FORM NO. 3319-376

TORO®

MODEL 52503

OPERATOR'S MANUAL

# SOLAR SENSOR LIGHT



## OPERATOR'S MANUAL

- PLEASE READ THIS GUIDE COMPLETELY BEFORE USING THIS PRODUCT.
- KEEP THIS GUIDE FOR FUTURE REFERENCE.

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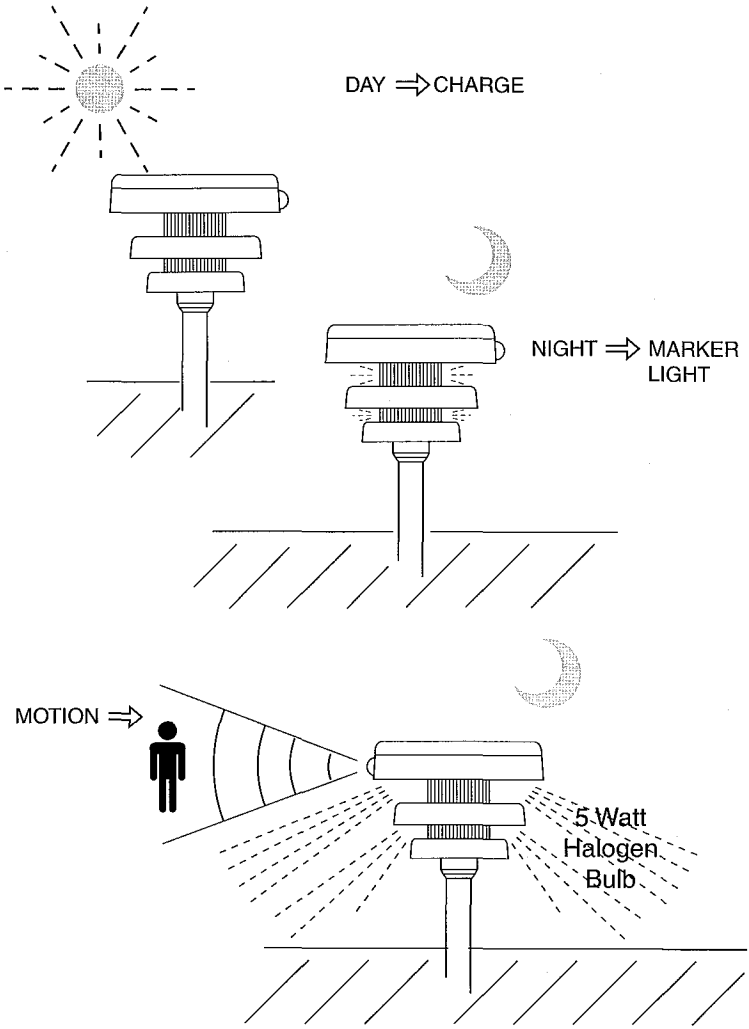
DAY ⇒ CHARGE
NIGHT ⇒ MARKER LIGHT
MOTION ⇒
5 Watt Halogen Bulb

## ⚠ IMPORTANT

The **SOLAR SENSOR LIGHT** is a Solar-Powered motion-sensing garden and pathway light. It is weather-proof, and intended to operate in **direct sun light.** Please locate your **SOLAR SENSOR LIGHT** in a position where the Solar Panel will collect maximum sun light as it will greatly improve its performance.

The **SOLAR SENSOR LIGHT** contains a rechargeable Nickel-Cadmium (Ni-Cd) battery. This rechargeable battery is shipped without charge. **Please pre-charge it for two days in direct sun light prior to first use, to ensure full charge!**

When the Ni-Cd battery life is exhausted, the battery must be recycled or disposed of properly. For additional information regarding disposal, contact your local county solid waste authority. **DO NOT DISPOSE OF BATTERY IN FIRE.**

### A) CONTENTS

Carefully unpack the **SOLAR SENSOR LIGHT** from the box; the box contains 5 parts:

- **SOLAR SENSOR LIGHT** main body
- 2 Mounting Poles
- 1 Connector
- 1 Post Tip

The **SOLAR SENSOR LIGHT** main unit contains:

- Solar Panel
- Motion Sensor
- Bright 5 Watt Halogen Bulb.
- 3 Marker Bulbs
- Long life Ni-Cd Battery

### B) SET UP

1. Carefully remove the **SOLAR SENSOR LIGHT** and Mounting Poles from the box.
2. Remove the label from the Top Lens of the **SOLAR SENSOR LIGHT.**
3. Attach the Post Tip to one of the Mounting Poles.
4. If a taller mount is desired, attach the other Mounting Pole using the Connector.
5. Assemble the Mounting Poles to the **SOLAR SENSOR LIGHT** by turning them (clock-wise).

