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2020

## HYTORC

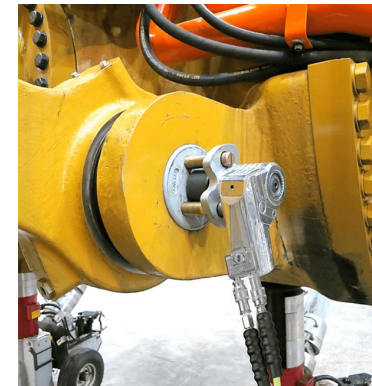
HYTORC is focused on providing value to customers, before HYTORC's inception, industrial bolting was perceived as essential, but time consuming, unsafe and difficult.

With dedicated representation in over 100 countries worldwide and over 50 years of experience, HYTORC remain to optimize industrial bolting through innovative solutions and an unyielding commitment to customer satisfaction.



## SAFETY IN MINES

**Safety** is an essential component of any healthy workplace. **Mines** in particular are hazardous environments with a greater potential for large-scale environmental damage and loss of life than for many other workspaces, thus making **mine safety** an ever-present concern.



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## STORED ENERGY

The opencast mining industry uses a variety of machinery which contains stored energy, for example, pressure energy in pneumatic and hydraulic systems, electrical energy in capacitive elements or batteries, or mechanical energy in components under strain.



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## THE HAND

The hand is one of the most complex parts of your body - the movement of the tendons, bones, tissues and nerves allows you to grip and do a wide variety of complex jobs

Without your hands it would be extremely difficult to do routine simple tasks, such as opening doors, using a fork, or tying your shoes

Your hands make you a skilled, valuable worker

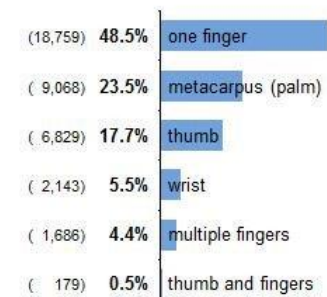
The improper use or misuse of hand tools cause minor to serious hand injuries



## First Aid for Hand Injuries



## hand region



[www.auva.at](http://www.auva.at)

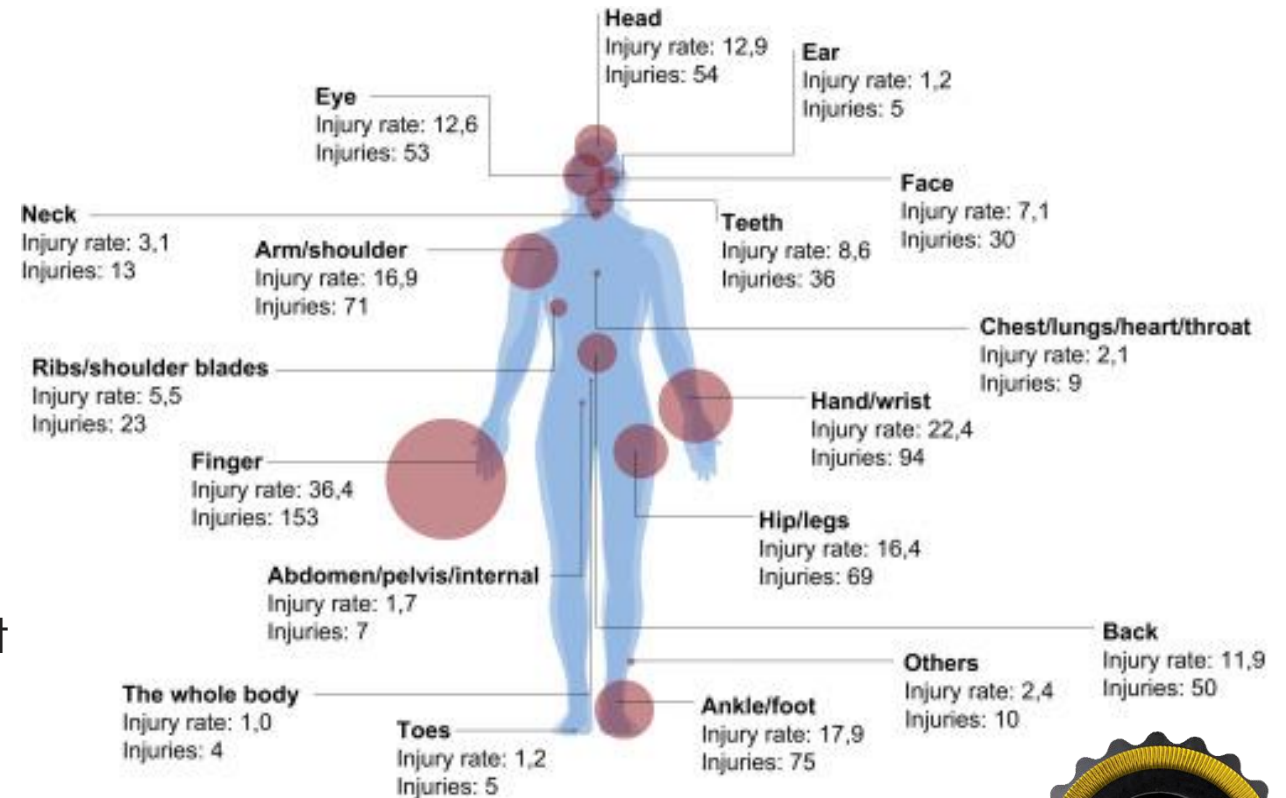


## THE HAND

Hand injuries can be associated with working with machinery or equipment. The materials being used or the job process might be hazardous. Hand tools or powered hand tools may be faulty or improperly used

The most common causes of hand injuries are:

- ❑ Carelessness
- ❑ Lack of awareness
- ❑ Boredom
- ❑ Disregard for safety procedures
- ❑ Distractions
- ❑ Using incorrect or home made tools
- ❑ Not doing a safety analysis before work start



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## HAND INJURIES

Hand injuries are the most common injuries referred for surgery. People often underestimate the importance of hands and fingers... imagine what it would be like to lift a drink without fingers, or not being able to hold hands with a loved one.



