



SIXTH WHEEL RATCHET™



**PROVEN
TRANSPORTATION
PRODUCTS**
DURABLE & ROAD-READY



C O L U M B U S M c K I N N O N C O R P O R A T I O N



SIXTH WHEEL RATCHET™

ERGONOMICALLY REDUCES INJURY RISK OPERATING TRAILER LANDING GEAR

The Sixth Wheel permits the operator to use an ergonomically-correct posture, utilizing body weight while reducing muscle exertion. The Sixth Wheel is a proven solution preferred by 80% of drivers in actual use tests.

A COST EFFECTIVE SOLUTION FOR RISING WORKER COMPENSATION EXPENSES

A single shoulder surgery is an estimated \$42,000. Eliminating just one shoulder injury could provide enough savings to outfit an entire fleet of trailers with Sixth Wheel ratchets.

THERE'S ONLY ONE SIXTH WHEEL

Don't be fooled by knock-offs. Look for US Patent 7,021,659 stamped on all authentic Sixth Wheel units.

DESIGNED TO FIT ALL STANDARD GEAR

The Sixth Wheel ratchet crank handle fits all trailers and all standard landing gear.

SELF-LOCKING SECURITY CAP MADE OF HARDENED STEEL

The Sixth Wheel is secured by a self-locking pin and cap that can only be removed by using heavy duty shop equipment.



STANDARD CRANK

requires a full-circle motion. This puts the operator in unsafe postures while exerting extremely high forces.



THE SIXTH WHEEL

utilizes a ratcheting mechanism that allows the operator exert more force while decreasing awkward and unsafe postures.

13" (330 MM) ROUND HOLE RATCHET SHOWN
(Part # 34902R132P)
Other sizes available.



ERGONOMIC ANALYSIS OF THE SIXTH WHEEL® RATCHET

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 Board Certified Ergonomist
 Board Certified American College of Sports Medicine

According to the Bureau of Labor Statistics, the trucking industry continues to be among the leading industries for the most lost work days per injury.^{1,2}

Raising and lowering the dolly legs of tractor trailers is one of the most hazardous tasks performed by drivers. When using high gear, forces required to perform this task may exceed 100 lbs with an unloaded trailer and increase significantly as weight is added to the trailer. This force requirement is at the upper limit of average strength capabilities.^{3,4,5} When individuals are performing tasks at or above their safe strength capabilities, injury risk increases significantly.

The standard crank operates by rotating in a complete circle. This requires the individual to exert extremely high forces in postures that are biomechanically inefficient, **significantly increasing injury risk.**

The Dixie Industries' Sixth Wheel® utilizes a ratcheting mechanism that allows the individual to position the crank to allow for greater force generation, at all times. Muscles have a range, or an angle, in which they perform most efficiently. By changing the orientation of the crank, you are able to increase muscular force production and dramatically decrease awkward postures associated with the task. **The Dixie Industries' Sixth Wheel® eliminates the awkward horizontal positions, as seen in Image A, where it is difficult generate force in the direction needed to initiate movement. Also, the ratcheting mechanism enables the use of body weight to exert force on the crank handle, reducing the amount of muscular exertion required.**

The standard crank system for raising and lowering the dolly legs presents several ergonomic risks. Using the Sixth Wheel® reduces ergonomic risk factors associated with raising and lowering the dolly legs of tractor trailers.

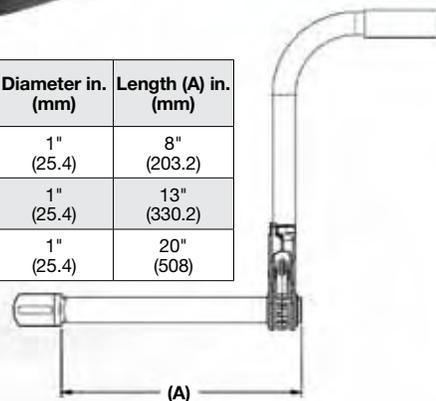


- 1 Bureau of Labor statistics, Workplace Injuries and Illnesses, 2002 [2010]
- 2 Bureau of Labor statistics, Workplace Injuries and Illnesses, 2003 [2010]
- 3 Nico, D., Haslegrave, C. and Chaffin, D., 2004. Working Postures and Movements, CRC Press, New York
- 4 Rodgers S., 1986. Ergonomic Design for People at Work, Volume 2, Van Nostrand Reinhold, New York
- 5 Snook, S.H. and Ciriello, Y.M., 1991. The design of manual handling tasks: revised tables of maximum acceptable weights and forces. Ergonomics, 34(9), 1197-1213

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DIMENSIONS	Product Code	Diameter in. (mm)	Length (A) in. (mm)
	34902R082P	1" (25.4)	8" (203.2)
	34902R132P	1" (25.4)	13" (330.2)
	34902R202P	1" (25.4)	20" (508)





KNOW HOW...KNOW WHY

Columbus McKinnon is a global leader in providing expertise and training in the proper use and inspection of rigging and overhead lifting equipment. With a range of comprehensive programs and seminars conducted at venues throughout North America, as well as on site at private companies and industries, Columbus McKinnon courses include:

- Hoist Maintenance
- Load Securement
- Crane & Hoist Inspection
- Rigging Gear Inspection
- Rigging
- Safe Hoisting
- Crane Operator Training

Classes are available at our Niagara Training Center and the state-of-the-art **Hoist & Rigging Training Center of Excellence** in the Center for Occupational Health and Automobile Manufacturing (COHAM) lab at The Ohio State University. The COHAM lab is a hands-on learning center that allows attendees to understand how to properly use and inspect overhead lifting equipment. This leading-edge training program is designed to increase workplace productivity and safety in an ergonomically friendly environment.



In addition to the strong knowledge base exemplified by comprehensive training programs, Columbus McKinnon is one of the only manufacturers supplying complete lifting systems to satisfy unique material handling requirements of users in a variety of environments. From jib cranes and hoists to chain slings, clamps, and related attachments; systems include products that are matched specifically to the lifting needs of the application. Products may also be modified in order to ensure that the proper system is in place for the job.

Whether your needs call for a single hoist or a completely engineered system to outfit your production facility, Columbus McKinnon provides the material handling products and expertise you need to keep your workforce productive and safe.



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