



Coffee Break Training - Fire Protection Series

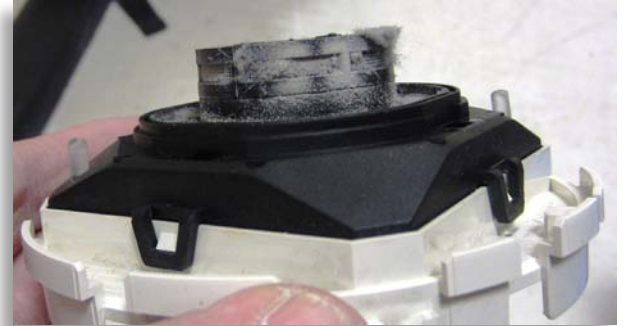
Fire Alarms & Detection: Fire Alarm System Service and Recordkeeping

No. FP-2012-17 April 24, 2012

Learning Objective: The student shall be able to explain the differences among fire alarm system inspection, testing, and maintenance.

Reliability and performance of fire protection systems are enhanced when they are subject to regular inspection, testing, and maintenance.

National Fire Protection Association (NFPA) 72, *National Fire Alarm Code*[®], requires monthly, quarterly, semiannual, and annual **visual inspections** of various components to confirm there have been no changes that can affect system performance. Building modifications, occupancy changes, environmental conditions, device locations, physical obstructions, damage, housekeeping, and improper installation are just a few conditions that can occur which might change how the fire alarm system performs.



Regular inspections of fire detection and alarm systems are intended to find and correct problems like this dust accumulation that could affect detector performance. *Photo courtesy of Byron Blake.*

Device **testing** also must occur on a periodic basis as established in the code. On large systems, testing might be arranged so that all devices and equipment are tested in segments so that everything is tested annually. Smoke detectors, for example, must be tested for sensitivity within 1 year of installation and every other year after that. These tests are intended to make certain the detector remains within its range of sensitivity, or if necessary, to have it recalibrated.

If they are installed, at least two restorable fixed-temperature spot-type heat detectors on each initiating circuit must be tested annually so that every 5 years each heat detector on the system will have been tested.

Like any other electronic device, fire alarm systems should be subject to regular **maintenance**. The frequency and scope of maintenance should be in compliance with the equipment manufacturers' recommendations.

After the system has been successfully tested and accepted for service, a set of permanent records (as-built drawings and owner's manuals) shall be provided to the owner. These may be in paper or electronic form and should be retained on the premises for inspection by the code official. The "Record of Completion" specified in NFPA 72 also should be kept permanently. Other inspection, testing, and maintenance records must be kept until the next scheduled test and for 1 year after that.

The code official, the manufacturer, or a private firm may develop standard inspection and test report forms to document the work. There is not an agreed upon standard as long as all of the key elements are inspected, tested, and maintained and the records show the work has been done. The *National Fire Alarm Code*[®] includes a sample inspection and testing form.



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