



QUANTUM GROUP INC.

Quality Control Procedures and Specifications

Specification: SOP-100.09.2105

Revision: A

Date: 03/15/13

Revision Date: 03/26/2013

Written by: MSO, AC

President Approval: _____

Reviewed By: MKG,BB, GM

COO Approval: _____

Subject: **Procedure for In Field Service CO Testing of COSTAR® Model 12-24SIR**

1.0 PURPOSE:

1.1 The purpose of this document is to ensure that procedures are established for **In Field Service CO Testing of COSTAR® Model 12-24SIR.**

1.2 This document is intended to address the need for CO testing of **COSTAR® Model 12-24SIR when first installed and annually thereafter.**

2.0 SCOPE:

2.1 This procedure affects any field personnel who inspects, installs and/or certifies **COSTAR® Model 12-24SIR.**

3.0 RESPONSIBILITY:

3.1 It is the responsibility of the end user and field personnel of installers or service personnel to test units as required by the local inspector and/or standard (NFPA 720 2012) where it has been adopted.

4.0 ASSOCIATED MATERIAL:

4.1 Transparent plastic cap: transparent plastic shower cap or round stretch-to-fit food cover with elastic edge (medium, 4-9", green elastic, Stretch-to-Fit Food Cover by CoverMate www.CoverMateCovers.com).

4.2 2,800 parts per million (ppm) CO spray can (UL listed CO^{Check} Model HO-CO Rev2, HSI FIRE & Safety Group. Tel: 847-427-8340 Fax: 847-427-8343, www.homesafeguard.com) or

6827 Nancy Ridge Drive, San Diego, CA, 92121
Tel.858-566-9959 Fax:858-566-9974 www.QGinc.com

SOP-100.09.2105 In Field Service CO Testing of COSTAR® Model 12-24SIR

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- 4.3 1,850 ppm CO spray can (SOLO C6-024, UL listed C6 CO Detector Tester, Tel: 732-751-9266, Fax: 732-751-9241, www.sdifire.com).

5.0 ASSOCIATED EQUIPMENT:

- 5.1 COSTAR® Model 12-24SIR mounted either on ceiling or wall via the provided mounting ring.
- 5.2 Stop watch/timer (1).
- 5.3 Ladder or appropriate device to reach an alarm safely while performing the CO test exposure.

6.0 PROCEDURE

- 6.1 Make sure that the COSTAR® model 12-24SIR is energized. Cover the alarm circumference completely with a transparent plastic cap and make sure that the elastic makes a 360-degree contact with the alarm base **as shown in Fig.1 and Fig. 2.**
- 6.2 Assemble the spray can nozzle onto the 2,800 or the 1,850 ppm CO spray can **as shown in Fig. 3.**
- 6.3 Insert the nozzle through the side of the plastic cap.
- 6.4 Position the nozzle tip toward the center of the plastic cap as shown in **Fig. 4.**
- 6.5 Ensure that the nozzle tip is not pressed against the plastic cap by leaving a 1/8-1/4- inch gap between the tip and the plastic.
- 6.6 Start the timer and immediately press and hold the CO can for 10 seconds.
- 6.7 Quickly remove the nozzle and make sure the plastic cap elastic makes the seal with the alarm base as previously **shown in Fig. 1 and Fig. 2.**

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- 6.8 **COSTAR® Model 12-24SIR** should issue ALARM signals within 4-15 minutes. **Shown in Fig. 5.** If no response by 15th minute, add more CO by repeating steps 6.3 to 6.7. This is to be expected when the alarm is mounted on a junction box as depicted in **Fig.2** due to the gaps between the mounting ring and the box, which allow significant amounts of CO to diffuse out from the plastic cap.
- 6.9 Remove the plastic cap. Alarm should recover automatically within 5-10 min.
- 6.10 **WARNINGS:**
- 1. Failure to remove the plastic cap completely away from the CO alarm can cause serious injuries and deaths.***
 - 2. A ladder may be required to conduct this test. Therefore, it is necessary to adhere to the safety rules/guidelines provided by the manufacturer of the ladder. Failure to follow the safety rules and guidelines can cause serious injuries and death!***
- 6.11 NOTE: CO pressure drops and delivers less and less CO after each second of spraying. Typically, each can empties in about 30 seconds, however, each 10-second spray yields different concentrations.
- 6.12 After the unit has recovered, it can be retested again within 10 minutes—if needed.
- 6.13 When a COSTAR® Model 12-24SIR unit fails to activate the alarm, after repeating the CO tests, two more times (total 3 attempts), the unit **MUST BE REPLACED** with a new alarm.
- 6.14 It is necessary to CO test the system with the newly installed COSTAR® Model 12-24SIR by following the above procedure.

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7.0 FIGURES

Fig. 1 Front View of COSTAR® Model 12-24SIR with Plastic Cap.

Fig. 2 Side View of COSTAR® Model 12-24SIR with Plastic Cap.

Fig. 3 CO Detector Tester Cans With Nozzles Connected.

Fig. 4 Recommended Position for CO Spray.

Fig. 5 Alarm Responding to CO.

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Fig.1
Front View of COSTAR®
Model 12-24SIR With
Plastic Cap



Fig.2
Side View of COSTAR®
Model 12-24SIR With
Plastic Cap

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Fig.3
CO Detector Tester Cans
With Nozzles Connected

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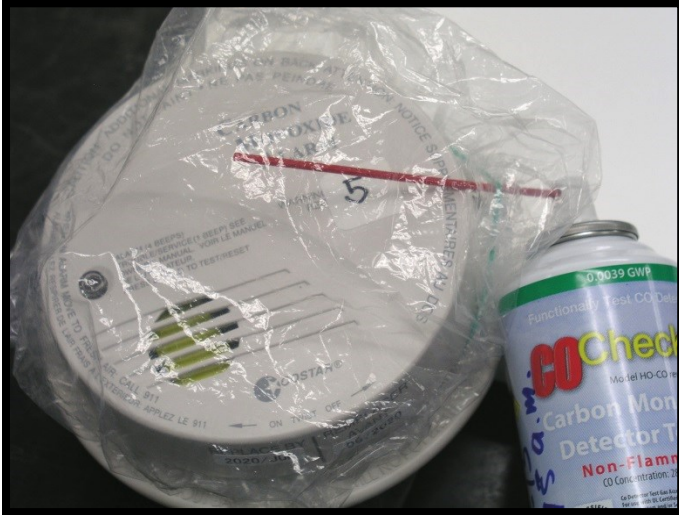


Fig.4
Recommended Position
For CO Spray with
CO Tester Can



Fig.5
Alarm Responding
To CO. Flashing Red Light
And Pulsating Horn

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