**Caution:** Do not press down on the Top Lens as it may destroy the Solar Panel.



Fig. 1a

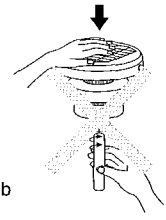

Fig. 1b

6. Choose a brightly sun-lit location. Dig a narrow hole a minimum of 6 inches deep and set the **SOLAR SENSOR LIGHT** into the ground securely.

## ⚠ DANGER

Contact with buried utility lines could result in death or serious injury. Before digging any hole or placing stake in ground, contact your utility companies to make sure that there are NO buried lines!

Face the Sensor Lens toward the area you want to detect motion in. When locating a suitable position for the unit, remember that it detects an area of 50 degrees vertically and 90 degrees horizontally, with a maximum range of 8 meters (25 feet).

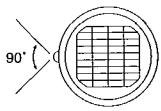


Fig. 2a

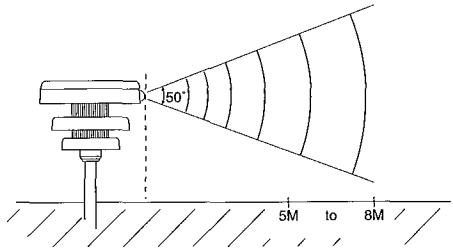


Fig. 2b

## C) PERFORMANCE

During the day, the Solar Panel converts sunlight into electricity and recharges the battery. At night, the light turns on automatically using the electricity stored during that day.

The number of hours of light is determined by the number of hours that direct sunlight strikes the Solar Panel.

1. The number of hours the light will stay on is dependent on your geographical location, weather conditions and seasonal lighting availability.
2. Solar lights do not receive as much direct sunlight in winter months. Therefore, the number of hours the light will stay on will be reduced during winter.
3. If the weather has been cloudy or overcast during the day, the batteries will not be recharged for operation at night. The light must have direct sunlight every day to fully charge the batteries. If the light does not receive enough sunlight one day, it will recharge the next sunny day and resume normal operation.

## D) LOCATION

1. Be sure to place the **SOLAR SENSOR LIGHT** in direct sunlight. A southern exposure is best.
2. Be sure that the **SOLAR SENSOR LIGHT** is placed such that it will not be in shade during the day. Shade will limit the amount of light you get from your **SOLAR SENSOR LIGHT**.

## E) OPERATION

### 1) INITIAL CHARGE:

- Place the **SOLAR SENSOR LIGHT** in full sun for two days to charge the battery before first use. Please move the Power Switch to the OFF position during this charge period.
- You may use the optional AC adapter **(TORO MODEL 52504)** to charge the battery for 24 to 36 hours (maximum) to ensure that it has a full charge prior to normal operation. The charge adapter is designed for INDOOR USE ONLY. Bring the **SOLAR SENSOR LIGHT** indoors when charging with the adapter. Do not leave the adapter connected for extended periods of time or the batteries will be damaged and they will not recharge.
- Repeat this procedure every three (3) months to fully recharge the battery.

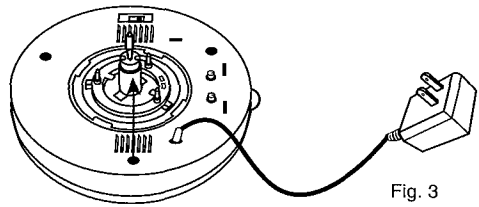

Fig. 3

### 2) DAILY / NORMAL OPERATION:

The Power Switch is located at the bottom of the **SOLAR SENSOR LIGHT**. The Power Switch has 2 positions; OFF and AUTO.

