
Safe Run Mode

The purpose of Safe Run is to reduce damage to the machine in the event of a crash. It does not prevent crashes, but it raises an alarm sooner and backs off from the crash location.



NOTE:The Safe Run feature is available starting in software version 100.19.000.1300.

Safe Run Supported Machines

- VF-1 through VF-5
- VM-2/3
- UMC-500/750/1000
- All DM's
- All DT's
- All TM's
- ST-10 through ST-35

Common causes for crashes are:

- Incorrect tool offsets.
- Incorrect work offsets.
- Wrong tool in the spindle.



NOTE:The Safe Run feature will only detect a crash in handle jog and rapid (G00), it will not detect a crash in a feed move.

Safe Run does the following:

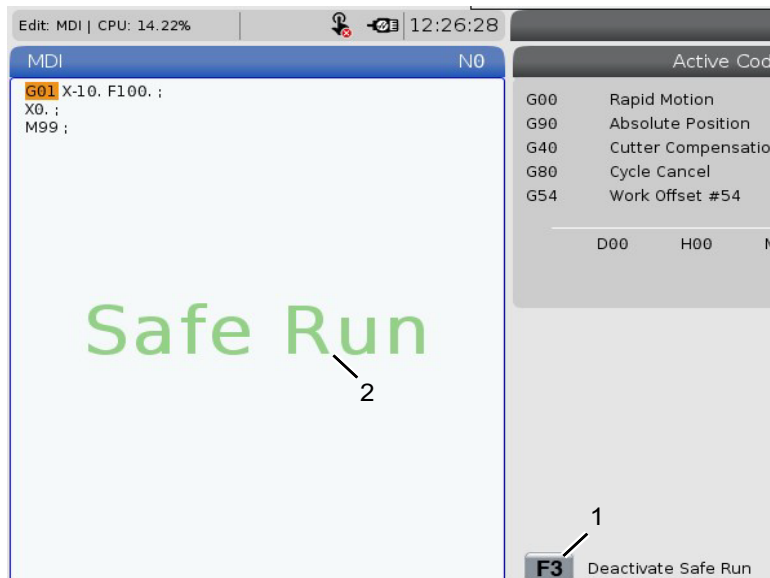
- Slow down the speed of the motion.
- Increases the position error sensitivity.
- When a crash is detected, the control will immediately reverse the axis by a small amount. This will prevent the motor from continuing to drive into the object it has crashed into as well as relieve pressure from the crash itself. After Safe Run has detected a crash, you should be able to easily fit a piece off paper between the two surfaces that crashed.



NOTE: Safe Run is intended for running a program for the first time after writing or changing it. It is not recommended to run a reliable program with Safe Run, as it increases cycle time significantly. The tool may break and the work piece may still be damaged in a crash.

Safe Run is active during jogging as well. Safe Run can be used during job setup to protect against accidental crashes due to operator error.

Figure 1: Safe Run Mode

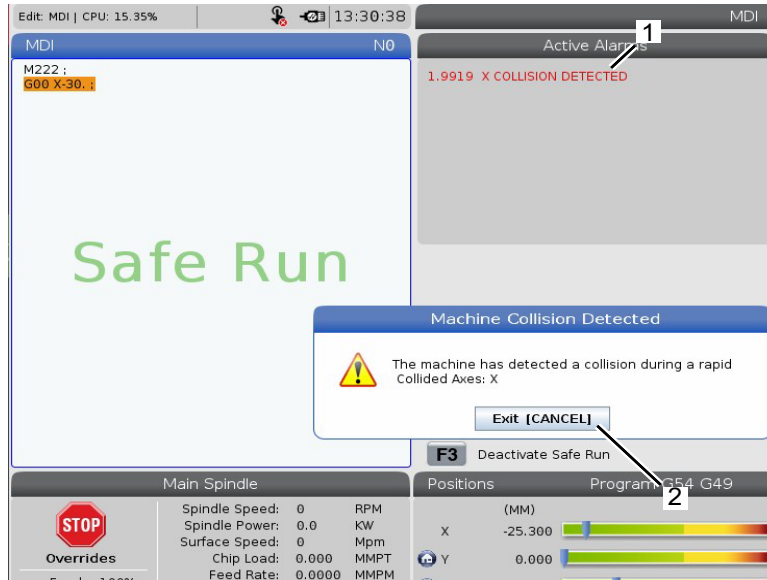


If your machine supports Safe Run, you will see a new icon in MDI with the text `F3 Activate Safe Run` [1]. Press F3 to turn Safe Run on/off. Safe Run Active state is noted by a watermark [2] in the program panel.

It is only active during rapid motions. Rapid motions include G00, HOME G28, moving to tool changes, and the non-machining motions of canned cycles. Any machining motion such as a feed or tap will not have safe mode active.

Safe Run is not active during feeds due to the nature of crash detection. Cutting forces cannot be discerned from crashes.

Figure 2: Safe Run Mode



When a crash is detected, all motion is brought to a stop, an alarm [1] is thrown, and a popup [2] is generated letting the operator know that a crash was detected, and which axis it was detected on. This alarm can be cleared by RESET.

In certain cases the pressure against the part may not have been relieved by the Safe Run back-off. In the worse case, an additional crash may be generated after you have reset the alarm. If this happens, turn Safe Run off and jog the axis away from the crash location.