

NEW TORQUE TOOL REPORT DELIVERS BLOW TO IMPACT TOOLS



Pneumatic impact wrenches such as those typically used for commercial vehicle wheel bolting could prove hazardous to your health if operated for more than a few minutes per day. That's the sobering conclusion of a new assessment, commissioned by Norbar Torque Tools, comparing a typical pneumatic impact wrench and Norbar's Pneutorque® torque wrench. The report found that users of impact wrenches could reach their daily vibration exposure limit in as little as 34 minutes of use.

The new assessment, carried out by the Industrial Noise & Vibration Centre, was commissioned in response to the new regulations which came into effect in July 2005. Designed to limit worker's exposure to vibration, the 'Control of Vibration at Work Regulations 2005' defines two exposure values. The Daily Exposure Action Value (EAV) of 2.5 m/s² is the level above which an employer must introduce a programme of controls to eliminate or reduce exposure and provide health surveillance to operators regularly exposed above the action value. A second limit, the Daily Exposure Limit Value (ELV) of 5.0 m/s², is the level above which the employer must take immediate action to prevent further exposure to vibration.

To measure the effects of vibration in a realistic work environment, the researchers used an accelerometer attached to a typical pneumatic impact wrench, as close as possible to the position of the operator's hand. All measurements were made in accordance with BS EN ISO 5349. Tests were then

carried out using both an impact wrench and a Pneutorque® tool to tighten ten truck wheel nuts to 600 N.m. Averaged over the ten bolts, the total vibration measured for the impact wrench, the vector sum, was 18.8m/s², whereas Norbar's Pneutorque® registered only 1.4 m/s² during the same test. While a user of the impact wrench would reach their daily exposure action value (EAV) in just 8 minutes, the Pneutorque operator could perform the same task continuously for over 24 hours without breaching the EAV.

Long-term exposure to vibration in the workplace can have serious health consequences. Conditions such as vibration white finger and Hand-Arm Vibration Syndrome (HAVS) are debilitating occupational diseases affecting hundreds in the UK each year.

In addition to the potential health hazards of using impact-type tools, their use does not necessarily result in a faster work rate. Because pneumatic impact wrenches are not torque controlled devices, the apparent speed benefits of using a high rotational speed tool are negated by the fact that a torque wrench is subsequently required to check that minimum torque has been achieved.

The use of impact-type tools will often result in the over-tightening of bolts which in turn can cause failure of wheel studs in use. Torque controlled tools, such as the Pnue torque® from Norbar, not only avoid the problem of vibration exposure, but also provide a far more accurate and, ultimately, a far more efficient method of working with torque-controlled fastenings. Protecting the health of workers while providing the most efficient working methods clearly makes sound commercial sense, and it is for this reason that many workshops are now adopting torque controlled pneumatic tools like Pneutorque®.

Please click here to view the [full report](#).