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Technical Note: Dimming CAST Transformers

Introduction

Properly designed landscape lighting systems use low levels of illumination positioned and aimed for optimal effect. Dimming these systems typically deteriorates the lighting design and serves no useful purpose. Still, if dimming control is required there are several factors to consider:

- ▶ The best approach is to use a dimming system that reduces the voltage at the secondary transformer circuits (12v to 22v). This bypasses any potential problems with compatibility with the transformer's magnetic and electronic components.
- ▶ All tungsten/halogen lamps should not be operated for extended periods at less than 10V. These lower voltages will cause the bulb to blacken and reduce the lamp life.
- ▶ All CAST transformers 900-watts and greater have electronic components that require a minimum of 108 volts to function normally. Dimming below this level will cause the transformer to malfunction. These larger transformers can be retrofit to remove the electronic components (see next pages).
- ▶ Our 300-watt and 600-watt transformers can be effectively dimmed to lower voltages (less than 100V) since they do not contain electronic components.
- ▶ Our electronic transformers (CET75W and CET150W) are fully dimmable.
- ▶ There are two main types of dimming units – those suitable for magnetic devices and those suitable for electronic devices. The magnetic type must be used for all our transformers 300-watts and greater. The electronic type must be used for our electronic transformers.
- ▶ Dimming system manufacturers are the best source of information about the suitability of these devices for use with CAST transformers.
- ▶ Note that there have been some incidents of unexplainable nuisance tripping of panel breakers when dimming systems were employed with a magnetic transformer. These problems are very difficult to troubleshoot.

Tools & Parts Needed for Dimming Retrofits (next 2 pages)

- ▶ Philips-head screwdriver (CAST #C4WAY)
- ▶ Wire Cutter and Wire Stripper (CAST #CMSTRIP1 or CASTRIP1)
- ▶ Electrical Tape
- ▶ Ideal® 73B Black Wire-Nut Connectors



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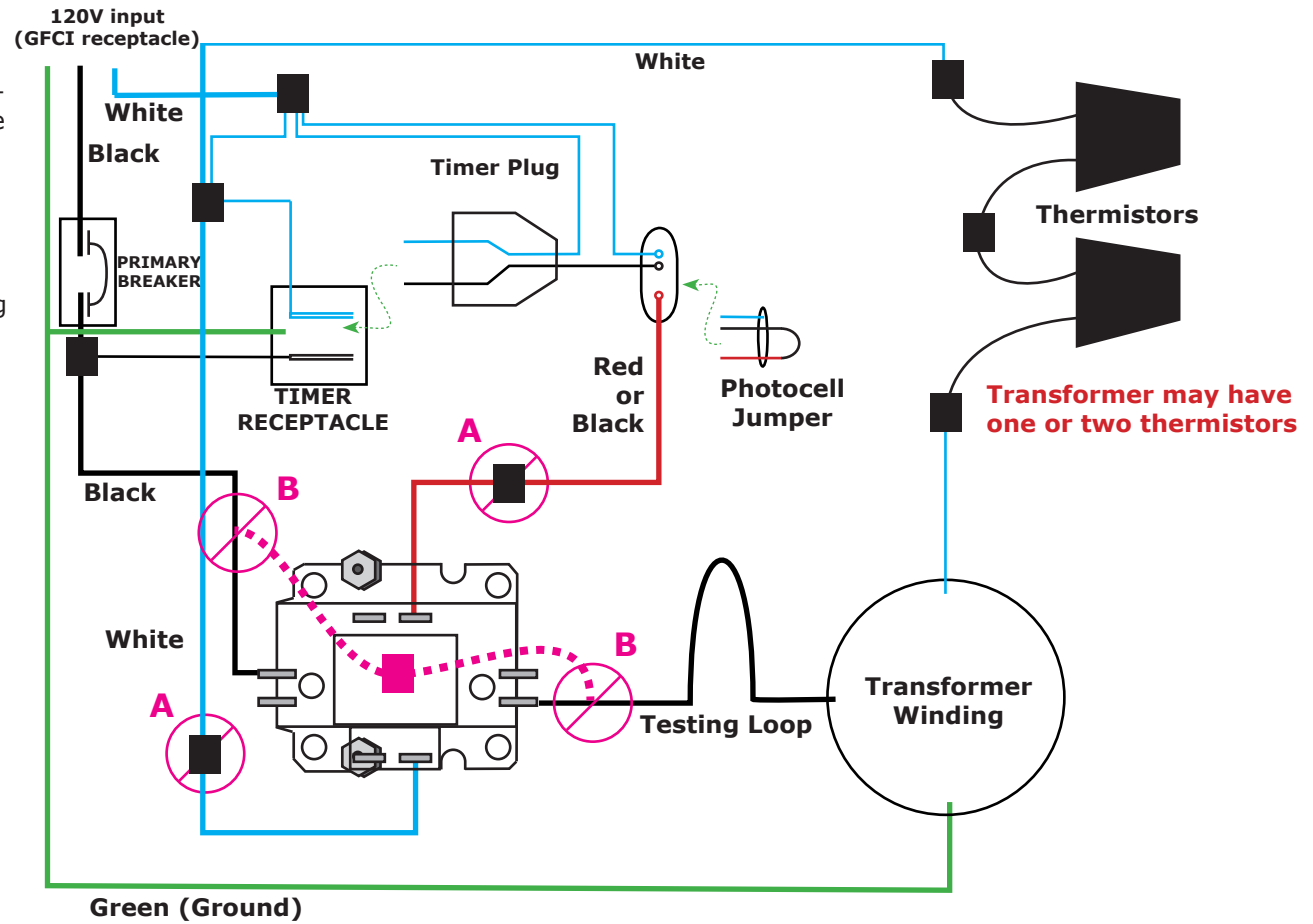
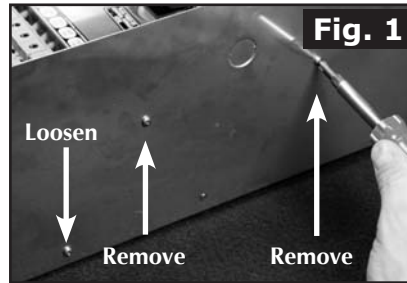
Primary Dimming Retrofit for CAST Transformers (Master Series)

