

## 1.0 Scope

This instruction is for installation of snubber assemblies on LCI and RTC furnaces using modern SSRs. Applies to replacement SSR's on most RTC, LCI and TP Solar infrared furnaces.

## 2.0 Introduction

IR Furnaces uses **phase controlled SSRs** (see Figure 1-1) to efficiently control the infrared lamps. Pre-2004 furnaces used an analog firing board to regulate SSR current to the lamps (see Figure 2-2); newer furnaces use a microprocessor-based firing board to regulate current to the lamps (see Figure 2-3).

SSR's have always needed an MOV to damp out voltage spikes on the facility power lines. However, today's SSRs are shipping without internal snubber circuits that used to provide protection against instantaneous stoppage of outgoing power to the lamps mid-cycle. As a consequence, LCI is providing all new SSRs with an external snubber assembly so that any instantaneous mid-cycle voltage spike may be discharged more safely and quietly to protect SSR internal components.



Figure 1-1 Typical Solid State Relay (SSR)

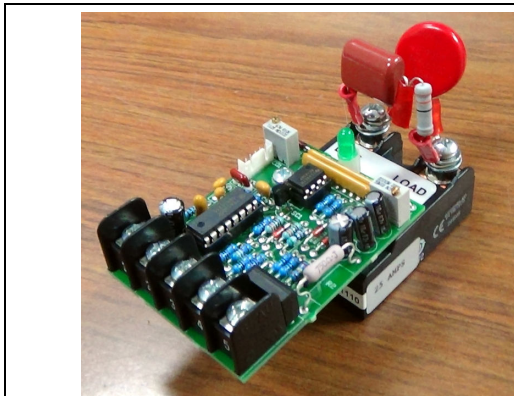


Figure 2-2 Pre-2004 SCR with snubber

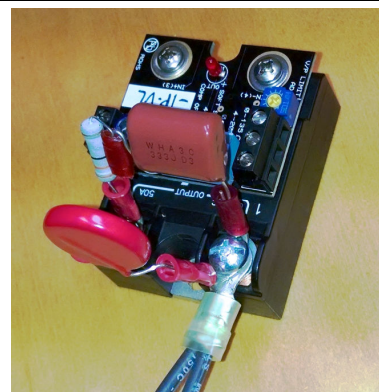


Figure 2-3 SCR with snubber

## 3.0 Installation

Snubber Capacitor and 2 W Resistor are sized for application line voltage. Install snubber assembly on the SSR (ref figure 1-3):

1. Leave MO Varistor and firing board assembly in place.
2. Connect snubber assembly capacitor terminal to LINE-1 terminal on SSR controller.
3. Connect snubber assembly resistor terminal to LOAD-2 terminal on SSR controller.

## 4.0 Operation

Operate furnace normally.

