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White Paper

Why Lathes with Automatic Control Should Have Enclosures -- It is foolish to violate safety standards

The objective of this paper is to provide you with the facts regarding the standards recently adopted by The American National Standards Institute (ANSI) as they relate to lathes.

The New Standards

The American National Standards Institute (ANSI) has issued new standards for turning machines. The recent advancements in technology in this field have caused the old 1984 standard "Safety Requirements For Manual Turning Machines" (ANSI B11.6-1984) to become obsolete. It has been replaced with a new B11.6-2001 standard "Safety Requirements for Manual Turning Machines with or without Automatic Control" focused on manual lathes and those often described as electronic lathes, teach-in lathes, or prototyping CNC lathes.

The safety requirements under the new B11.6-2001 differentiate between lathes that are strictly manual and those with some automatic or CNC control, and the safety requirements of the standard reflect this difference. Specifically, paragraph 6.21, Safeguarding of B11.6-2001, states that machines shall be safeguarded as follows:

"For manual machines only: chuck guard and chip and coolant splash shields as required."

"For manual machines with automatic capability: in the manual mode – chuck guard and chip and coolant splash shields as required; in the automatic mode – interlocked guard of sufficient size to protect the operator when in the operator's position."

And,

"Work zones shall be guarded using fixed or movable guards to prevent accidental entry of body parts into the work zone and to contain processed materials, fluids, parts and tooling within the work zone."

In other words, according to ANSI B11.6-2001, lathes with any automatic or CNC capability must keep the operator away from the work zone and keep the things in the work zone away from the operator (should they go flying) when operating in the automatic or run mode.

Safety Standards and the Law

We are not offering legal advice. If you need legal advice, please see a qualified attorney. We are offering the text of the standards and a logical interpretation. To see the entire text, you can go to the ANSI web site at www.ansi.org.

ANSI specifications are not the law. Many, including B11.6-2001, are not mandated by OSHA. They are, however, accepted national standards. They have been developed through the AMT (the association of machine tool builders) through a collaborative effort of machine builders, machine users,

and insurance executives. They have been reviewed, approved, and published by ANSI, whose voluntary standardization has been clarifying how to improve the safety of products since 1918.

Interpretation and Opinion

Southwestern Industries made the first of the semi-automatic, or electronic engine lathes, introducing the TRAK TRL back in 1992. In keeping with the intention to make the lathe suitable for manual work, our product did not have a door until 1999. We were not very happy when the new standards were adopted, but we strongly believe that to ignore them is foolish. In a liability lawsuit, every party - manufacturer, distributor, and user -- will surely be held accountable as to whether they met the requirements of these standards. Southwestern Industries does not sell open lathes because they represent clear violations of the B11.6-2001 standard. To do so would place Southwestern Industries at risk and jeopardizes the livelihood of its employees, distributors and customers.

Current models of TRAK TRL have sliding door enclosures that allow compliance with the standards in automatic mode but also allow access to the work area that is similar to manual lathes when operated in manual mode. Past models do not have that door, but for most of these past models, Southwestern Industries offers a door retrofit kit at a special, low price to help users bring their lathes into compliance.

Lathes made and sold before the standards were adopted will probably enjoy some leeway¹. However, at this point in time, there can be no confusion about what the standards say and what responsibilities are implied for the manufacturer, distributor, and user of semi-automatic lathes. We believe it is reckless to make and sell a lathe that does not meet ANSI Standards.

We urge you to suspend your trust in the brand names, read the standards, and judge for yourself. You can bet the personal injury attorney will.

¹ Even so, if you own a TRAK TRL without a door, we strongly encourage you to contact us to arrange for a door installation.

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