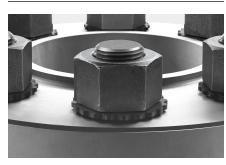
## FASTENERS



# **HYTORC WASHER**

The HYTORC Washer is the simplest upgrade for instant improvements in safety, speed and accuracy. This unique, patented system eliminates the need for reaction arms and other custom fixtures required to hold the tool in place. Additionally, the precision machined surface reduces variation in bolt load across the flange for improved accuracy and loosening prevention.

#### SAFETY



The HYTORC Washer eliminates the need for reaction arms, which are the most common cause of injury on bolting jobs. The unique design of the washer allows the double layered safety socket to react on the washer itself, while turning the nut. SPEED



The HYTORC Washer removes the complicated setup associated with other bolting systems and makes the bolting process more intuitive for improved job times. Our patented knurling ensures against bolt rotation during any operation. HYTORC BACKUP WASHER



The HYTORC Washer System consists of the HYTORC Washer used in conjunction with the HYTORC Backup Washer. As an inexpensive alternative to a traditional backup wrench, the HYTORC Backup Washer provides major improvements in safety and speed to your job by preventing rotation with the bolt.

• Allow 3/4" (.019 mm) extra bolt length for the thickness of the reaction and backup washers.

- Your current bolts and nuts can be used with the HYTORC Washers..
- · All nuts can still be tightened or loosened using your preferred bolting method; not exclusive to HYTORC tooling.



Torque wrench and

backup wrench

rotate in same

1) Reaction fixture

2) Torque wrench 3) Backup wrench

▲ Incorrect angle

← Incorrect angle

rotation of backup

and direction of

/ Yielded bolt

center axis

and direction of rotation of torque

wrench

wrench

direction.

# SYSTEM COMPARISON

#### TORQUE WRENCH USED WITH BACKUP WRENCH

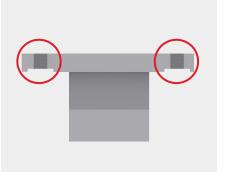


#### UNNECESSARY JOB CONDITIONS



Pinch hazards and more personnel; damaging side loads; bending forces; shorter lifespan of nuts and bolts.

#### **RE-MACHINED/DAMAGED FLANGE SURFACE**



### Repeated tightening and loosening of nuts and bolts cause extended wear and damage (re-machining) to flange surfaces.

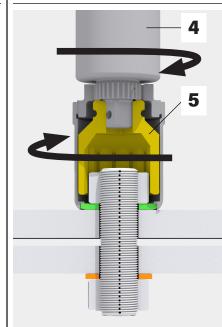


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#### DOUBLE SOCKET DRIVE USED WITH HYTORC WASHER



#### **OPTIMAL JOB CONDITIONS**



# No pinch hazards; intuitive operation; less personnel; no damaging side loads or bending forces; nuts and bolts can be

The HYTORC Washer

grips surface while

the backup washer

keeps the bolt in place and square

with the surface.

4) Torque wrench

 Backup washer Direction of rotation

of torque wrench

**Č** Direction of rotation

of double socket drive

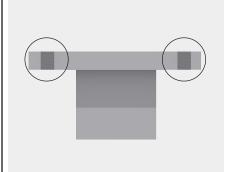
Uncompromised

bolt center axis

5) Double socket drive HYTORC Washer

reused.

### FLANGE PROTECTION



The HYTORC Washer protects the flange surface, eliminating the need for expensive flange resurfacing processes; extended flange longevity.

Email: info@hytorc.com

Online: hytorc.com

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