

State of California
Department of Industrial Relations
Division of Occupational Safety and Health
Memorandum

Date: March 4, 2022

To: Christina Shupe, Executive Officer
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833

From: Eric Berg, Deputy Chief of Health
Division of Occupational Safety and Health

Subject: Evaluation of Petition No. 595 to adopt a new title 8 regulation for Manual Material Handling Carts.

1.0 INTRODUCTION

On December 14, 2021 the Division of Occupational Safety and Health (Cal-OSHA) received a petition from Matthew Cross (petitioner), a delivery driver employed by Martin Brower LLC. The petition requests new regulation in the California Code of Regulations, title 8 to require the handles of manual material handling (MMH) carts to be secured in place during use.

Labor Code Section 142.2 permits interested persons to propose new or revised standards concerning occupational safety and health, and requires the Occupational Safety and Health Standards Board (Standards Board) to consider such proposals. California Labor Code section 147 requires the Standards Board to refer to Cal/OSHA for evaluation any proposed occupational safety and health standard.

2.0 BACKGROUND INFORMATION

In 2014, the petitioner was injured while moving an MMH cart at Martin Bower LLC located in Stockton, CA. At the time of the incident, the petitioner was moving a loaded cart when the handle separated from the platform causing the petitioner to loose balance and fall from an elevated truck bed to the ground below. The petitioner suffered a fractured right arm as a result of the incident. Consequently, a formal complaint¹ was filed with Cal-OSHA in an attempt to abate the alleged hazardous condition of the carts. According to the petitioner, the related complaint inspection did not resolve the complaint items and no abatement was enacted by the employer to address the safety issues of the MMH carts. The petitioner stated the lack of a title 8 regulation prevented the hazards of the carts from being abated. In the petitioner's interest to make the carts safe, he filed Petition No.

¹ The California Occupational Safety and Health Act of 1973 gives workers the right to file a complaint about workplace safety and health hazards.

595, to adopt a new title 8 regulation to require material handling carts to have non-removable handles.

3.0 PETITIONER'S INFORMATION ON MMH CARTS

According to the petitioner, the weights of materials loaded on the carts at Martin Brower vary from 100 to 1,600 pounds, with the average weight of loads being approximately 900 pounds. The carts used at Martin Brower are equipped with two swivel casters on the handle end of the cart and two non-swivel (rigid) casters on the opposite end.

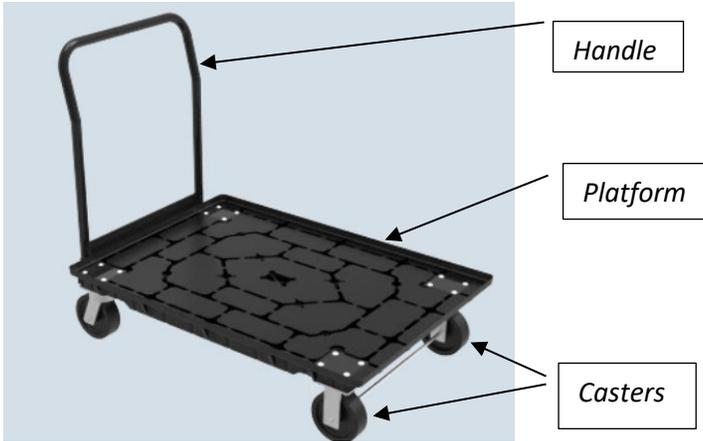
The petitioner referenced three models of material handling carts in the petition. These carts are identified as "platform trucks" by all three distributors. All three carts have a handle that is designed to be removed from the platform and do not have securing means such as a pin or a bolt to prevent inadvertent removal of the handles from the carts. The three carts are as follows:

The W.T. Hight Company is a reseller/distributor of material handling equipment including carts for various commercial uses. The photo of the W.T. Hight cart supplied by the petitioner does not appear on the company's current sales catalog. Based on the photo provided by the petitioner, the W.T. Hight cart has a steel frame, steel welded wire mesh platform, and removable steel handles. One end of the cart is equipped with two swivel casters and two rigid casters on the opposite end. The removable handle can be placed only on the swivel caster end of the cart.



W.T. Hight cart, photo supplied by the petitioner.

The second cart referenced in petition 595 is manufactured by Rehrig Pacific Company, a manufacturer of plastic products for material handlings. Rehrig Pacific Company provides services in the recycling industry and the cart referenced by the petitioner has a plastic platform with removable metal handles and a 2,000-pound load rating.



Rehrig cart.

