

**TABLE OF CONTENTS**

**1.0 Introduction**

**2.0 Field Test**

- 2.1 Preparation
- 2.2 Check and Record Voltages
- 2.3 Red Failure
- 2.4 NEMA Plus Features
- 2.5 Conflicting Signal Tests
- 2.6 Additional Tests

**Appendix "A" - Conflict Sheet**

## **1.0 Introduction**

The conflict monitor field test only tests for proper detection and triggering of a conflict monitor in response to a displayed pattern. A Toronto Police Services Officer is to control the traffic during the test.

Note, after following all of these recommended test procedures, a conflict monitor with voltage threshold failures or irregular behaviour in normal and/or extreme temperatures may be passed when it should not have passed.

## **2.0 Field Test**

### **2.1 Preparation**

- Check timing card for timing, phasing and conflict-flash operation.
- Have Police Officer in intersection directing traffic. Officer must be made aware that signal displays will not be consistent during this test.

### **2.2 Check and Record Voltages**

- Line voltage at lower breaker (acceptable range 110 - 128V AC).
- Control voltage (24V DC) on upper backboard (acceptable range 23.5 - 24V DC).
- DDAU voltages (12V DC and 48V DC) at TB1. (acceptable ranges 11.8 - 12, 45 - 53V DC).
- Load switch OFF voltages. If higher than 3V AC, replace.

### **2.3 Red Failure**

- Check Red Failure feature by removing switch packs and checking for red failure on each channel. Confirm that all monitor channels indicate Red failure. Note that channels 5 and 6 red are tied high at select intersections therefore Red failure will not occur on these channels, at these locations.
- Reinsert Load Switches to complete next test.

### **2.4 NEMA Plus Features** (*where installed*)

- Check the Minimum Clearance feature by rapidly interval advancing through amber and red intervals.
- Check GREEN, WALK, verses AMBER feature by applying line voltage to same phase green or walk with amber.

## **2.5 Conflicting Signal Tests**

- Following the intersection conflict sheet perform the following tests (Appendix "A").
- Interval advance the controller to first aspect display listed and apply line voltage to each conflicting display indicated on conflict sheet.
- Advance controller to next aspect change and apply line voltage to each conflicting display as indicated on conflict sheet. Continue this procedure through every aspect listed. Note that aspects listed may only be served in specific signal plans. Consequently, multiple plans (and or preemption sequences) may have to be selected to serve all listed aspects.

## **2.6 Additional Tests**

- Check the monitors Minimum Flash time by initializing signals and ensure the minimum flash period is four seconds.
- Check controller start up interval by initializing the controller. Ensure the initialization interval matches the controller documentation.
- Ensure the conflict-flash matches the controller documentation.
- Check the 24V DC voltage monitor by removing 24V fuse.
- Inspect the condition of the Flash Transfer Relays. If contacts show burns, wear or corrosion, replace.
- Check all terminal blocks for secure connection and corrosion.
- Turn signal back on and inspect connection and corrosion and inspect signal indications (I of S I).
- Make appropriate entry in controller log book. Ensure an adequate supply of blank pages.
- Final check of signal operation, push buttons, detectors and any special equipment, e.g.: blank-out signs.
- Final check of controller cabinet for proper door operation and visible damage or offensive graffiti.
- Lubricate door hinges and locks.