

Machine controller changes output signal
(DO): SL01B from "1" to "0".

DO: SL01B 1→0

Solenoid valve SL01B (tool unclamp) is de-energized and enters neutral condition.

Hydraulic pressure supply to hydraulic cylinder is released.

Compressed disk spring released and draw bar moves backward with piston.

Collet grasps tool holder.

Correct tool clamped onto spindle.

No

Yes

Tool holder is seated in spindle properly.

Spindle shaft not positioned correctly.

Limit switch LS602 (tool presence confirmation) changes from "0" to "1".

DI: LS602 0→1

Machine controller confirms presence of tool.

Limit switch does not detect dog LS602= "0".
(Tool presence confirmation incomplete)

Tool clamping is commanded.

Alarm is triggered.
(Change of correct tool is required.)

Solenoid valve SL01A (tool clamp) is energized.

DO: SL01A 0→1

Hydraulic oil supplied to front of hydraulic cylinder and piston moves backward away from draw bar.

Limit switch LS00 (tool clamp) changes from "0" to "1".

DI: LS00 0→1

Tool clamping completed.