



MISTRAS

A World of NDT Solutions

*Services
Division*



Total NDT Solutions

for Aerial Lift Devices, Fire Apparatus, Live Line Tools and Personal Protective Equipment

Your Total NDT S

Quality Services Laboratories, Inc. (QSL-Plus) and CONAM Inspection & Engineering Services, Inc. (formerly *National Testing of CONAM*) have joined together to form an Aerial Lift Device and Fire Apparatus inspection group that has a combined experience of more than 75 years of testing. The group provides the most comprehensive inspection programs the industry has to offer, with evaluations performed on more than 10,000 pieces of aerial lift device, live line tools, hard cover up and fire apparatus worldwide.



We offer field service inspections for fire departments and the electrical industry, as well as in-house quality control and NDT Services. Our highly qualified technicians are certified in accordance with SNT-TC-1A and utilize state-of-the-art test/inspection equipment to provide unbiased evaluations that extend the safe operating life of your aerial lift apparatus.

Aerial Lift Device / Fire Apparatus Inspection

- Our inspection services help you become aware of potential problem areas and allow you to take corrective action before they result in catastrophic failure.
- When starting repair work or refurbishment on an older unit, we provide a detailed report of all areas that need attention. This saves unnecessary repair or maintenance costs.
- The National Fire Protection Association Standard 1914 recommends annual certification of aerial devices, and acceptance of new or used apparatus may be contin-

gent upon our inspection Group's certification.

- Our inspection gives assurance that equipment operates properly.

The annual inspection of your aerial lift device/fire apparatus is scheduled to ensure that you experience minimal service disruption. We provide the most accurate, comprehensive inspection of your entire unit in accordance with NFPA 1901, 1911, 1912 & 1914, ANSI and ASTM Standards. Total inspection time depends on the type and condition of the unit being inspected.

Comprehensive reports give you control over repair and maintenance costs. Early detection allows you to repair or take corrective action before the findings can cause more costly repairs or personal injury. These reports are provided to you at the end of each complete inspection.

Nondestructive and Dielectric Testing

For consistent and confident results, we apply the most sophisticated nondestructive testing techniques. For absolutely fail-safe equipment, you need the assurance of an inspection company that has been performing nondestructive testing for more than 40 years. Our inspection methods have developed from experience in a variety of industries and adapted to fit the specific requirements of Aerial Lift Device/Fire Apparatus Inspection applications.

The inspection/test methods used on your aerial lift device/fire apparatus include:

- Visual / Operational
- Ultrasonics
- Magnetic Particle



Solutions Provider



- Dye Penetrant
- Acoustic Emission
- AC/DC Dielectric

The object of utilizing such a comprehensive list of nondestructive test methods is to locate defects that may cause a free fall, free rotation and/or dielectric failure.

Live Line Tools &

Personal Protective Equipment

Our inspection group provides the most comprehensive live line tool in-service maintenance and dielectric on-site testing program of any service company.

The following are performed in accordance with OSHA 1910 and IEEE Std 978-1984:

- Visual Inspection
- Clean
- Wax
- Dielectric Test

Ground Ladder Inspection

An annual inspection helps you meet the requirements of NFPA 1931 and 1932. According to NFPA 1932, all ground ladders shall be service tested:

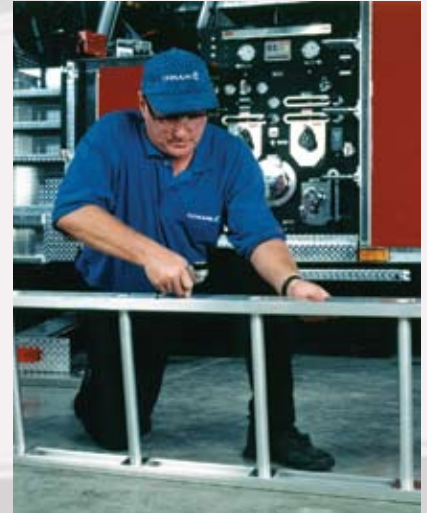
- At any time a ladder is suspected of being unsafe
- After heat exposure
- At least annually
- After the ladder has been subjected to overloading
- After the ladder has been subjected to impact loading or unusual conditions of use
- After any deficiencies have been repaired unless the only repair was replacing the halyard



Our ground ladder inspection program utilizes eddy current, hardness and penetrant testing methods. Expert technicians inspect ground ladders for compliance to both NFPA 1931 and 1932.

