Beginning of Op = #500 = #3012 #500 = #3012

End of OP = #501 = #3012 #501 = #3012

Cycle Time = #502 = [#501 - #500]

Tool changes = #503 = #3012 } for one tool change
(new variable for every tool change) #504 = #3012 }
#505 = #3012 } one tool change
#506 = #3012

Σ Toolchanges = #507 = [#506 - #505] + [#504 - #503]

Manual Time = #508 = #3012
#509 = #3012
. . .
. . .
same things as with tool changes

Σ Manual Time = #512 = [#511 - #510] + [#509 - #508]

1.48 → p. 457

4.51 → p. 472

- #3012 takes time stamp during operation
- actual time accumulated during automatic operation is the sum of parameters No. 6751 (sec) and No. 6752 (minutes).
- cutting time 6574, performed by G01, G02, or G03. Sum of 6753 and
- operation time = 6757 + 6758, "are automatic operation time"

#100 #3012

#101=#3012 (end of life)

#103=[#101-#100] (total time)

```
POPEN
DPRINT[CYCLE*TIME*IS*#103[60]*SECONDS]
PCLOS
```

file store in c:\MC_sdgprint

- #500 macros do not wipe out after power off.