Southwestern Industries, Inc.

White Paper

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Can We Really Chase Threads on TRL Lathes?

This white paper addresses the TRL's ability to pick up existing threads.

No, you haven't been lying to your customers all these years. The software doesn't support thread chasing, and we never meant for it to be a feature. There is, however, a clever strategy to pull off this amazing feat.

Match the tool with the thread

The basic idea is to realign the positioning of the threading tool with the thread. The spindle encoder and the z-axis encoder will stay aligned once this is done, so the tricky part is getting the alignment in the first place. We present two strategies, but if you can think of another one, feel free to use whatever tickles your fancy.

Strategy 1: "Slow it down and use the entire thread"

This strategy is most useful with big threads. First, figure out what the pitch of the thread is. Second, secure the piece in the lathe and write a threading program for that pitch, changing plunge angle from 29.5 to 0. Next, set an X modifier greater than the depth of the thread to keep away from the piece. Run the program and track up to the thread. When the machine takes over, notice as it runs how far off the center of the threading tool seems to be from the center of the thread. Then take a guess. Set a Z modifier, and run the program again. Repeat the process and take another guess. After a few guesses it should look pretty close. When you're satisfied, set the X modifier back to 0, change the plunge angle back to 29.5, and let it run.

Strategy 2: "Match it up at the end"

Follow the first few steps of Strategy 1, in writing the program, figuring out the pitch, changing the plunge angle to 0, and setting the X modifier. This time, track the program up to the thread and let it take over. Since a thread at the end looks like a fine point, take a guess on how far the threading tool is from the spinning end of the thread. Add the Z modifier and try it again. Repeat until satisfied, take out the X modifier, and let it rip.

Again, we never designed the lathes to be able to do this, so use this "feature" at your own risk. Don't blame us if you have to scrap the part.