

(8) Rigid tapping alarms

Number	Message	Contents
740	RIGID TAP ALARM: EXCESS ERROR	The positional deviation of the stopped spindle has exceeded the set value during rigid tapping.
741	RIGID TAP ALARM: EXCESS ERROR	The positional deviation of the moving spindle has exceeded the set value during rigid tapping.
742	RIGID TAP ALARM: LSI OVERFLOW	An LSI overflow has occurred for the spindle during rigid tapping.

(9) Serial spindle alarms

Number	Message	Contents
749	S-SPINDLE LSI ERROR	It is serial communication error while system is executing after power supply on. Following reasons can be considered. <ol style="list-style-type: none"> 1) Optical cable connection is fault or cable is not connected or cable is cut. 2) MAIN CPU board or option 2 board is fault. 3) Spindle amp. printed board is fault. If this alarm occurs when CNC power supply is turned on or when this alarm can not be cleared even if CNC is reset, turn off the power supply also turn off the power supply in spindle side.
750	SPINDLE SERIAL LINK START FAULT	This alarm is generated when the spindle control unit is not ready for starting correctly when the power is turned on in the system with the serial spindle. The four reasons can be considered as follows: <ol style="list-style-type: none"> 1) An improperly connected optic cable, or the spindle control unit's power is OFF. 2) When the NC power was turned on under alarm conditions other than SU-01 or AL-24 which are shown on the LED display of the spindle control unit. In this case, turn the spindle amplifier power off once and perform startup again. 3) Other reasons (improper combination of hardware) This alarm does not occur after the system including the spindle control unit is activated. 4) The second spindle (when SP2, bit 4 of parameter No. 3701, is 1) is in one of the above conditions 1) to 3). See diagnostic display No. 409 for details.
751	FIRST SPINDLE ALARM DETECTION (AL-XX)	This alarm indicates in the NC that an alarm is generated in the spindle unit of the system with the serial spindle. The alarm is displayed in form AL-XX (XX is a number). Refer to B.3 or B.4 Alarms displayed on spindle servo unit . The alarm number XX is the number indicated on the spindle amplifier. The CNC holds this number and displays on the screen.
752	FIRST SPINDLE MODE CHANGE FAULT	This alarm is generated if the system does not properly terminate a mode change. The modes include the Cs contouring, spindle positioning, rigid tapping, and spindle control modes. The alarm is activated if the spindle control unit does not respond correctly to the mode change command issued by the NC.
754	SPINDLE-1 ABNORMAL TORQUE ALM	Abnormal first spindle motor load has been detected.
761	SECOND SPINDLE ALARM DETECTION (AL-XX)	Refer to alarm No. 751. (For 2nd axis)
762	SECOND SPINDLE MODE CHANGE FAULT	Refer to alarm No. 752.(For 2nd axis)

Number	Message	Contents
764	SPINDLE-2 ABNORMAL TORQUE ALM	Same as alarm No. 754 (for the second spindle)
771	SPINDLE-3 ALARM DETECT (AL-XX)	Same as alarm No. 751 (for the third spindle)
772	SPINDLE-3 MODE CHANGE EROR	Same as alarm No. 752 (for the third spindle)
774	SPINDLE-3 ABNORMAL TORQUE ALM	Same as alarm No. 754 (for the third spindle)

● **The details of spindle alarm No.750**

The details of spindle alarm No. 750 are displayed in the diagnosis display (No. 409) as shown below.

	#7	#6	#5	#4	#3	#2	#1	#0
409					SPE	S2E	S1E	SHE

#3 (SPE) 0 : In the spindle serial control, the serial spindle parameters fulfill the spindle unit startup conditions.

1 : In the spindle serial control, the serial spindle parameters do not fulfill the spindle unit startup conditions.

#2 (S2E) 0 : The second spindle is normal during the spindle serial control startup.

1 : The second spindle was detected to have a fault during the spindle serial control startup.

#1 (S1E) 0 : The first spindle is normal during the spindle serial control startup.

1 : The first spindle was detected to have a fault during the spindle axis serial control startup.

#0 (SHE) 0 : The serial communications module in the CNC is normal.

1 : The serial communications module in the CNC was detected to have a fault.

(10)Safety zone alarms

Number	Message	Contents
4800	ZONE : PUNCHING INHIBITED 1	When a safety zone check was executed, a punch command was specified in area 1 where punching is inhibited.
4801	ZONE : PUNCHING INHIBITED 2	When a safety zone check was executed, a punch command was specified in area 2 where punching is inhibited.
4802	ZONE : PUNCHING INHIBITED 3	When a safety zone check was executed, a punch command was specified in area 3 where punching is inhibited.
4803	ZONE : PUNCHING INHIBITED 4	When a safety zone check was executed, a punch command was specified in area 4 where punching is inhibited.
4810	ZONE : ENTERING INHIBITED 1 +X	When a safety zone check was executed, the machine moving in the positive X direction entered area 1 into which entry is inhibited.
4811	ZONE : ENTERING INHIBITED 1 -X	When a safety zone check was executed, the machine moving in the negative X direction entered area 1 into which entry is inhibited.
4812	ZONE : ENTERING INHIBITED 2 +X	When a safety zone check was executed, the machine moving in the positive X direction entered area 2 into which entry is inhibited.
4813	ZONE : ENTERING INHIBITED 2 -X	When a safety zone check was executed, the machine moving in the negative X direction entered area 2 into which entry is inhibited.