

AFEX

FIRE SUPPRESSION SYSTEMS

OWNER'S MANUAL

FOR THE AFEX 2000 SERIES PRE-ENGINEERED MULTIPURPOSE DRY
CHEMICAL FIRE SUPPRESSION SYSTEM



LISTED

INTRODUCTION

In recent years heavy duty mobile equipment has become larger and more expensive than ever before. High repair and replacement costs coupled with production losses from downtime increase the importance of adequate fire protection.

Because of the location of the operator on modern equipment, together with noise suppression and personnel guarding, a fire on board can become severe before it is even noticed. The size of the machines makes operator egress difficult and protective guarding hampers the use of hand portable fire extinguishers.

As a permanent part of the vehicle, the AFEX system allows effective fire suppression in normally inaccessible areas. Operator safety is also greatly enhanced. Detection and automatic actuation allow for early system activation, alerting the operator and protecting the capital investment.

This Owner's Manual is intended to acquaint you with AFEX Dry Chemical Fire Suppression System. This manual is **not** to be considered a detailed installation guide and this manual provides **no** instructions for the installation, recharging, or regular inspection and maintenance of an AFEX system. A detailed installation, operation, maintenance, and service manual is available upon request from AFEX. Should you have any questions, please direct the to AFEX or an authorized AFEX products distributor.

PURPOSE AND OPERATION

The purpose of a fire suppression system is to suppress a fire long enough to allow access to, or the arrival of fire fighting equipment.

The AFEX system is an automatic system with a manual override feature. A fire condition closes the normally open detection system and actuates the system which floods the protected areas with A,B,C; multipurpose dry chemical. (A manually actuated only system is also available.)

A:



B:



C:



The dry chemical dispersion nozzles are located in the transmission and engine compartments. The operator's cab is not protected. The system will not suppress fires outside of the vehicle or in the operator's compartment.

HOW THE SYSTEM OPERATES

A fire starts in an area of the vehicle that is protected. With automatic systems, the heat from the fire activates the sensor at 300° F, completing the electrical circuit to the firing mechanism. The firing mechanism then releases the compressed nitrogen gas that pressurizes the extinguisher and pushes the dry chemical agent out through the distribution network. The flow of dry chemical opens the spring hinge cap on the nozzles and is then dispersed into the protected areas of the vehicle.

With manual systems, when the fire is noticed, actuate the system by pulling the safety pin from the firing mechanism or remote actuator and strike down hard on the push knob. This action releases the compressed gas that pressurized the extinguishers.

Turn off the vehicle's motor or it may (1) continue to pump fuel or hydraulic oil onto the fire, (2) allow energized electrical circuits to re-ignite the fire and/or (3) keep the cooling system fan running which could exhaust some of the dry chemical and thereby impede the system's effectiveness.

WHAT TO EXPECT WHEN THE SYSTEM ACTUATES

When the AFEX fire suppression system first actuates there will be a noise from the release of the compressed Nitrogen gas. This noise will be followed by a yellow cloud of dry chemical. Breathing in the dry chemical is not harmful but it may be unpleasant. After the system actuates stand by with a hand portable extinguisher to make sure that any smoldering debris have been extinguished and that there is no re-ignition to the fire. Call your local fire department and move a safe distance away from the vehicle. After the fire is out use water or compressed air to clean the equipment. Do not place the vehicle back into service until it has been repaired and the cause of the fire has been determined and rectified. Finally, recharge and service the fire suppression system before returning the vehicle to service.

ROUTINE MAINTENANCE AND INSPECTION

The AFEX system is built to withstand adverse operating, environmental, and service conditions. However, periodic inspection will insure that the system is fully operational if its use is required. The AFEX system is to be installed, inspected, maintained and tested in accordance with NFPA 17.

Daily inspections should be performed and consist of the following procedures to help reduce the risk of fire on your equipment.

