TIGHT IS RIGHT! RIGHT?

What Are the Torque Requirements for Grinding Wheels Mounted Between Flanges?

As a young boy my father told me that when I tighten up a bolt to tighten the bolt as much as you can, then get a pipe or hammer and tighten it some more because "tight is right." Over the years I have gained some knowledge of my own and have learned that the old myth of "tight is right" is just wrong (sorry Dad). Grinding wheels are just one of many applications where tightening or torque requirements are critical to safety. Excessive tightening of grinding wheel mounts can cause damage to the machine's grinding wheel mounting flanges. This damage to flanges can cause even the largest and strongest grinding wheel to break. Below are the torque requirements for grinding wheels mounted between flanges:

Single End Nut Mounting Systems: Always follow the machine builder's instructions. If the torque requirements are not provided by the machine builder then ANSI B7.1 states that the mounting nut must be tightened just enough to prevent the wheel from slipping during use.

Mounting Systems that Require Multiple Screws: Multiple screw flanges must be tightened uniformly to prevent spring, flange distortion, or otherwise damage to the mounting flanges and to ensure even pressure over the entire bearing surface of the flange. Mounting screws must be tightened in a criss-cross sequence similar to the illustration listed below.

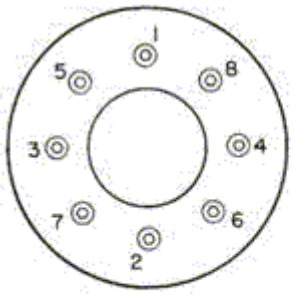


Figure E
Order of Tightening
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8

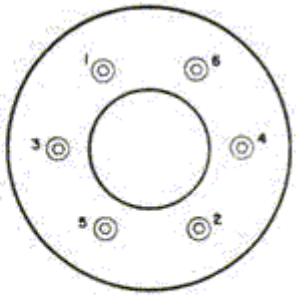


Figure F
Order of Tightening
1 - 2 - 3 - 4 - 5 - 6

In most cases over-tightening a wheel mount will not crush the grinding wheel, but it can damage the mounting flanges. To prevent flange damage and grinding wheel breakage you must use a torque wrench. ANSI B7.1 requires that applied torque should not exceed 20 foot pounds unless greater torque is recommended or approved by the machine builder. The maximum permissible applied torque is dependent on flange design and materials. Since flange properties are determined by the machine builder, the builder's recommendations or requirements as to the maximum applied torque must be followed. Please note that some exceptionally severe operations may require torque greater than 20 foot pounds to prevent wheel slippage.

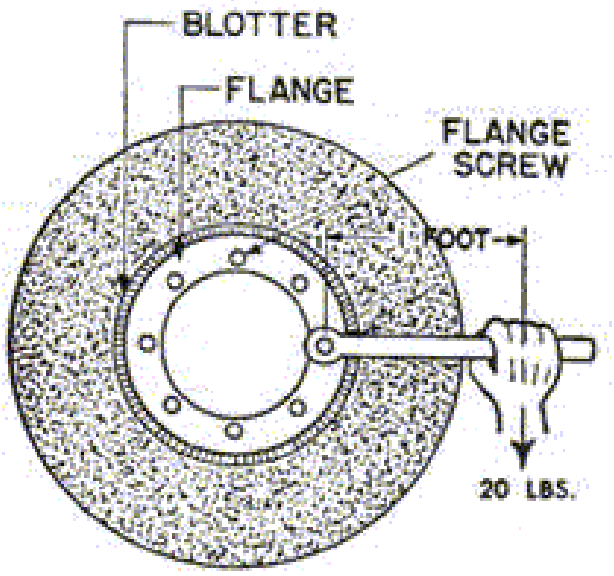
PLAY IT SAFE AT THE WHEEL

continued

SAINT-GOBAIN ABRASIVES

What Are the Torque Requirements for Grinding Wheels Mounted Between Flanges?

WARNING! If the mounting system has been over-tightened, damage may have occurred to this mounting system (especially over time). When returning to the proper torque requirements the mounting system may require repair or replacement before use. Distorted or worn mounting equipment used with the correct lower applied torque requirements can cause wheel slippage. Wheel slippage can cause a wheel to break.



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

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PLAY IT SAFE AT THE WHEEL