

## LADDER LOADER AND BUMPER HOIST PREVENT INJURIES

Maintenance and repair technicians at Public Works Center San Diego use vans as mobile tool rooms/workshops when responding to trouble calls. Seven-foot long, 32-pound ladders used for many of the repair and maintenance tasks are carried in racks on top of the vans. The technicians had previously been required to manually load and unload the ladders numerous times during a work shift. Technicians were also required to lift and carry other heavy equipment, such as air conditioners and replacement parts, also transported in the workshop vans.

Repeated lifting and lowering heavy objects put the technicians at risk of shoulder and back injuries and



Technician loading ladder onto van roof



Overhead lifting has risk of shoulder and back injury.

cumulative trauma disorders. While lifting a heavy object above waist level, the burden of the lift shifts from the larger and stronger back muscles to the shoulder muscles, which are smaller and less capable of tolerating the load. When a heavy load is raised overhead, control of the load becomes very important. If the load shifts unexpectedly at that point, the sudden change in posture, along with the weight of the load and the force of gravity, may result in injury to the back or shoulders.

The ladder and equipment lifting hazards at PWC San Diego were brought to the attention of the Employee Driven Cultural Safety Forum (EDCSF) as the result of an ergonomic discomfort survey conducted by PWC Safety Coordinators. The PWC San Diego EDCSF responded promptly by assessing the benefits of using ladder loaders and bumper hoists as substitutes for manual lifting. A direct result of the assessment is that ladder loaders and bumper hoists are now in use at PWC San Diego. The Navy-wide Ergonomic Hazard Abatement Program funded the initial purchase of the equipment. PWC San Diego utilizes their own funds for additional purchases of ergonomic equipment and material for PWC employees.

Ladder loaders are operated from the side or rear of workshop vans. The operator turns a control rod to raise or lower the ladder loader. The loader eliminates overhead lifting when loading and unloading ladders from the tops of workshop vans, thereby greatly reducing the risk of back and shoulder injuries. Another benefit of the ladder loader is that it lowers to the curbside, eliminating the additional risk of traffic hazards. Technicians can modify the ladder loaders to carry two different ladder lengths used for maintenance and repair tasks, eliminating injury risks from using the wrong ladder.



Use of ladder loader reduces risk of injury.

The electric-powered bumper hoists currently in use at PWC San Diego lift heavy loads into and out of workshop vans. The hoists assemble quickly and have a variety of rigging attachments that can be used for many lifting tasks, lessening the risk of injury from manual lifting. In addition to reducing the risk of back and shoulder injuries, the bumper hoist increases productivity. The hoist allows one technician to lift and manage a heavy component alone. Previously, three technicians were needed to complete a manual lift safely.



Bumper hoist eliminates manual lifting.

The lost time case rate at PWC San Diego is the lowest it has been in the past five years. This significant decrease can be attributed in part to the reduction in heavy lifting mishaps through use of ladder loaders and bumper hoists.

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