The red LED indicator monitors the fan and is powered by the 5 VDC logic supply. The LED indicator glows steadily when the power to the logic board is on and the fan is functional. When the controller is turned off, the fan will continue to run for approximately two minutes, then both the fan and the red LED indicator will turn off.

The yellow LED indicator monitors the lamp. It glows steadily when the lamp is on. If the lamp extinguishes or fails to strike, then the yellow LED indicator will flash at a rate of one flash per second. This LED indicator will turn off fifteen seconds after the controller is turned off or the fixture is locked out.

The green LED indicator monitors the power to the motor drive circuit and is powered by the 24 VDC motor supply. It stays on when there is power to the fixture, regardless of the status of the controller.

If all three of the diagnostic LED indicators are off, then it is likely that power has been lost to the fixture. A power interruption to one fixture will not affect others in the system, however, the loss of the cooling fan could be detrimental to the lamp.

If the red fan LED and the yellow lamp LED indicators both fail during start up or during operation of the fixture, then a self-test should be performed on the fixture to help isolate the source of the problem. This can be done by setting the fixture personality switch with number 1 to the "on" position and all other switches to the "off" position.

If all functions and LED indicators work properly upon self-test, then there may be a problem with the data link. Check the data link to the fixture by replacing it with a known good cable and running the fixture in the normal mode of operation.

If the same two LED indicators still do not work properly in the self-test mode, then the problem could be in the fixture. Refer to a Lightwave Research dealer for help when this occurs.

NOTE: BEFORE RETURNING ANY EQUIPMENT TO THE MANUFACTURER FOR SERVICE, BE SURE TO OBTAIN A RETURN AUTHORIZATION (R.A.) NUMBER FROM A LIGHTWAVE RESEARCH DEALER. ALL EQUIPMENT SHOULD BE SHIPPED IN ORIGINAL PACKAGING, OR SUITABLE CONTAINER.

CHANGING GOBO/COLOR/GATE WHEELS

Replacing the gobo or filter wheels, if necessary, is very simple. To do so, remove the top access door of the fixture and locate the wheel to be replaced. Be sure to note the orientation of the wheel before removing it, because it is possible to install the new one 180 degrees out of sync. Loosen the two bolts slightly with a 5/16" wrench and slide the wheel carefully over the bolts (see Figure 10. Gobo Wheel). Take care not to bend it or the other nearby wheels. Installation is the reverse with the exception that the wheel must first be inserted in the sensor and then slid over the mounting bolts. Tighten both bolts evenly, but do not over-tighten.

CLEANING OPTICAL SENSORS

Each wheel has small cutouts along the edges that trigger the optical sensors to keep track of its home position. These sensors may require periodic cleaning in order to prevent airborne contaminants such as dust and smoke from inhibiting their function. When the sensors get too dirty, the wheel could spin continuously upon receiving a homing signal.

The sensors can be accessed through the bottom access door. After loosening the self retaining thumbscrew and opening the access door, three lamp adjusting thumbscrews and the two screws that hold the sensors in place can be seen (refer to Figure 9. Lamp Adjustment). One pair of screws retains the gate and color wheel sensors, and the other pair retains the gobo wheel sensor (Figure 11. Optical Sensor Detail). Remove the appropriate screws and the sensor plate can be unmounted. The sensors can be cleaned gently with a cotton swab.

> **NOTE:** IT IS ESSENTIAL TO POSITION THE SENSORS CORRECTLY WHEN REPLACING THEM IN THE FIXTURE (see Figure 11. Optical Sensor Detail).

MIRROR REPLACEMENT

Mirror replacement requires the removal of two 7/64" allen screws that attach it to the tilt motor. The mirror and bracket are replaced as a complete assembly (see Figure 7. Mirror Installation for screw locations).

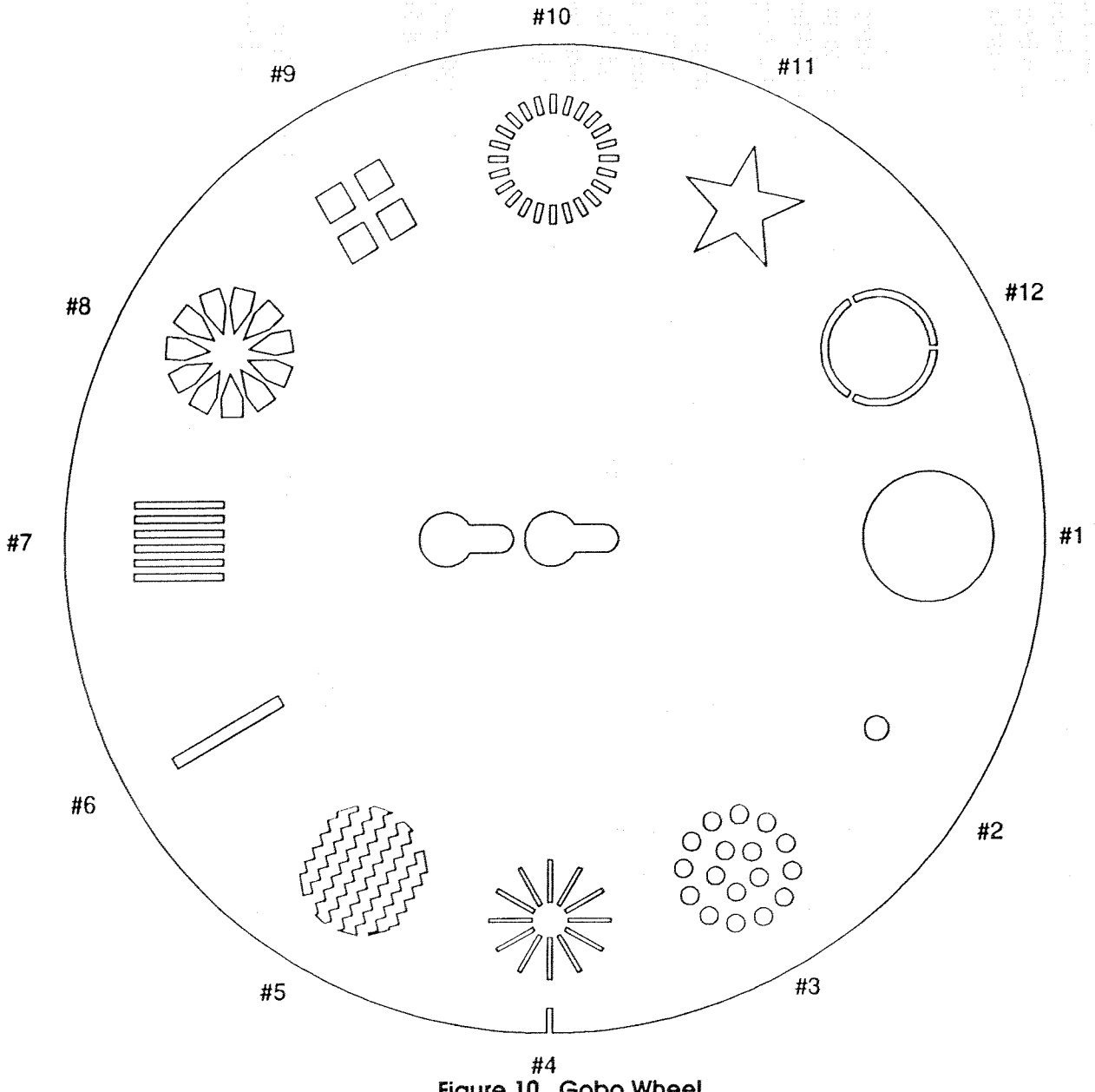

Figure 10. Gobo Wheel