

Boom Truck Safety

by Dr. Walter Fluharty, SOSE

Before you begin

Separate from the “boom” there are requirements specific to the truck. Because of the weight of a boom truck, drivers must possess a current commercial drivers license (CDL). Because of the specific hazards associated with the boom, each driver should receive intensive classroom and hands-on training. Such training will instill the knowledge and skills necessary to assure safe operation. Many companies will establish a prerequisite requiring a driver to complete one of the many Web-based trainings available for their specific type(s) of equipment. (Be sure to thoroughly check the references of the provider.)

Introduction

The Occupational Safety and Health Administration (OSHA) now exempts knuckle boom and articulating boom trucks that make deliveries to construction sites from the stringent regulations affecting cranes (1). However, companies using these trucks still must take steps to ensure safe use. Each year, on average, incidents involving the use of cranes kill 50 U.S. workers (2).

This article outlines the recommended steps you should consider when developing your boom truck safety process.

Classroom training

Design classroom training to include at least the following:

- Understanding the design and hazards of boom trucks;
- Overview of the organization's requirements;
- Personal protective equipment (PPE);
- How to conduct daily truck and boom inspections;
- How to conduct a delivery site inspection;
- Inspection actions and filing requirements;
- How to maintain stability;
- Recognizing and managing hazards;
- How to read, understand and use load charts;
- Understanding critical lifts.

Skills demonstration

Once the drivers have completed their classroom training, they should receive hands-on training and supervised practice to ensure they can successfully demonstrate the following skills:

- Inspections;
- Use of PPE;
- Layout of jobsite;
- Maintaining stability;
- Operation of boom truck controls;
- Load management.

Practicing the skills

Before sending the driver out to make deliveries, have the newly trained driver practice the skills above for a minimum of eight hours. The driver should practice his or her skills in an area away from any hazards such as power lines, people or structures. (Empty parking lots work well.)

Companies with high commitment to safety often develop observation tools that outline the behaviors necessary to establish proficiency prior to permitting the first delivery. (For example, what would you see if the driver does the steps safely?) Always send new drivers out with experienced drivers until the new driver indicates he or she is confident and comfortable with the equipment.

Acceptable and unacceptable lift conditions

You must provide drivers with specific criteria outlining acceptable and unacceptable lift conditions. Below are examples of each.

Acceptable lift conditions

- Position the boom truck in a manner that the boom will maintain a minimum of 10 feet from power lines or 10 feet, plus 4 inches for every increase in 10Kv power intensity.
- Position the boom truck in a manner in which to ensure stability. (For example, both stabilizers can fully extend and lower; the surface is such that the operator can use the stabilizers with or without additional padding, etc.)
- Position the boom truck in a manner to avoid striking any object or person.

Unacceptable lift conditions

You must empower and authorize the operator to refuse to make any lift that he or she determines he or she cannot make safely.

- Do not position the boom truck in a manner that the boom cannot maintain the required distance specified by OSHA.
- Do not position the boom truck in a manner in which the operator cannot ensure stability. (For example, both stabilizers cannot fully extend and lower; the surface is so soft that the operator cannot use the stabilizers even with additional padding, etc.)
- Do not position the boom truck in a manner in which the operator cannot avoid striking an object or person.
- The wind is judged to be blowing hard enough to prevent a safe lift.
- Any other situation in which the operator does not believe he or she can run the boom truck safely.

Critical lift conditions

The National Institute for Occupational Safety and Health (NIOSH) and others have identified certain types of hoisting operations that require special considerations to ensure worker safety. The operator judges the wind is blowing hard enough to affect the safety of the lift. In the crane and rigging community, crane operators commonly use the term critical lift to describe these situations. A critical lift generally identifies hoisting operations for which the margin for error is reduced. A critical lift occurs when either one or both of the following conditions exist:

- A lift that exceeds 75 percent of the rated capacity of the crane or derrick;
- Requires the use of more than one crane or derrick.

You must develop and implement instructions for how to manage critical lifts.

Maintaining proficiency

Maintaining proficiency is critical to ensuring safe deliveries with boom trucks. Drivers should complete two hours a week of documented incident free operation of the boom. (Operation includes all inspections, setup, load manipulation/placement and returning the boom to a safe position for transport).

(1) "Great news for all knuckleboom crane owners and operators"; <http://www.knuckleboom.com/news.htm>

(2) "Crane Accident Statistics"; <http://www.craneaccidents.com/stats.htm>

References

Article submitted by:

Dr. Walter C. Fluharty is currently the Health, Safety and Environmental Manager for Saint Gobain Building Materials Distribution North America, where he is responsible for 130 distribution facilities and a fleet of over 1,000 vehicles. In a career that spans more than 30 years, he has built a reputation developing world class safety cultures in a wide variety of industries.

His experience includes developing the widely used training program, "It Can Happen Here" funded by an OSHA New Directions Grant. He actively participated in the development of several OSHA standards including the Process Safety Management of Highly Hazardous Chemicals and Cadmium standards.

Dr. Fluharty was first introduced to Behavioral Based Safety (BBS) while working as a trainer with Behavioral Science Technology. He went on to successfully integrate user friendly BBS principles into corporate safety systems from within manufacturing, refining, pharmaceutical, and biotech industries while serving in a variety of EHS leadership roles.

Dr. Fluharty holds an M.S. in Safety Management from Marshall University, Huntington, WV and a Psy.D. from Southern California University for Professional Studies, Santa Ana, CA. Over his career he has published numerous HS&E related articles and authored the chapter providing an overview of BBS in the text, "Human Factors Methods for Improving Performance in the Process Industries". Dr. Fluharty is a frequent speaker at national and international HS&E professional symposiums.