

TREE TRIMMING OPERATIONS, 16VAC25-73

16VAC25-73-60. G. Log loaders, knucklebooms, cranes and related hoists.

1. The items contained in subsection A of this section shall always be included in the review of this section. Damaged log loaders, knuckle booms, cranes and related hoists shall be removed from service and tagged until repaired or discarded.
2. Log loaders, cranes, and related hoisting equipment shall be inspected in accordance with applicable regulations as well as manufacturers' instructions and guidelines. Chokers, slings, and other means of lifting, lowering, or rigging equipment shall be inspected before each use. An inspection procedure checklist shall be available to the crew.
3. Operators of hoisting equipment shall be trained and shall maintain a minimum approach distance from energized conductors in accordance with Table 1 of 16VAC25-73-50, or §§ 59.1-406 through 59.1-414, Overhead High Voltage Line Safety Act, as applicable. A spotter shall be used when work is being performed in proximity to electrical conductors. Personnel assigned to work in proximity to the tree removal shall be trained and follow guidelines for electrical hazards (see 16VAC25-73-50).
4. The crane operator shall be familiar with the potential hazards encountered and operational techniques used in tree work.
5. Cranes with telescoping booms shall be equipped with an anti-two block device. A boom angle indicator and a device to indicate the boom's extended length shall be clearly visible to the operator at all times. A load rating chart with clearly legible letters and figures shall be provided with each crane and securely fixed at a location easily visible to the operator.
6. Operators of hoisting equipment shall remain at the controls while a load is lifted, suspended, or lowered.
7. Tree sections shall be rigged to minimize load shifting. Controlled load lowering shall be employed. Shock-loading shall be avoided, and free fall is prohibited. A green log weight chart (see 16VAC25-73-130, Appendix D), shall be available to the crew. All workers shall be kept clear of loads about to be lifted and of suspended loads.
8. Riding the load line of a crane while it is under load tension shall be prohibited.
9. The use of a crane to hoist a qualified arborist into position is prohibited, except when the use of conventional means of reaching the work area, such as, but not limited to, an aerial lift, would be more hazardous or is not physically possible because of worksite conditions. If the above exception applies, a qualified arborist may be hoisted into position utilizing a crane if the crane manufacturer's specifications and limitations do not prohibit such use, and any fall protection requirements of the crane manufacturer are complied with, and the arborist is tied in with an arborist climbing line and arborist saddle and secured to a designated anchor point on the boom line or crane. The following procedures shall be followed when an arborist is to be lifted by a crane:
 - a. The qualified crane operator, the signal person, the person responsible for the work to be performed and the arborist to be lifted shall meet

TREE TRIMMING OPERATIONS, 16VAC25-73

16VAC25-73-60. G. Log loaders, knucklebooms, cranes and related hoists, CONTINUED.

- prior to the work to review the procedures to be followed. A job briefing shall be done before any work begins, in accordance with 16VAC25-73-40 A 4.
- b. The arborist climbing line shall be secured to the crane in such a way that it does not interfere with the function of any damage-prevention or warning device on the crane and so that no part of the crane compromises the climbing line or any component of the climbing system.
- c. The crane operator shall test the adequacy of footing prior to any lifting, and shall conduct a trial lift immediately before lifting the arborist into position. The crane operator shall determine that all systems, controls and safety devices are activated and functioning properly; that no interferences exist; and that all configurations necessary to reach the intended work location will allow the operator to remain under the 50% limit of the hoist's rated capacity. The crane shall be uniformly level and located on firm footing. If necessary, blocking shall be used so that the support system does not exceed its load-bearing capabilities. Cranes equipped with outriggers shall have them all fully extended and properly set, as applicable, before lifting and lowering operations begin and/or before the qualified arborist is lifted.
- d. Lifting and supporting shall be done under controlled conditions and under the direction of a qualified arborist or an appointed signal person. Lifting and supporting operations shall not be performed during adverse weather conditions such as thunderstorms, high winds, and snow and ice storms.
- e. The load-line hoist drum shall have a system or other device on the power train, other than the load hoist brake, that regulates the lowering speed of the hoist mechanism. Load lines shall be capable of supporting, without failure, at least seven times the maximum intended load, except that where rotation resistant rope is used, the lines shall be capable of supporting without failure, at least 10 times the maximum intended load. The required design factor is achieved by taking the current safety factor of 3.5 and applying 50% de-rating of the crane capacity.
- f. Communication between the crane operator and the arborist being lifted shall be maintained either directly or through the appointed signal person. This communication shall either be visual, using the accepted hand signals, or audible, using voice or radio. Radio communication shall be used to control blind picks. The crew members shall know and follow hand signals for standard crane operations (see 16VAC25-73-150, Appendix F).
- g. The crane operator shall remain at the controls when the qualified arborist is attached to the crane and during lifting and lowering operations.
- h. The crane boom and load line shall be moved in a slow, controlled, cautious manner when the arborist is attached. Lifting or lowering speed shall not exceed 100 feet/minute (0.5 m/sec), and any sudden movements shall be avoided. The crane shall be operated so that lowering is power controlled.
- i. The crane carrier shall not travel at any time while the qualified arborist is attached. An accurate determination of the load radius to be used during lifting shall be made before the qualified arborist is hoisted.
- j. The qualified arborist shall be detached from the crane any time it comes under load tension.