

THE CAUSES AND CURES FOR EXCESSIVE VIBRATION IN PORTABLE GRINDERS!

After mounting a new abrasive wheel onto a portable grinder, the operator must test the wheel by running it at operating speed in an enclosed area. During this test, the operator may notice excessive tool vibration. This condition must be corrected before using the abrasive wheel. ANSI B7.1-2000 Section 9.9 provides the following information concerning excessive vibration. It states,

“9.9 Vibration

Vibration in a portable grinder mounted with a new grinding wheel may be caused by various conditions. The cause of unusual vibration shall be determined and corrected.

E.9.9 Vibration (Explanatory Information - NOT PART OF ANSI STANDARD)

Some of the most common conditions of vibration are as follows:

- a. worn bearings in the grinder;
- b. a grinder spindle manufactured or worn undersize, causing an improper fit between the wheel and the spindle;
- c. bent, burred or distorted flanges that result in an out-of-truth condition in the mounted grinding wheel, or flanges of improper size;
- d. a grinding wheel which is excessively out of balance or which is excessively loose on a grinder spindle that is in dimensional tolerance;
- e. use of a wheel type or size on a grinder for which is was not designed;
- f. the characteristics of different grinding machines may cause a grinding wheel to vibrate differently when switched from one type of grinder to another.

These conditions may exist individually or in combination. Portable grinders with the wear problems listed above may appear to not show signs of vibration when run without a wheel. It requires the mass of the wheel mounted on the grinder to make these wear problems obvious.

If after mounting a new wheel on a portable grinder a condition of excess vibration occurs, the grinder should be stopped, the wheel removed, and the tool should be checked for the above conditions. After examining, repairing if necessary, and assuring that the tool is in good operating condition, mount another new wheel and see if the condition still persists. If the condition persists, do not use the wheel and contact the wheel supplier.

The inherent nature of the process of grinding produces some vibration. If a wheel that did not vibrate excessively when new vibrates excessively after it has been partially used, remove the wheel, examine the grinder for wear conditions listed above and mount a new wheel. If the grinder is in good operating condition and if the same vibration condition repeats, check with the supplier of the wheels to assure that you are using the proper wheel for your application.”

For additional information on this topic or if you need any other abrasive safety information, please review ANSI, OSHA and all literature provided by the abrasive wheel and machine manufacturer. You may also contact the Saint-Gobain Product Safety Department at Tel. (508) 795-2317 or Fax: (508) 795-5120 or contact your Saint-Gobain Abrasives, Inc. representative with any safety related questions.

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PLAY IT SAFE AT THE WHEEL

