

MULTI-SPINDLE DRILL SAFETY & OPERATING PROCEDURES

Do's and Don'ts:

1. **Wear personal protective equipment.** Use a face shield when using compressed air to blow chips off the jig. Wear rubber gloves when working with coolant.
2. You must have a good understanding of this machine before you attempt to operate it. **Do not operate without proper training.**
3. **Know where the emergency stop buttons are located** on your machine before operating. Turn the main power off when leaving the machine unattended. **When setting up the drill make sure the main power is shut off.**
4. **Use a chip hook only to remove drill chips.** Never reach between turning drill bits and **NEVER attempt to grab drill chips by hand.** Wear gloves when ever possible and handle all material carefully as some have sharp burrs.
5. Do not operate the drill wearing loose clothing, finger rings or jewelry. Long hair must be tied up or tucked under the hard-hat.
6. **Make sure jigs are clamped properly** and material clamp handles are not in the bit path.
7. Ensure proper bit to bushing alignment is maintained before running the job.
8. **Make sure bits are approximately the same length** or adjusted to the same length on the machine. Drills should be inspected regularly.
9. **Make sure all limit switches are set properly and tightened** before cycling on automatic.
10. **Align coolant nozzles** to obtain adequate coolant flow to each bit.
11. **Use proper speeds and feeds** according to bit and material size.
12. **Turn off machine and wait until spindles stop completely before reaching under drill bits.**
13. **Stand back when cycling machine** in an automatic function.
14. **Always be sure you have the stage selector switch on the proper stage** before cycling drill.
- 15 a) **Do a dry run without a piece after setup** to ensure proper settings have been done prior to running the job.
b) *When not using 2nd stage, put 2nd stage limit switches in line with the single stage limit switches. This will prevent an accident should the 2nd stage be mistakenly (or accidentally) turned on.*
16. **Always stack parts using a criss-cross pattern**, especially when drilling longer parts. When parts are complete, make sure pallets have sufficient amounts of banding.
17. **When cutting banding** on stacked parts, stand to the side in case the stack collapses. Make other people aware that you are cutting the banding.

STANDARD OPERATING PROCEDURES

18. **Keep the work area floor as dry and free of drill chips** as possible.
19. **Practice good housekeeping** at all times. Always put your tools back after you set up.