

M6-EN.7 VIBRATION

M6-EN.7.1 Brief Description

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Exposure to vibration at work can occur in two main ways:

- Hand-transmitted vibration (known as hand-arm vibration or HAV), and
- Vibration transmitted through the seat or feet (known as whole-body vibration or WBV). WBV is not common in a motor vehicle repair workshop (body repair section)

Hand-arm vibration (HAV) is the vibration transmitted into workers' hands and arms when they use hand-held powered work equipment. Too much exposure to hand-arm vibration can cause hand-arm vibration syndrome and carpal tunnel syndrome. The hand-arm vibration syndrome affects the nerves, blood vessels, muscles and joints of the hand, wrist and arm. If ignored, it can become severely disabling. HAV also results in the impaired blood supply to the fingers, a condition known as "Vibration White Finger", which can cause severe pain in the affected fingers. Carpal tunnel syndrome is a nerve disorder, which may involve pain, tingling, numbness in parts of the hand, and can be caused –among others- by exposure to vibration.

Workers in a vehicle body repair workshop are frequently using hand-vibrating tools that can damage bones and joints; therefore they must be informed to look out for early signs and symptoms, such as:

- Tingling and numbness in the fingers (which can cause sleep disturbance)
- Not being able to feel things with their fingers
- Loss of strength in their hands (they may be less able to pick up or hold heavy objects).
- In the cold and wet, the tips of the worker's fingers are going white then red and being painful on recovery (vibration white finger)

If no attention is paying to the above early signs and the use of high-vibration tools continues, then the following symptoms will get worse:

- numbness in workers' hands could become permanent and they won't be able to feel things at all
- the exposed worker will have difficulty picking up small objects such as screws or nails
- the vibration white finger could occur more frequently and affect more fingers

Operators working in a body repair workshop are the ones mostly exposed to vibrations due to regular use of hand-held or hand guided power tools and machines such as grinders, disc cutters, screw drivers, etc.

Safety Precautions

It is a responsibility for both employers and employees, to **reduce the risks of vibration, by:**

- Using suitable low-vibration tools and proper ones for each job
- Properly installing, maintaining and repairing tools to avoid increased vibration caused by faults or general wear, and to sustain their best vibration performance (employers

should monitor the use of vibrating tools to ensure that they are being used and maintained correctly)

- Fitting hand tools with vibration-absorbing handles
- Operating the vibrating tools only by appropriately trained workers
- Keeping cutting tools sharp so that they remain efficient
- Avoiding gripping or forcing a tool or work piece more than it should
- Storing tools in appropriate environment so that they do not have very cold handles when next used

Some simple things workers can do in order to ameliorate the effects of vibrations are:

- Encouraging good blood circulation, by keeping hands warm and dry (when necessary, wear gloves, waterproofs and use heating pads if available)
- Giving up or cutting down on smoking because smoking reduces blood flow
- Massaging and exercising their fingers during work breaks

Anti-vibration gloves generally provide small reduction of vibration. Tool suppliers should not recommend anti-vibration gloves as a means of attenuating the vibration from hand-held power tools unless models of anti-vibration gloves have been demonstrated to provide adequate protection. However, gloves may help prevent vibration injury by keeping hands warm and dry.