

# 3750 ALMAGARD<sup>®</sup> VARI-PURPOSE LUBRICANT

PITTSFIELD FIRE DEPARTMENT, Pittsfield, Massachusetts

Spring Hanger • SIC 9224 Fire Protection

*Saving \$9,000 per year in component replacement*

## CUSTOMER PROFILE

The Pittsfield Fire Department has been protecting the citizens of Pittsfield, Massachusetts for over 110 years. From receiving its first ladder truck in 1913, the Pittsfield Fire Department has grown to 7 Engines, 2 Ladders and various other rescue equipment housed in five Fire Stations operated by a highly trained, highly skilled emergency response crew of 92 people, including 5 civilians. Not only does the Pittsfield Fire Department fight fires, but it plays an active role in preventing fires, responding timely to prevent crisis situations, and saving lives. It has always been, and will always remain the mission of the Pittsfield Fire Department to protect lives and property while averting tragedy.

## APPLICATION

Fire Apparatuses are designed and built for particular types of fires and response, the designs take into account variable key factors such as fire load, fire department geographical terrain, vehicle ease of operation and much more. The design is also based on standard truck chassis with heavy duty suspensions, brakes, tires, transmission and cooling systems.

## AREA OF INTEREST

A common problem with Fire Engines and Ladder Trucks is spring hanger failure, partially due to the weight of the body exerted on the chassis components. Spring hanger failure is sometimes attributed to insufficient or inadequate component greasing. The cost to replace a single spring hanger can easily exceed \$2,000.

Prior to 2006, the Pittsfield Fire Department was experiencing, on average, a spring hanger failure every two years on every single pieces of equipment. The cause



for failure was attributed to a combination of body weight on the chassis and insufficient lubrication. The failures caused the unavailability of the critical rescue equipment and produced costly repair bills for the City of Pittsfield. A solution was needed that ensured proper lubrication of the fire apparatus chassis.

## LE SOLUTION

In 2006 David Piangerelli, the local LE Lubrication Consultant, contacted the Pittsfield Fire Department's Deputy Chief Mr. Spaniel and offered a solution to reduce spring hanger failures and to increase the reliability of the fire

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engines and ladder trucks. Mr. Piangerelli recommended installing a Centralized Lubrication System on the Fire Apparatus as well as using LE 3750 ALMAGARD® Vari-Purpose Lubricant. The Centralized Lubrication System delivers a metered, precise amount of LE 3750 ALMAGARD Vari-Purpose Lubricant to each lubrication point, whenever the vehicle is in motion.

LE 3750 ALMAGARD Vari-Purpose Lubricant is a multi-functional, extreme pressure lubricant for extended service under extreme conditions in on and off-road vehicles and in many plant applications. The lubricant is rust and corrosion inhibited. LE 3750 ALMAGARD Vari Purpose lubricant was recommended because it is very tacky, it has excellent water resistance and does not pound out.

For this particular application, Mr. Piangerelli recommended installing a "Multi-Line" Centralized Lubrication System in which each lubrication point is serviced by its own individual feed line, via a dedicated pumping unit. A Multi-Line system ensure that an accidental line damage affects only one lubrication point and does not render the entire system inoperable.

Each Centralized Lubrication System is used to lubricate the entire Fire Apparatus chassis including:

- King Pins
- Drag Links
- Slack Adjusters
- "S" Cams
- Tie Rods
- Spring Pins
- Spring Shackles

### **CUSTOMER COST SAVINGS**

Since installing the systems in 2006, the Pittsfield Fire Department has not experienced a single spring hanger failure and saved, to date, an estimated total of \$27,000, or \$9,000 per year, on equipment repairs. Most importantly the department has the confidence the equipment will be available for use in an emergency.

Tom Scherben, the Pittsfield Fire Department master mechanic, states: *"We used to purchase the cheapest lubricants we found, now with 3750 my*



*We would like to thank Deputy Chief Mr. Spaniel, Master Mechanic Tom Scherben (pictured R) and LE Lubrication Consultant Dave Piangerelli (pictured L) for the information provided to prepare this report.*



*front end parts and king pins last longer, the life of the spring hangers has been extended, and the old grease still looks red!". On using Oil Safe for vehicles lubricant transfer, Tom said "Oil Safe is practical and easy to use, most notably, the containers ensure the clean delivery of lubricants from the storage tanks to the vehicles."*



### **Calculations**

$\$2,000 \text{ per Spring Hanger} \times 1 \text{ failures per truck every 2 years} \times 9 \text{ Fire Apparatuses} = \$18,000$

$\$18,000 \div 2 \text{ years} = \$9,000 \text{ per year savings}$

$\$9,000 \text{ per year} \times 3 \text{ years} = \$27,000 \text{ Total Savings To Date}$

