

Question/Issue

My spindle speed is output as S0 in X2, output was fine in X

Answer/Solution

The initial release of Mastercam X included two new post processors, Generic Fanuc 3X Mill.pst and Generic Fanuc 4X Mill.pst. These posts were based upon V9.1's MPFan.pst and included many new features including logic to read the MD and CD parameters to set various post "switches". Two of these included the min_speed and max_speed variables used in the post. However, the wrong parameter values were used at the time. The initial release contained the following logic:

max_speed and min_speed initializations:

```
max_speed : 10000 #SET_BY_MD Maximum spindle speed
min_speed : 50 #SET_BY_MD Minimum spindle speed
```

A lookup table to read the MD parameters:

```
# Machine Definition Parameters
fprmtbl 1 5 #Table Number, Size
# Param Variable to load value into
  17613 min_speed #Minimum spindle speed
  17614 max_speed #Maximum spindle speed
```

And the pspindle postblock where these values were used to influence the allowed output:

```
pspindle #Spindle speed calculations for RPM
  speed = abs( ss$ )
  if maxss$ = zero | maxss$ > max_speed , maxss$ = max_speed
  #zero indicates spindle off (not a mistake)
  if speed ,
  [
    if speed > max_speed , speed = maxss$
    if speed < min_speed , speed = min_speed
  ]
  spdir2 = fsg3( spdir$ )
```

The actual min and max spindle speed values actually came out in 17605 and 17606. In this case, 17613 and 17614 were never populated with values so the original initialization value was used, generally resulting in proper spindle speed output.

X-SP1-

The X-SP1 release failed to address the issue. Generic Haas 4X Mill.pst, Generic Fadal Format_1 4X Mill.pst and Generic Fadal Format_2 4X Mill.pst were released based upon the Generic Fanuc 4X Mill.pst file. These posts also contained the error.

X-MR1/SP2-

All posts containing the faulty parameters were modified to correct the issue. The change is noted in the revision log at the top of the .pst file:

```
# CNC 10/06/05 - Changed parameter read for min_speed, modified pspindle, pprep$ and pset_mach
```

maxss\$ is set directly from the maximum spindle speed setting in the Machine Definition, removing the need for a redundant check in the post processor.

The changes include a reworked pspindle postblock and a modification to the parameter lookup table:

```
pspindle #Spindle speed calculations for RPM  
speed = abs( ss$ )  
if speed ,  
  [  
    if speed > maxss$ , speed = maxss$  
    if speed < min_speed , speed = min_speed  
  ]  
spdir2 = fsg3( spdir$ )
```

```
# Machine Definition Parameters  
fprmtbl 17000 4 #Table Number, Size  
# Param Variable to load value into  
17605 min_speed #Minimum spindle speed
```

maxss\$ is set directly from the maximum spindle speed setting in the Machine Definition, removing the need for a redundant check in the post processor.

X-MR2-

No changes made affecting the output

X2-

A bug in parameter output affects any post containing the original logic.

The min/max spindle speed are being output in 17608 and 17609 (should be 17605 and 17606) and 17613/17614 are output with a value of 0, overriding the variable initialization in the post. This results in the spindle speed being output as 0.

This issue has been fixed and will be addressed in the upcoming X2 patch. For now, we would recommend updating the logic in the post to the logic contained in the latest version (X2 or X-MR1/MR2).