

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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**INITIAL STATEMENT OF REASONS**

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Section 4306
of the General Industry Safety Orders

Underhung/Slung (Jump) Saw Guarding**SPECIFIC PURPOSE AND FACTUAL BASIS OF PROPOSED ACTION**

This rulemaking is the result of an Occupational Safety and Health Standards Board review of guarding requirements for underhung swing cutoff saws, inverted swing cutoff saws, jump saws and underhung saws contained in Section 4306 of the General Industry Safety Orders (GISO). These are types of circular woodworking saws where the blade emerges from underneath the stock or table and swings or slides upward to make the cut. The term jump saw derives from the fact that the blade in making the cut on the work piece "jumps up" from beneath the table to enter the wood.

Section 4306(b) requires blade guarding. Manufacturers provide blade guards in conformance with this standard. These saws are also typically provided with one or more additional point-of-operation guards such as but not limited to: tunnel guards, foot pedals, windshields, wrist restraints, passive detection and two-handed controls.

Staff has identified seven injuries that took place in California, from 2001-2009, involving underhung cutoff saws. The Cal OSHA Form 170A reports for these injuries describe employees coming in contact with the point-of-operation as a result of either the absence of, or ineffectiveness of the point-of-operation guarding. Similarly, a U.S. Department of Labor inspection report citing a 1995 incident which took place in California, describes an employee's fingers being amputated despite the fact that the blade of the saw was guarded as required by Section 4306(b), and the employee had received operator training.

The inherently hazardous nature of these saws and the accident documentation suggests that blade guarding alone is insufficient to prevent contact. Performance-based point-of-operation guarding (POG) standards are contained in Sections 4184 and 4186. Title 8 point-of-operation guarding standards apply to Section 4306. However, other than a requirement for effective guarding and guarding the blade, point-of-operation guarding is not mentioned in Section 4306.

The proposal will clarify that the point-of-operation guarding requirements in Section 4184 and 4186 apply to the underhung type saws in addition to the blade guarding required by Section 4306.

The proposal is intended to also prevent the potential for severe cuts or amputations of the fingers or hands during saw cutting operations or when idling.

Section 4306. Underhung Swing Cut-Off Saws, Inverted Swing Cut-Off Saws, Jump Saws, Underslung Saws.

Title 8, Section 4306 contains provisions for effectively guarding the types of saws described by Section 4306. Subsection (b) specifies how the blade is to be guarded and states that the upper half of the saw blade and arbor are to be shielded from contact by a blade guard.

An amendment is proposed to add a new subsection (e) to Section 4306 stating that the saw be provided with point-of-operation guarding in addition to the blade guard that will prevent the operator from being able to inadvertently contact the point-of-operation as the blade ascends, cuts and drops back down below the table.

The proposed Note is necessary to clarify to the employer the location of GISO point-of-operation guarding standards and design specifications that are required to be applied to the types of saws regulated by Section 4306.

This proposal is necessary to ensure that workers are protected from dangers associated with saws that ascend from below the table to make cuts, by providing clear direction in guarding the point of operation of these types of saws.

TECHNICAL, THEORETICAL AND/OR EMPIRICAL STUDIES, REPORTS OR DOCUMENTS RELIED ON BY THE BOARD

1. 29 CFR, Part 1910, General Occupational Safety and Health Standards, Subpart O, Machinery and Machine Guarding, Section 1910.213, Woodworking Machinery Requirements.
2. United States Department of Labor, IMIS Inspection Information, report I.D. No.0950633, Squires Lumber Company, Inc. Colton, California, open date 7/10/1995, <https://www.osha.gov/pls/imis/establishment.inspection>
3. California Department of Industrial Relations, Cal/OSHA Form 170A, Inspection Nos. 301280459, 125941641, 310598925, 310599071, 126197854, 312433543, 312681455.
4. Emails from Mr. Ken Dunham, West Coast Lumber and Building Material Association, dated, April 8, 2016.

These documents are available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

PETITION

This proposal was not the result of a petition.

ADVISORY COMMITTEE

The proposal was developed without the assistance of an advisory committee.