Ensure that you look for potential sources of harm to your hands and fingers, and keep your hands away. *Use your imagination, and consider what might go wrong in your workplace.*

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## FIXTURE SOLUTIONS

Mining and construction equipment is the ultimate test of bolted joint integrity. Extreme loads and vibration require every bolted joint to be tightened with even and accurate bolt load to eliminate the possibility of nut loosening. Control bolt load and improved safety are featured with the various reaction bolting fixtures. These accessories lower side load forces, increases the lifespan of torque tools and eliminates Potential pinch points caused by traditional reaction arms.





## HYTORC REACTION WASHER

The HYTORC washer works with a double-layered socket; the outer socket holds onto the washer while the inner socket turns the nut. This eliminates the reaction arm, the most common source of safety incidents on all bolting jobs. By eliminating the reaction arm, the side force that is applied is eliminated, allowing a more consistent bolt load from bolt to bolt. Though many bolting systems boast about accuracy, the HYTORC washer assures an even and accurate bolt load, the true measurement for joint integrity.

- ❑ Eliminates the use of Reaction Arms
- ❑ Reduces the Chances of Hand Injury
- ❑ Washer can be placed under any Nut or Bolt Head
- ❑ Backup Washer Remove the Need for a Holdback or Backup Wrench
- ❑ Stocked In ASTM F436 Material
- ❑ ASTM Standard Coming Soon - F3394
- ❑ Stocked from ½" – 3" (M12 – M80)
- ❑ A Special Socket Adapts it to All HYTORC Square Drive Tool Types



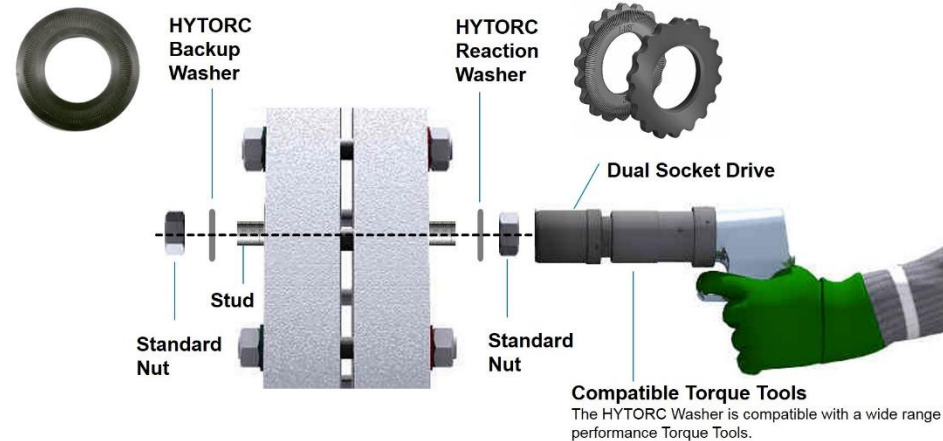
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HYTORC REACTION WASHER

## HYTORC Reaction Washer

- The **HYTORC Reaction Washer** is a hardened washer for durability.
- May be substituted for a plain flat hardened washer.
- Provides a flat, smooth and low friction bearing surface.
- Improves torque and load delivery to the bolt.
- Has stiffness that spreads the load to create a stiffer joint and protects the flange from damage.
- Has knurls on the opposite side to ensure the washer doesn't rotate under load.
- Has external lobes to absorb torque tool reaction forces within the protective cover.
- Eliminate the need for conventional reaction arms.
- Eliminates pinch points.
- Eliminates side-load and friction related issues.
- Provides more uniform results.



**HYTORC**  
Safety First

**BEST SAFETY PRACTICES AND PRECAUTIONS IN INDUSTRIAL BOLTING**  
AVOID SEVERE PERSONAL INJURY

ALWAYS WEAR APPROVED PERSONAL PROTECTIVE EQUIPMENT (PPE) AND FOLLOW LOCAL AND OSHA SAFE BOLTING PRACTICES. HYTORC RECOMMENDS YOU REGISTER FOR OSHA 750 SAFE BOLTING PRINCIPLES AND PRACTICES AND MAKE THIS YOUR CHECKLIST BEFORE PERFORMING ANY JOB.

✓ HEAD PROTECTION	✓ PROTECTIVE CLOTHING
✓ HEARING PROTECTION	✓ CLEAN WORK ENVIRONMENT
✓ EYE PROTECTION	✓ REACTION ARM SAFETY
✓ HAND PROTECTION	✓ SOCKET SAFETY
✓ FOOT PROTECTION	✓ SAFE TOOL OPERATION

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HAND SAFETY

KEEP YOUR EMPLOYEES SAFE  
PREVENT DEVASTATING HAND INJURIES  
ELIMINATE PINCH POINTS

THE HYTORC WASHER

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# Thank you

For sales questions contact:  
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