Strength Loss Test

The 6061 T6 aluminum alloy used in ground ladder construction exhibits changes in electrical conductivity when loss of strength due to overheating occurs. We have developed methods and equipment to perform the service strength testing required by NFPA 1932. These inspections include the horizontal bending, roof hook and hardware tests.



Pump Testing

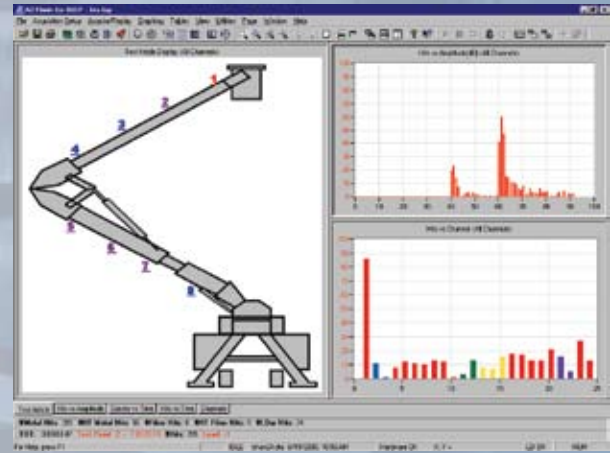
Our program offers a comprehensive pump-er testing program on both new and re-furbished pumpers. Existing in-service pumpers are tested against the original performance standards for each unit. A thorough service test of your pumpers is performed within one hour. For each unit tested, a complete report is issued. Testing may be performed at the fire station or a manufacturer's facility.



Aerial Lift Device Inspection

Comprehensive Aerial Device Inspection programs were initiated by several users and manufactures about 25 years ago. The purpose was to ensure that the vehicle was safe to operate, both from a mechanical integrity standpoint, as well as the electrical safety. While manufacturing techniques and operator usage of the vehicles has improved tremendously since then, today's owner/operator still faces other problems with regard to safe operation.

Our inspection program follows all the specifications set forth in the ASTM Recommended Practices, as well as other applicable documents. For example, for the mechanical integrity test we utilize the latest Acoustic Emission (AE) Instrumentation and software from Physical Acoustics Corporation (PAC), the world's leading Acoustic Emission equipment provider. AE is a very sensitive, global NDT inspection technology that allows for the inspection of the complete vehicle utilizing a simple mechanical loading technique. An example of this system's output is shown at the right. This diagram displays, in real time, the location of the AE sensors on the truck as it is being loaded. It provides the type and amount of activity detected by each sensor. While the test is in progress, the test technician can determine whether there is a serious



problem with the vehicle and if so, exactly where on the truck it is located. He can stop the test to prevent any additional degradation of the vehicle.

This test was initially intended to detect problems in the insulating fiberglass portions of the vehicle. However, years of testing have shown that it is just as capable in finding problems in the critical metal components of the vehicle as well. That is why a complete, comprehensive program, such as ours, incorporates monitoring all these components during the load test. Without it, the possibility of missing a serious problem increases. "Total Inspection" is the only way to ensure the safety of your Insulated Aerial Device.

CONAM Inspection and Engineering Services, Inc. (formerly *National Testing of CONAM*) and its sister company, Quality Services Laboratories, Inc. (QSL-Plus), are committed to offering the most advanced and cost-effective inspection techniques in the transportation industry. Our unique abilities enable us to provide you with sophisticated, accurate and prompt results that allow you to operate your equipment with the utmost confidence.

All services are supported by our unparalleled commitment to customer service. Each discipline is available 24 hours a day, 365 days a year. With worldwide locations employing over 1,000 engineers, PhD's, technicians, software designers and QC professionals, our staff has the experience and know-how to meet all your transportation testing needs. Call the experts at CONAM and QSL-Plus to determine the integrity of your equipment.

For inspection services nationwide, contact the main offices of . . .

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