

TECHNICAL ARTICLE

DETECT-A-FIRE[®] Test Procedures

VISUAL INSPECTION

As part of the recommended maintenance procedure, perform a visual inspection of the DETECT-A-FIRE[®] unit in accordance with NFPA 72 guidelines. During the visual inspection, verify that the sensing shell is free of dents, dings or build up of foreign matter of any kind. If the shell is dented or shows signs of any physical damage, replace the unit immediately. If a build up of dust has accumulated on the unit, clean the unit with a vacuum or soft dry cloth. If the shell has been painted, replace the unit. Be careful not to damage the unit in any way.

Note: Some units are factory coated. Do not confuse these with units that were painted by the owners.

OPERATIONAL VERIFICATION

Perform the following to verify the operation of the DETECT-A-FIRE unit:

1. Disconnect the unit from the system.
2. Using a a heat gun, hair dryer, or similar heat source, apply heat evenly to the complete sensing shell. The heated air temperature must be above the alarm set point temperature of the unit.

Note: Depending on the model type, the internal contacts will either close or open which can be verified with a standard OHM meter. Remove the heat immediately after activation.

FUNCTIONAL TEST

If the DETECT-A-FIRE unit is used with automatic fire extinguishing systems, perform the following functional test:

1. Disconnect the initiator/solenoid leads from the panel.
2. Connect a 24 VDC bulb to the initiator terminals in the control unit.
3. Using a a heat gun, hair dryer, or similar heat source, heat the unit.
4. When the bulb in the control unit changes state, remove the heat source and allow the unit to cool.
5. Reset the control unit. The test lamp must change state and stay changed after the system is reset.

Note: Do not reconnect initiator/ solenoid leads until all DETECT-A-FIRE units have cooled below the set point as indicated by test lamp.

(Continued in next column)

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FUNCTIONAL TEST (CONTINUED)

When DETECT-A-FIRE units are used in other types of systems, perform the following functional test:

1. Disconnect the unit from the system.
2. Connect a 24 VDC lamp and power source in series with the units.
3. Using a a heat gun, hair dryer, or similar heat source, heat the unit.
4. When the bulb in the control unit changes state, remove the heat source and allow the unit to cool.

Note: Make sure that contacts have reset to normal condition before reconnecting to system circuit.

CALIBRATION VERIFICATION

Accurately recording the temperature setting of a DETECT-A-FIRE unit requires a special calibration test kit. A test kit with an aluminum block is required as it simulates factory test equipment. Heat transfer mediums such as liquid and air, or test equipment such as air, liquid or sand baths are not recommended for temperature verification. Please contact technical support at 1-800-FENWAL-1 for information on suitable test kits.

WARNINGS

- **DO NOT** overshoot the set point of the unit by more than 100°F (55°C), this could result in a shift of the set point temperature.
- **DO NOT** contact the sensing shell with a heating device such as a soldering iron or blowtorch as this will damage the unit and cause a shift in the set point temperature.
- **IT IS ABSOLUTELY ESSENTIAL** that the deluge systems be disengaged prior to any tests.
- The calibration verification procedures pertain only to the Fenwal Controls DETECT-A-FIRE Vertical (Probe) type, models 2712X-XX and 2802X-X. Horizontal type models, 2702X-X must be verified at the factory.
- While the DETECT-A-FIRE unit is a self resetting device, replacement is recommended should the unit be subjected to the intense heat of a fire.

ANY OF THE ABOVE COULD CHANGE THE FACTORY TEMPERATURE SETTINGS, WHICH MAY RESULT IN PROPERTY DAMAGE AND/OR PERSONAL INJURY OR DEATH. IT IS POSSIBLE FOR A UNIT TO HAVE BEEN ABUSED OR DAMAGED AND NOT DISPLAY ANY OUTWARD INDICATION OF THE DAMAGE. ALL UNITS SHOULD BE TESTED PERIODICALLY IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION REQUIREMENTS (72E) OR THE AUTHORITY HAVING LOCAL JURISDICTION.