Introduction

The following instructions must be followed if the primary (120V) current will be dimmed to below 108V. The goal of the procedure is to remove the two electronic components that would malfunction at lower voltages. Note that this procedure deactivates the timer and photocell functions.

Instructions (See **CAUTION** below.)

1. Unplug transformer from 120V outlet.
2. Remove outer transformer lid.
3. Remove two screws from each side of the transformer housing and loosen the third screw. (See Figure 1.)
4. If the side knockouts have plastic inserts, remove them. Grasp test loop and pull downward and outward to expose inner transformer compartment. (See Figure 2.)
5. Locate relay and cut red and white wires leading to neutral and photocell plug (A), remove cut leads to relay, then cap-off and tape remaining cut wires.
6. Cut two remaining relay leads (B), remove cut leads, then connect remaining cut ends with a high temperature wire nut or crimp.
7. Close and secure compartment panel.



CAUTION: Unplug the transformer from the 120V outlet before opening the internal transformer compartment. 120V conductors are exposed during this replacement procedure. Utilize an electrician if statutes, regulations or codes require you to do so.

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Call 973-423-2303 for more information or visit www.cast-lighting.com.

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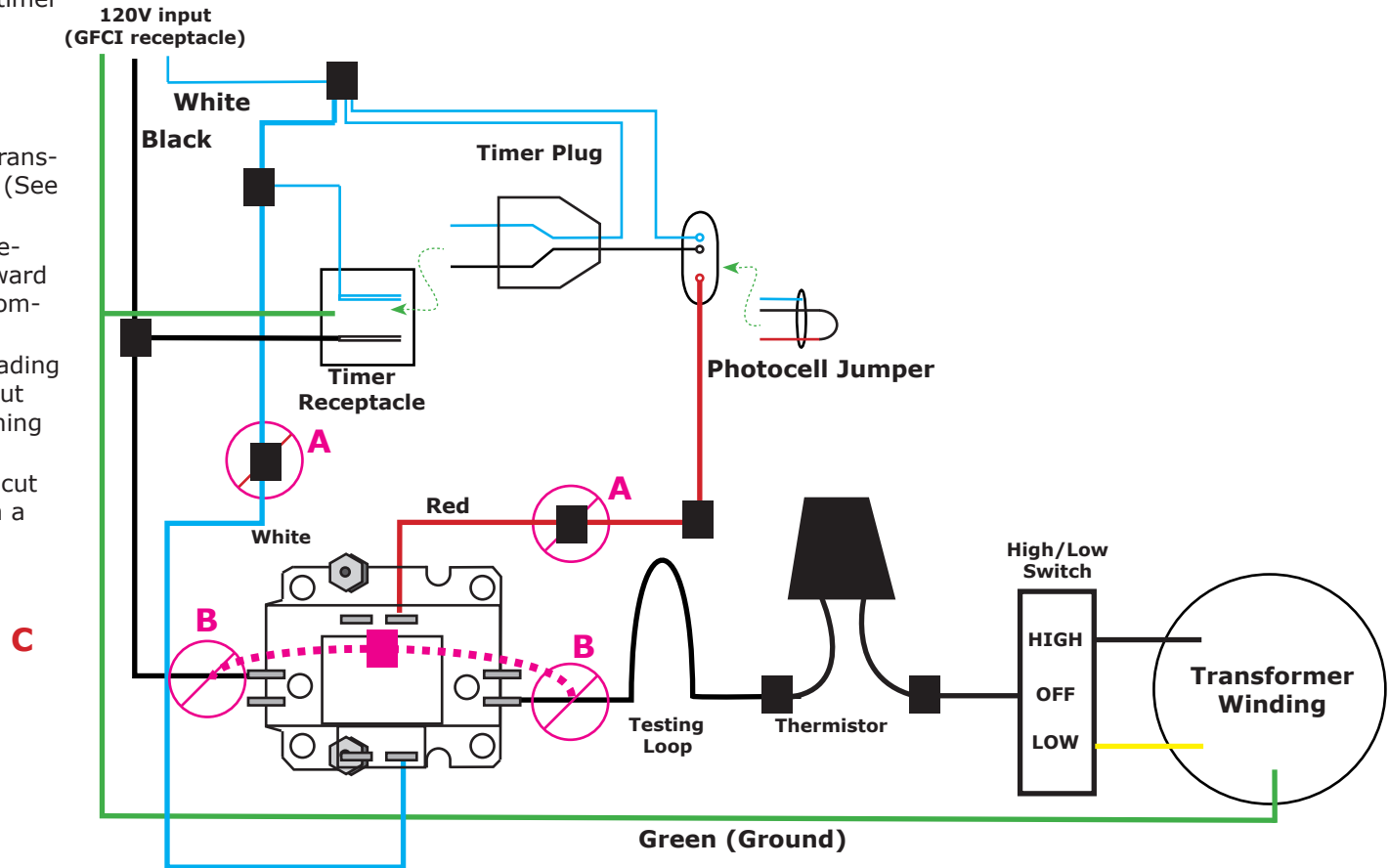