The third cart referenced in petition 595 is manufactured by Global Industrial, a reseller/distributor of general commercial products including carts. The Global Industrial product number WR952110 Steel Deck Platform Truck has a 1,400-pound capacity.



Global Industrial cart.

4.0 PETITIONER’S PROPOSAL AND BASIS FOR NEW TITLE 8 REGULATION

The petitioner did not provide any specific regulatory language but requests the following requirements for MMH carts be included in title 8 regulations:

- All newly manufactured carts to be provided by the manufacturer with fixed handles or the ability to fix them in place.

- Material cart manufacturers to contact customers who have bought carts and replace, phase out, or provide a retrofit to prevent unintentional removal of handles in carts that are currently in use.
- Employers that use carts to render the handles to be non-removable before allowing their employees to use them.

The petitioner conducted a “Cart Grievance Survey”² amongst sixty-six delivery drivers at the Martin Brower LLC facility in Stockton California. The survey highlighted the dissatisfaction of workers using carts at the facility. Amongst the grievances were faulty and broken carts, a non-functioning system for removing carts in disrepair, hazardous ground conditions at delivery sites, and handles separating unintentionally from carts.

The petitioner submitted a list of accidents³ caused by handles separating from carts spanning a two-year period. According to the petitioner, the accidents occurred at various Martin Brower facilities across the United States and the injuries were, with the exception of one, all suffered by Martin Brower employees.

The Petitioner submitted a document provided in petition No. 595 published by Darcor, titled *The Ergonomics of Manual Material Handling*⁴. Darcor is a manufacturer of caster wheels for carts. Darcor provides training to businesses to promote safety and ergonomics in the use of carts. The document discusses the factors that affect the safe use of carts. These factors include the person’s physical abilities, the task involved while using a cart, the conditions of the floor on which the cart is being used, and various design features of carts to perform a task.

The petitioner asserts the use of carts with unsecured handles have caused and continue to cause worker injuries. These injuries, the petitioner attributes to the handles separating from the cart’s platform while moving heavy loads causing the operators to lose their balance.

5.0 APPLICABLE TITLE 8 REGULATIONS

Although title 8 regulations do not include standards specific to MMHs design and use, the following subsections apply to the hazards described by the applicant:

Subchapter 7. General Industry Safety Orders

Group 1. General Physical Conditions and Structures Orders.

Introduction

§3203. Injury and Illness Prevention

(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program). The Program shall be in writing and, shall, at a minimum:

² Petition No. 595, page 37-51 of 52 pages.

³ Petition No. 595, page 5 of 52 page.

⁴ Petition No. 595, page 10-36 of 52 pages.

(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices. Inspections shall be made to identify and evaluate hazards:

(C) Whenever the employer is made aware of a new or previously unrecognized hazard.

(6) Include methods and/or procedures for correcting unsafe or unhealthy conditions, work practices and work procedures in a timely manner based on the severity of the hazard:

(A) When observed or discovered; and,

Subchapter 7. General Industry Safety Orders
Group 2. Safe Practices and Personal Protection
Article 7. Miscellaneous Safe Practices
§3328. Machinery and Equipment.

(a) All machinery and equipment:

(1) shall be designed or engineered to safely sustain all reasonably anticipated loads in accordance with recognized engineering principles; and

(2) shall not be used or operated under conditions of speeds, stresses, loads, or environmental conditions that are contrary to the manufacturer's recommendations or, where such recommendations are not available, the engineered design.

(e) Machinery and equipment components shall be designed and secured or covered (or both) to minimize hazards caused by breakage, release of mechanical energy (e.g., broken springs), or loosening and/or falling unless the employer can demonstrate that to do so would be inconsistent with the manufacturer's recommendations or would otherwise impair employee safety.

(g) Machinery and equipment in service shall be maintained in a safe operating condition.'

Subchapter 7. General Industry Safety Orders
Group 3. General Plant Equipment and Special Operations
Article 20. Hand and Portable Powered Tools and Equipment

§3556. General

(a) Each employer shall be responsible for the safe condition of tools and equipment used by employees, including tools and equipment which may be furnished by employees.

6.0 ANALYSIS

6.1 Information from MMH Manufacturers and Distributors

As part of the petition evaluation, Cal-OSHA Research and Standard Safety Unit staff spoke with representatives from various manufacturers and distributors of MMHs including Global Industrial, The Fairbanks Company, and Darcor. The representatives from these companies collectively indicated the following:

- Customers typically order carts according to their commercial and specific needs.
- Customers who order carts with removable handles do so for storage reasons.
- A majority of customers order removable handle carts so that the handles can be placed on either end of the carts (on carts with such features).
- Carts can be ordered with permanently fixed handles onto the platforms.
- A majority of material handling carts for commercial use are custom ordered with permanently fixed handles.



