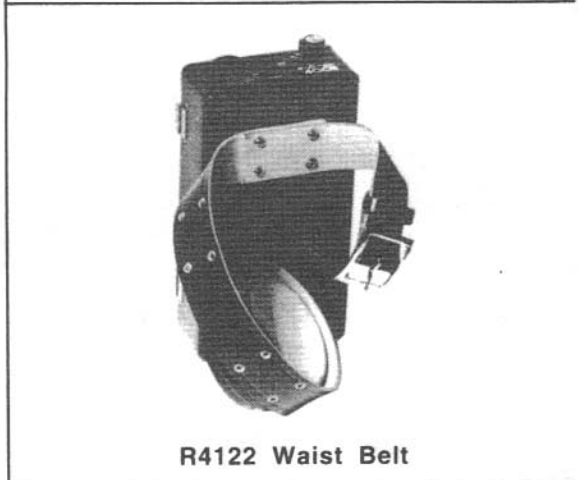
The shoulder pad section is removable via two quick-disconnect couplers. One coupler is "male" and the other one is "female" so that they can be connected together without the pad. This shortens the strap for conveniently hanging the 400B on a light stand.



**R4127 Shoulder Strap**

**ATTACHING THE R4122 WAIST BELT (not included)**

Some photographers prefer to wear the 400B around the waist. This can be done with the optional R4122 Convert-a-Belt. Attach the belt to the 400B with the supplied hardware, as illustrated.



**R4122 Waist Belt**

<b>400B SPECIFICATIONS</b>				
<b>Power (watt seconds)</b>	<b>50</b>	<b>100</b>	<b>200</b>	<b>400</b>
<b>ISO 100 Guide Numbers</b>				
<b>REFLECTORS</b>				
Bare bulb (None)	26	36	53	74
2D Standard	70	98	140	196
2D-RP Soft	44	62	88	123
2H Telephoto	219	306	438	613
2Q Umbrella	70	98	140	196
<b>Recycle time to 70% (seconds)</b>	<b>.4</b>	<b>.8</b>	<b>1.5</b>	<b>3</b>
<b>Flashes per charge</b>	<b>800+</b>	<b>400+</b>	<b>190+</b>	
<b>Weight (with both batteries installed) 6 lbs.</b>				

***SAVE THESE INSTRUCTIONS !***



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PUB. NO.400B 10-01  
 4250-001



## **Supplement for Norman Battery Portable Systems With Built-in PocketWizard™ Transceivers**

The following Norman products are equipped with built-in PocketWizard™ radio transceivers:

A200CR	200 watt-second kit
A200CR-M	A200CR with modeling light option
A400BR	400 watt-second kit
A400BR-M	A400BR with modeling light option
LH2KR	Lamphead for use with existing 200B or 200C
LH2KR-M	Same as LH2KR with modeling lamp option
LH52KR	Lamphead for use with existing 400B
LH52KR-M	Same as LH52KR with modeling lamp option

These products incorporate a built-in transceiver which is internally wired for simple operation. No external module, cables or batteries are required.

### **Operation**

A PocketWizard™ enabled battery portable lamphead can be set to any channel available on PocketWizard Plus™ or MultiMAX™ transmitters. Changing channels on the lamphead requires turning on the power supply and actuating the “learn” button on the back of the lamphead (this button is recessed and a pen tip or similar tool will be needed to access it). Within 30 seconds, press and hold the “test” button on a PocketWizard™ transmitter set to the required channel. The battery portable will flash once to confirm it has learned the new channel.

Once a channel has been set, the system will retain that value even if the power supply is turned off. Repeating the above procedure is only required to select a new channel.

As a transceiver, the Norman system will confirm a signal has been received and accepted by sending a return signal to a compatible MultiMAX™ transceiver. The MultiMAX™ can be set for audible flash confirmation and misfire notification.