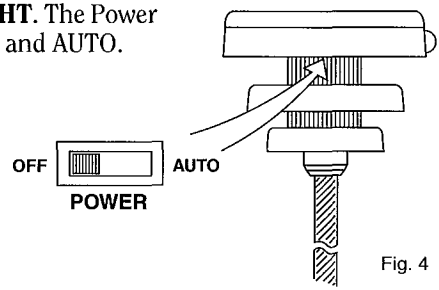


Fig. 4

**Turn to AUTO:**

- For normal operation of unit, the **SOLAR SENSOR LIGHT** will automatically turn the Accent Marker Light ON during night time, and OFF during the day.
- The 5 watt Halogen Bulb will turn ON following a motion detection during night time in the field of vision.

**Turn to OFF:**

- For charging, shipping or extended periods of non-use (storage).
- The **SOLAR SENSOR LIGHT** will not operate when the Power Switch is in the OFF position. However, charging can be made by the Solar Panel or the optional adapter.
- Fully recharge the battery every three (3) months by following the INITIAL CHARGE instructions. Recharge the battery prior to storage of unit.
- Never store unit with Power Switch in the "AUTO" position. This will damage the batteries and they will not recharge.

**3. HOW TO ADJUST THE MOTION SENSOR:**

a. Turn the Power Switch to AUTO.

b. After dusk the Marker Light will turn ON to mark your path.

c. The 5 Watt Halogen Bulb will turn ON following a motion detection during night time in the field of vision. The Halogen Bulb will stay lit while motion continues in the field of vision.

d. A Timer Switch is located at the bottom of the **SOLAR SENSOR LIGHT**. The Timer Switch has 3 positions; TST, 30 and 60.

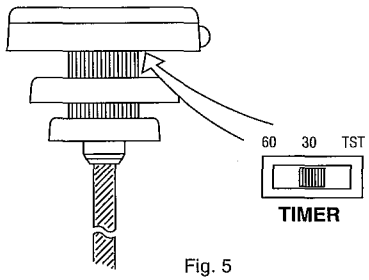

Fig. 5

**TST (TEST):**

- Select this position to adjust and test the motion sensor. This will allow the light to function during daylight hours.
- The light will turn ON and last for 10 seconds after motion has stopped in the field of vision.

**30:**

- In this position, the 5 Watt Halogen Bulb stays ON for **30 seconds** after motion has stopped in the field of vision.

**60:**

- In this position, the 5 Watt Halogen Bulb stays ON for **60 seconds** after motion has stopped in the field of vision.

Set the Timer Switch to **30** or **60**, depending on how long you wish the 5W halogen bulb to stay lit after motion stops in the field of vision.

**NOTE:**

The light will turn ON upon detection. Timer count down starts **after** the motion stops in the field of vision.

## 4. HOW TO ADJUST THE RANGE CONTROL:

The Range Knob rotates from NEAR to FAR, and controls the detection range from approximately 5 meters (15 feet) to 8 meters (25 feet).

Initially, set the Range Knob to the middle position. To increase the detection range, turn the Range Knob to FAR. To reduce the detection range, turn the Range Knob to NEAR.

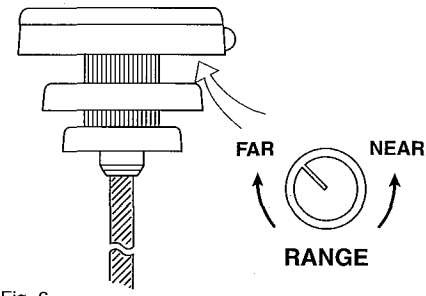


Fig. 6

## 5. HOW TO ADJUST THE LIGHT DARKNESS CONTROL:

The Darkness Knob rotates from DARK to LIGHT, and controls at what level of darkness the unit turns ON.

Initially, set the Darkness Knob to the middle position. If the unit turns ON when it is too bright outside, turn the Darkness Knob towards DARK. However, if the light is not activated during the night because of a street light, for example, turn the Darkness Knob towards LIGHT.

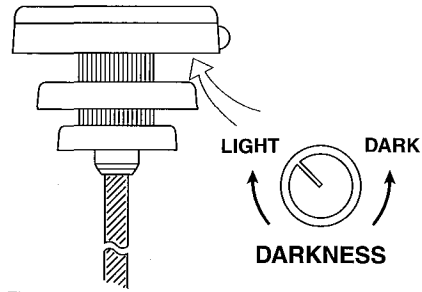


Fig. 7

## F) TROUBLE-SHOOTING GUIDE

Symptom: Light won't activate in **TEST** position.

