

servicing LIFTING FLEETS

Aerial equipment maintenance requires structure, discipline, collaboration

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As one of the world's largest equipment rental companies, United Rentals has more than 20,000 equipment classifications in its fleet. This includes more than 70,000 boom lifts and scissor lifts, which require service from 2,700 company technicians at scheduled intervals. These expert inspections and maintenance procedures are the keys to the safe operation, reliability, productivity, and extended life of the equipment we rent.

Due to the varying heights and positions at which aerial equipment is used, there is a high degree of risk associated with its operation, making a sound program of preventative maintenance crucial. Proper maintenance is a planned event and a proactive approach and is critical to protecting assets and customers. Anything less than "on time" maintenance can create liability issues.

In the rental industry, aerial fleet owners must ensure that proper, periodic maintenance is performed in a timely manner. Maintenance should be performed regularly over the life of the asset by qualified, factory-trained technicians. The condition of rented equip-

ment is also the responsibility of the contractor, who is charged with the custody and care of the lifts on the job-site, and the lift operator. Together, all parties must ensure that the equipment is not abused and receives the required inspections and maintenance.

Aerial equipment manufacturers' maintenance standards

All aerial equipment manufacturers provide manuals detailing basic maintenance guidelines for the models they offer. Additional sources of important information come from third parties, including standards established by the American National Standards Institute



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(ANSI) and various federal and local regulations.

The fundamental elements of a basic aerial maintenance program include:

- Pre-delivery inspections;
- Periodic inspections; and
- Thorough annual inspections.

Much like a routine automobile inspection, comprehensive testing of an aerial work platform examines the degree of structural integrity, general wear and tear, chassis, pivot point and engine lubrication, fluids and filters, hydraulic and electrical systems, cable and chain adjustments, and operator controls. Most important, the equipment's total safety functionality is checked, ensuring that all limit switches, safety devices and placards are present, adjusted and operating properly, as required by the manufacturer. Diagnostic capabilities are also critical when performing or selecting a maintenance provider.

In addition, some maintenance procedures might be determined by the jobsite and its particular requirements. These can include, but are not limited to: non-destructive testing, "diapering," emission controls, non-marking or covered tires, and additional visual and aural warning systems that involve specialized equipment or procedures. Factors such as severe environmental conditions on the site can shorten maintenance intervals or require that additional procedures be performed to ensure the equipment's safety and reliability.

United Rentals has taken exceptional measures to ensure that our aerial work platforms – and, in fact, all 20,000 classes of equipment we offer – are safe, reliable and productive for our customers. In 2005, we established a system of evaluating equipment as it passes through branch operations during the rental cycle. This system, called Rental Flow Process, has

been expanded to utilize our information technology in support of the maintenance function. Quality control procedures such as detailed rental-ready inspections of all aerial equipment and a pre-delivery condition report are a part of the rental process as well. In addition, customized, periodic inspection intervals for some 1,000 equipment categories have been established within our company's information system. The system automatically prompts our shop or field technicians to perform inspections at each interval.

Equipment operator training

Equipment operator training also plays an important role in ensuring the proper and safe operating condition of an aerial lift before it is used. Competent operators can perform pre-shift inspections, and identify and avoid potential hazards. This goes a long way toward reducing risk of injury and equipment downtime.

United Rentals drivers are trained to provide operator familiarization on all types of rental equipment, review pre-delivery condition reports with customers to ensure the safe operating condition of equipment at delivery, and verify the presence of mandatory safety decals, operator manuals and other necessary documentation. In addition, operator training classes can be scheduled to further improve safe practices.

All in all, preventative maintenance and inspections must be performed on aerial equipment by factory-trained technicians at prescribed intervals. These practices help to: minimize downtime, reduce lifecycle repair costs, extend the useful life of the asset, and maintain its residual value. The daily inspection by a trained operator is the final, critical piece of an effective aerial maintenance and safety program.

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