TB0234 Synchronising Spindle Accel and Decel Times

Importance of ensuring the inverter and params.saw accel and decel times are synchronised

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TB Number:	234
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Machine:	300Hz Spindle Rings
Date:	26/10/13
Circulate to:	Service
Title:	Spindle Deceleration Time Synchronisation

Details

On a machine controlled by the winMulti software using 300Hz Elte spindles, it is critical that the deceleration times in winMulti and on board the drive are the same. On a recent visit to Nationwide, the Shrack relays were blackened, indicating a arcing situation on the contacts. This can only happen if the inverter is still active when the relay contacts are switched off. Unfortunately, it is very easy for a machine to unwittingly be in this state.

Correct setup

To ensure the relay switches off *AFTER* the inverter has finished its deceleration cycle, the deceleration time in the winMulti parameters must be equal to or longer than the deceleration parameter in the drive. (Note that one is in milliseconds, another is in seconds)
Factory defaults:

Acceleration

Drive Parameter Jaguar VSM	F08	0.4 (in seconds)
Drive Parameter Yaskawa	C1-02, C1-06	0.4

Deceleration

winMulti Parameter	psInvDecel300Hz	400 (in milliseconds)
Drive Parameter Jaguar VSM	F08	0.2 (in seconds)
Drive Parameter Yaskawa	C1-	

There may be a valid reason why the drive parameter F08 has been increased to, say 0.5. If this is the case, increase the psInvDecel300Hz to 500 to match it. The bigger this decel time is, the slower the machine cycle time will be, but the most important outcome is that the winMulti parameter is greater than or equal to the inverter parameter.