Correction: Make sure that:

- The Power Switch is in the **AUTO** position.
- The Motion Sensor is positioned to face oncoming movement.
- The Range control is turned towards **FAR** (this will ensure higher sensitivity to movement).
- The bulb is set properly in its socket. Refer to bulb replacement section, if bulb is broken or burned out.
- Charge the unit for 2 sunny days (Power Switch turned to **OFF**), to ensure full battery charge.

Symptom: Light won't activate in **30** to **60** position.
Correction: Make sure that:
- The Power Switch is in the **AUTO** position.
- The Darkness Knob is set towards **LIGHT**.
- The Motion Sensor is positioned to face oncoming movement.
- The Range Knob is positioned towards **FAR**.
- The bulb is set properly in its socket. Refer to bulb replacement section, if bulb is broken or burned out.
- Battery charge is too low. Charge the unit for 2 sunny days (Power Switch turned to **OFF**), to ensure full battery charge.

Symptom: Light turns ON during the day.
Correction: Make sure that:
- The Timer Switch is either in **30** or **60** position.
- The Darkness Knob is set towards **DARK**.

Symptom: Light is not as bright as normal.
Correction: Make sure that:
- The bulb is set properly in its socket. Remove and reinsert bulb back into its socket to ensure proper contacts.
- Replace bulb if it has become discolored.
- Charge the unit for 2 sunny days (Power Switch turned to **OFF**), to ensure full battery charge.

Symptom: Light quickly flashes ON and OFF.
Correction: Make sure that:
- The Darkness Knob is turned towards **LIGHT**.
- Charge the unit for 2 sunny days (Power Switch turned to **OFF**), to ensure full battery charge.

**If your SOLAR SENSOR LIGHT does not function properly, make sure that you have read the above operation instructions, then take the following steps:**

1. Examine the **SOLAR SENSOR LIGHT** to make sure that the solar panel is not broken.
2. Move the switch back and forth between "AUTO" and "OFF" a few times.
3. Make sure that the light sensor (solar panel) is located such that no other light is shining on it after dark. It must be in darkness at night or the **SOLAR SENSOR LIGHT** will sense that it is still daytime and will not illuminate.
4. Make sure that the **SOLAR SENSOR LIGHT** is located where it will not be in shade at any time during the day.
5. If your **SOLAR SENSOR LIGHT** is not functioning, turn the Power Switch to the "OFF" position and leave it off for a few days, allowing the battery to charge to full capacity. Then turn the switch to the "AUTO" position and watch it that night. Make sure that you follow the instructions above.

**To order additional parts or for technical assistance: 1 (800) 321-8676.**

## G) MARKER BULBS, 5 WATT HALOGEN BULB, AND BATTERY REPLACEMENT:

**⚠ IMPORTANT**

To avoid damage to the product, the Power Switch must be in the OFF position when replacing the bulbs or battery.

**⚠ CAUTION**

Hot bulbs can burn skin. When replacing the bulbs or the battery, the Power Switch must be in the OFF position. Allow bulbs to cool several minutes before touching.

**⚠ CAUTION**

Halogen bulb when operating is hot enough to burn hands and fingers. Allow bulb to cool several minutes before touching. Wear clean gloves and eye protection when handling bulb. When replacing the bulb the Power Switch must be in the OFF position to prevent bulb from turning on while being installed.

**⚠ CAUTION**

Halogen bulb is under high pressure and may shatter if scratched, dropped or damaged. Broken bulb may result in personal injury from sharp glass fragments. Wear clean gloves and eye protection when handling bulb. Protect bulb from abrasions and scratches. Be extremely careful when handling bulb; especially if it is broken, to avoid cuts. Do not operate unit unless diffusion lens is installed.

1. **Marker Bulbs replacement:**

Remove the diffusion lens by twisting it counter-clockwise, turn the ring of Marker Bulbs out from the base, and unplug its wire. Reverse this procedure with the new ring.

