



Almagard® Vari-Purpose Lubricant (3750)

Pittsfield Fire Department – Pittsfield, Mass.

Spring Hanger

- Eliminated spring hanger failure
- Saves \$9,000 per year on equipment repairs

Customer Profile

The Pittsfield Fire Department has been protecting the citizens of Pittsfield, Massachusetts for more than 110 years. Since receiving its first ladder truck in 1913, the Pittsfield Fire Department has grown to seven engines, two 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 four 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 apparatus are designed and built for particular types of fires and emergency 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 a standard truck chassis with heavy duty suspensions, brakes, tires, transmission and cooling systems.

Challenge

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 piece 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.

Solution

In 2006, David Piangerelli, LE Lubrication Consultant, contacted the Pittsfield Fire Department's Deputy Chief, Kenneth Spaniel, and offered a solution to reduce spring hanger failures and to increase the reliability of the fire engines and ladder trucks. Mr. Piangerelli recommended installing a Centralized Lubrication System on the Fire Apparatus as well as using Almagard® Vari-



Purpose Lubricant (3750). The centralized lubrication system delivers a metered, precise amount of Almagard 3750 to each lubrication point, whenever the vehicle is in motion.

Almagard 3750 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. It 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

Results

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 Almagard 3750 my 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 per spring hanger X 1 failures per truck every 2 years X 9 fire apparatus= \$ 18,000

\$18,000 ÷ 2 years = \$9,000 per year savings

\$9,000 per year X 3 years = \$27,000 total savings to date



Tom Scherben

Thank you to Kenneth Spaniel, deputy chief, Tom Scherben, master mechanic, and to Dave Piangerelli, LE lubrication consultant, for providing the information used in this report.



Dave Piangerelli

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Based on actual user experience. Individual results may vary. Not intended to supersede manufacturer specifications.