1. Check tubing, nozzles, remote and actuating nitrogen cylinders and other system components for loose mntg or obstructions. Tighten as needed.
2. Check sensors and wiring for damage, broken wires or broken connections. Repair as needed.
3. Check that the manual actuation rod is secured with safety pin and seal.
4. Insure that portable extinguishers are available and fully charged.
5. Check that any oil leaks or machine electrical problems are corrected.
6. Remove all debris accumulation from the interior of the machine.

All AFEX systems shall be inspected every thirty (30) to ninety (90) days by a trained AFEX system technician or a qualified fire suppression system designer.

Monthly inspections include checks on the following items

1. Check that the extinguishing system is in its proper location.
2. Check that the manual actuators are unobstructed.
3. Check that the tamper indicators and seals are intact.
4. Check that the maintenance tag or certificate is in place.
5. Make sure that no physical damage or condition exists that might prevent operation.

Semiannual inspections consist of the following checks

1. Examine the dry chemical.
2. Examine all detectors, expellant gas containers, agent containers, releasing devices, piping, hose assemblies, nozzles, alarms and all auxiliary equipment.
3. Verify that the agent distribution piping is not obstructed.
4. Make sure the hazard has not changed.

IMPORTANT: AFEX Dry Chemical Fire Suppression Systems are made up of units tested within limitations contained in the installation, operation, maintenance, and service manual. No modifications are to be made to the system. This system is made of units tested within limitations contained in the detailed installation manual. The system designer must be consulted whenever changes are planned for the system or area of protection. An authorized installer or system designer must be consulted after the system has discharged.

RECHARGING AN AFEX SYSTEM

After a fire occurs, the following preparations should be made before recharging

1. Check machine for any remaining fire or smoldering embers. Wash down machine and remove any debris or dust accumulations.
2. Determine the cause of the fire and correct immediately before restarting the cable; starter short; debris on exhaust manifold or around turbo blower; overheated parking brake or similar cause.
3. Check battery or other power source.
4. Check AFEX system for any damage to wiring, sensors, tubing or nozzles. Refer to the service manual for details concerning a system recharge. Replace all damaged components with genuine AFEX parts to insure proper fittings.

System recharges should be performed by a trained AFEX system technician or a qualified fire suppression system designer.

A Service Manual, P/N A100000, is available upon request.

Send check for \$10.00 made out to AFEX and mail to

AFEX, 5808 Lease Lane Raleigh, NC 27617

AFEX warrants its Fire Suppression System against manufacturing defects for six (6) months from the date of purchase (hereinafter "the warranty period") by the user **PROVIDED THAT** the user gives written notice to **AFEX** within thirty (30) days of discovery of such defect and within the warranty period and **FURTHER PROVIDED THAT** if AFEX so instructs, such part is promptly returned, freight prepaid, to AFEX. In the event proper notice of defect occurs with the warranty period, AFEX will repair and/or replace any part which, in its opinion, contains a manufacturing defect and has not been tampered with or misused or exposed to corrosive conditions. **IN NO CASE SHALL AFEX BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR LOSS OF PROFITS.**

DISCLAIMER OF ALL OTHER WARRANTIES

THE EXPRESS WARRANTY ABOVE IS THE EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED. AFEX SPECIFICALLY EXCLUDES ANY WARRANTIES OF MERCHANTABILITY AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. AFEX does not assume, or authorize any person to assume or it, any other liability in connection with the sale of its products.

LIMITATION OF LIABILITY

Notwithstanding the Warranty and Disclaimer of All Other Warranties, AFEX limits any liability it may have to the purchase price of the Fire Suppression System.

Contact your local AFEX Distributor for all maintenance and inspections.

Your AFEX Distributor is

Distributor/Supplier: AFEX

Address: 5808 Lease Drive

City: Raleigh, NC 27617

Phone: 919-781-6610 (Contact Rod Cavallaro)

Fax: 919-787-3915