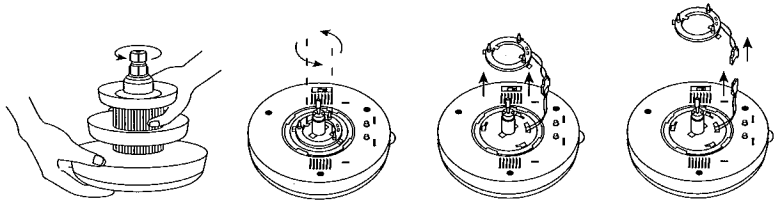

Fig. 8a Fig. 8b Fig. 8c Fig. 8d

2. **5 Watt Halogen Bulb replacement: (use 6 Volt / 5 Watt / G4 Halogen Bulb)**

Remove the diffusion lens by twisting it counter-clockwise, pull the old bulb out from the unit. Then plug the new bulb back to the place.

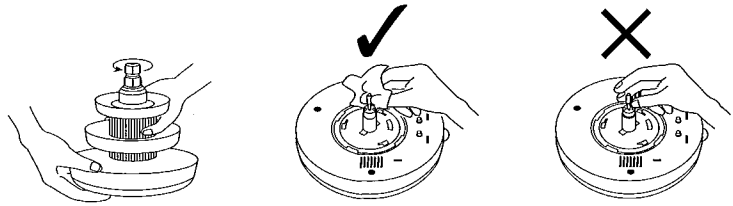

Fig. 9a Fig. 9b Fig. 9c

## ⚠ IMPORTANT

Do not touch the halogen bulb with bare hands/fingers as grease and fingerprints will shorten bulb life.

### 3. Battery replacement: (use 6 Volt / 600mAh 'AA' NiCd Battery)

To replace the battery, remove the diffusion lens and the screws from the cover. You can see the battery inside. Take the battery out and disconnect the 2 battery wire leads gently. Remove and replace the battery, then attach the 2 wire leads to the battery contacts, Red to (+), Black to (-). Put the battery back into place.

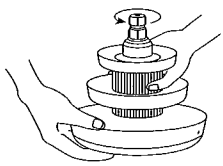

Fig. 10a

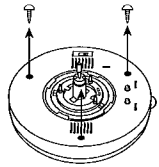

Fig. 10b

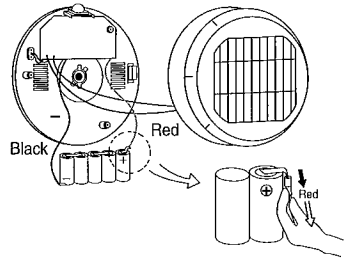


Fig. 10c Fig. 10d

## ⚠ CAUTION

Short-circuiting battery terminals or wires generates heat which may damage equipment and cause burns. A short-circuit will occur if the battery terminals contact each other through frayed wires, metallic tools, or other conductive objects such as jewelry or keys. Do not short-circuit battery terminals or wires. The battery might rupture resulting in personal injury.

## ⚠ IMPORTANT

To avoid damage to product do not immerse product in water or any liquid. Do not pull, cut or pinch any wires when replacing bulbs or battery.

Nickel Cadmium batteries must be recycled or disposed of properly.

### H) CLEANING

It is important that the Solar Panel is kept free of dirt and debris. A dirty Solar Panel will not allow the battery to fully charge. Clean the top surface of the unit regularly with a soft cloth dampened with water. Do not use solvents. Take extreme care not to scratch the clear cover.

Wintertime tip: Clean snow and debris off the top of the unit so that the battery can recharge.

PROTOTYPE

PROTOTYPE

# The Toro Promise

## A Full Warranty

The Toro Company warrants this TORO Product against defects in material or workmanship.
The following time periods apply from date of purchase.

- Standard Light Kits Two years

  (Pathway Light, Floodlight fixtures, and Solar Powered Lights)

- Premium Light Kits Five years

  (Traditional Pathway, Varifocus®, Colonial, Contemporary, and Wood Deck fixtures)

To receive a replacement or repair, at Toro's option, just return the defective component (light fixture, power pack or wire), postage prepaid, to the seller or the TORO Service Center, 5300 Shoreline Blvd., Mound, MN 55364 along with proof of purchase. This warranty covers product defects only. Warranty excludes bulbs.

**The Toro Company is not liable for indirect, incidental or consequential damages in connection with the use of TORO products covered by this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.**

This warranty gives you specific rights, and you may have other rights, which vary from state to state.