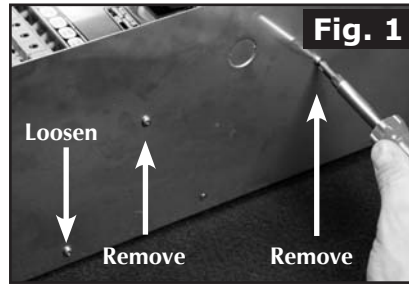
Primary Dimming Retrofit for CAST Transformers (Journeyman Series – 900W)

Introduction

The following instructions must be followed if the primary (120V) current will be dimmed to below 108V. The goal of the procedure is to remove the electronic relay that would malfunction at lower volt-ages. Note that this procedure deactivates the timer and photocell functions.

Instructions (See CAUTION below.)

1. Unplug transformer from 120V outlet.
2. Remove outer transformer lid.
3. Remove two screws from each side of the transformer housing and loosen the third screw. (See Figure 1.)
4. If the side knockouts have plastic inserts, remove them. Grasp test loop and pull downward and outward to expose inner transformer compartment. (See Figure 2.)
5. Locate relay and cut red and white wires leading to neutral and photocell plug (A), remove cut leads to relay, then cap-off and tape remaining cut wires.
6. Cut two remaining relay leads (B), remove cut leads, then connect remained cut ends with a wire nut or crimp.
7. Close and secure compartment panel.



CAUTION: Unplug the transformer from the 120V outlet before opening the internal transformer compartment. 120V conductors are exposed during this replacement procedure. Utilize an electrician if statutes, regulations or codes require you to do so.

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