FIRE PREVENTION STATEMENT

This proposal does not include fire prevention or protection standards. Therefore, approval of the State Fire Marshal pursuant to Government Code Section 11359 or Health and Safety Code Section 18930(a)(9) is not required.

SPECIFIC TECHNOLOGY OR EQUIPMENT

This proposal will not mandate the use of specific technologies or equipment.

ECONOMIC IMPACT ANALYSIS/ASSESSMENT

The Board estimates the economic impact to be less than \$10 million. The Board has made a determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states.

Performance-based point-of-operation guarding (POG) standards are contained in Sections 4184 and 4186. Title 8 point-of-operation guarding standards apply to Section 4306. However, other than a requirement for effective guarding and guarding the blade, point-of-operation guarding is not mentioned in Section 4306. Point-of-operation guarding may consist of a tunnel guard, passive detection device, wrist restraints, foot pedal or two-handed trip. These methodologies are designed to prevent employee intrusion into the point-of-operation where the saw blade ascends from beneath the table and makes the cut and descends. Board staff was able to determine that underhung/slung jump saws are used by lumber yards to cut lumber and do not represent a very large market in California as compared to the rip saw, radial arm, chop saw, table saw and cross cut saw market.

A manufacturer of the type of saws regulated by the proposal has indicated to staff that they have been providing tunnel guards voluntarily since 2009, but that they have since discontinued production of these types of saws (for undisclosed liability reasons). It is staff's understanding that the majority of saws regulated by Section 4306 were provided at the time of manufacture with some form of point-of-operation guarding in addition to the blade guard. Saws that are only equipped with a blade guard may need to have their other point-of-operation guards reinstalled, or re-equipped with additional point-of-operation guarding, (such as a tunnel guard) by job fabrication or ordering a factory part from the manufacturer. This would be a one-time cost for the employer.

The average cost of a factory built tunnel guard replacement is approximately \$500. A job fabricated tunnel guard constructed of wood, metal or plastic could cost less than \$100. These figures could vary according to the type of POG being replaced and whether it is a factory replacement or is job-fabricated. Factory part replacement costs will vary according to the type of POG, the least expensive being the plastic shield used on some model jump saws at approximately \$150, and the most expensive being the two-handed (handlebar control) trip system at approximately \$1700. Proportionally, the median cost of an underhung/jump saw that may be impacted by this proposal is approximately \$7,000, consequently any required POG factory part augmentation would be substantially less than the cost of the saw.

Based on the above, this rulemaking action will not impact the following:

- The creation or elimination of jobs within the State of California,
- The creation of new businesses or the elimination of existing businesses within the State of California,
- The expansion of businesses currently doing business within the State of California.

The proposal provides clear direction in guarding this type of saw. This regulatory proposal will promote worker safety by specifying an effective guard that protects the operator from dangers associated with saws that ascend from below the table to make the cut.

BENEFITS OF THE PROPOSED ACTION

The proposed rulemaking clarifies the regulatory language to provide specific requirements for these types of saws as it pertains to saw blade guarding. The proposed regulatory amendments will protect workers from potential kickbacks, flying splinters or broken saw teeth and exposures to severe cuts or amputations. There are no anticipated benefits to the state's environment.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT STATEWIDE ADVERSE ECONOMIC IMPACT DIRECTLY AFFECTING BUSINESSES

The Board has determined that the proposal may affect businesses but will not result in a significant, statewide adverse economic impact directly affecting businesses and or businesses, including the ability to compete with other businesses in California.

The proposed amendments clarify to the employer that GISO point-of-operation guarding standards apply to underhung type saws regulated by Section 4306 in addition to the blade guard already required by subsection (b). Staff has been able to ascertain that these saws represent a distinct end-user market; and nearly all saws have been provided with a Section 4306(b) blade guard, and product literature indicates that one or more types of point-of-operation guards, such as foot pedals and tunnel guards, also have been provided by manufacturers.

**REASONABLE ALTERNATIVES TO THE PROPOSAL AND THE BOARD'S
REASONS FOR REJECTING THOSE ALTERNATIVES**

No reasonable alternatives to the proposal were identified or brought to the Board's attention that would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.