The Fairbanks Company aluminum cart, 2,600-pound capacity. Note the recesses to fit removable handles on either (or both) ends) of the cart.

6.2 Serious Injuries Related to the Use of MMH Carts

Cal-OSHA Research and Standards Safety Unit staff researched serious injuries⁵ related to handles separating from MMH carts. This search spanned all industries and included the Federal OSHA accident

⁵ Cal-OSHA regulation section 330 defines “Serious Injury” as any injury or illness occurring in a place of employment or in connection with any employment that requires inpatient hospitalization for other than medical observation or diagnostic testing, or in which an employee suffers an amputation, the loss of an eye, or any serious degree of permanent disfigurement, but does not include any injury or illness or death caused by an accident on a public street or highway, unless the accident occurred in a construction zone.

database, Cal-OSHA enforcement database (OIS year 2014 to 2021), and Decisions After Reconsideration (DAR's) of the Occupational Safety and Health Appeals Board,. Cal-OSHA found no information of serious injuries related to handles separating from MMH carts.⁶

6.3 Title 8 Regulations Currently Address Hazards of MMH Carts

6.3.1 Title 8 Section 3203

Title 8 section 3203 currently requires employers to identify, evaluate and correct workplace hazards pursuant to subsections 3203(a)(4) and (a)(6) as part of an Injury and Illness Prevention Program. Title 8 subsection 3203(a)(5) also requires an employer to investigate occupational injuries and illnesses. Additionally, subsection 3203(a)(7) includes training requirements for new employees or employees given new work assignments and when new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard.

The petitioner was involved in an incident in 2014 resulting in a serious injury while using an MMH cart. At the time of the incident, the handle of the cart separated from the platform causing the petitioner to lose his balance and fall backwards. Pursuant to title 8 section 3203, the employer had a duty to investigate the petitioner's injury, identify any related hazards; correct the hazards identified and provide training for employees using MMH carts. Compliance with this section could effectively address this hazard by identifying the root cause for the separation of the MMH cart handle and prevent future occurrences by correcting related hazard. This requirement would apply whether the hazard is due to a maintenance issue, lack of training, use of an inappropriate cart design or any other potential condition rendering the cart unsafe for a particular operation.

6.3.2 Title 8 Section 3328

In addition to section 3203, title 8 section 3328 also addresses the hazards described by the petitioner. Subsection 3328(a)(1) and (2) require machinery and equipment to be designed or engineered to sustain all reasonably anticipated loads and that machinery and equipment not be operated under speeds, loads or stresses that are contrary to the manufacturer's recommendations. These subsections address the hazards of MMH carts that are not of sufficient design to sustain applied loads and stresses during use and subjecting them to stresses and loads in excess of the manufactured design.

Subsection 3328(e) of this standard requires equipment to be designed and secured to prevent loosening. The intent of this regulation is to minimize hazards caused by loosening of equipment components which would include the handles of MMH carts. Subsection 3328(e) would apply to a situation in which the handle of the MMH was not properly secured to prevent separation from the platform.

Subsection 3328(g) of this standard requires all machinery and equipment to be maintained in a safe operating condition. This addresses the separation of MMH handles described by the petition due to a lack of proper maintenance or disrepair of MMH carts.

⁶ Such searches will not necessarily identify all serious injuries due to limitations of the data.

6.3.3 Title 8 Section 3556

Finally, title 8 section 3556(a) holds employers responsible to ensure the safe condition of equipment used by their employees. This subsection is applicable to the unsafe condition of any equipment including that handles of MMH carts that have become loose or are in disrepair as described by the petitioner.

6.4 The Petitioners Proposal is not Necessary

It is the opinion of Cal/OSHA that the petitioner's proposal for new regulation requiring MMH carts to have non-removable handles is unnecessary. Existing title 8 regulations currently address the hazards of MMH carts used with removable handles. Additionally, non-removable handles or permanently fixed handle carts are commercially available for employers when needed to prevent accidents such as those described by the petitioner. Finally, the Darcor publication *The Ergonomics of Manual Material Handling* provided by the petitioner does not identify the design feature of non-removable handles on carts as a solution to preventing accidents or injuries.

7.0 CONCLUSION

Cal-OSHA recommends the petitioner's request for new regulation requiring non-removable handles for MMH carts be DENIED.

cc: Yancy Yap
Jason Denning