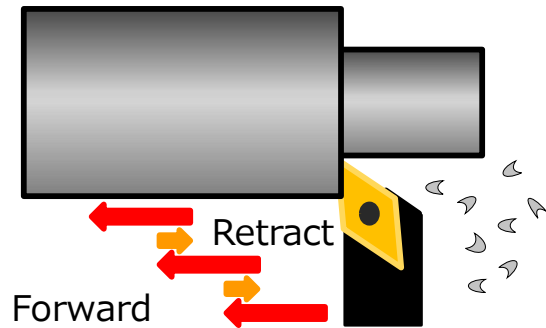


# Step Cycle Pro. (option)

**Ensure chip breaking by command produced with support at dedicated screen**

- Chip breaking technology



G161 STEP CYCLE PRO. - RECOMMEND (1/1)

PATH1: 00001 N00000 PATH2: 00001 N00000

SPINDLE SPEED S: 1000 min<sup>-1</sup>

FEED RATE F: 0.020 mm/rev

CHIP LENGTH COEF. A: 2.0

AMPLITUDE COEF. D: 2.0

INSTANT MAX FEED RATE\* 0.000 mm/rev

[ Tips ]  
 F: The normal feed rate.  
 A: Proportional to the chip length.  
 D: Proportional to the amplitude.

\* Command can be calculated backwards entering the INSTANT MAX FEED RATE.

A>\_

EDIT \*\*\*\*\* 10:00:00 PATH1

RECOMM CUSTOM INSERT EXIT

## Advantage

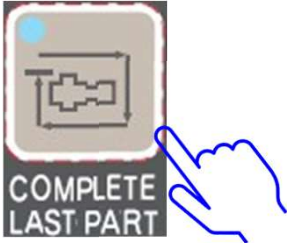
- ① Less chip entanglement  
→ Reduce defective parts
- ② Reduce chip volume  
→ Less chip evacuation operation
- ③ Trial mode is standard  
→ Can be tested before purchase



# Last part completion mode

**Dedicated key for the last part completion mode, no need to change a cutting program**

PATH1	00451 N00000	PATH2	00451 N00000
>M20;		M20;	
;		;	
M1;		(M75);	
G31;		/(M25);	
N100;		N1(CENTER)(SETZ35.0);	
;		/T2300M3S1800;	
;		>G50 Z-74.000 ;	
M10;		/G0Z-1.0T3;	
;		/G0T0;	
T100;		/G28W0;	



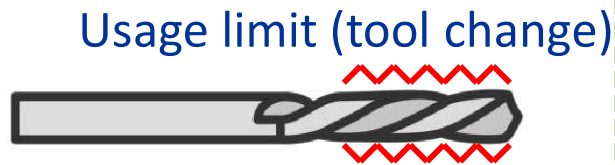
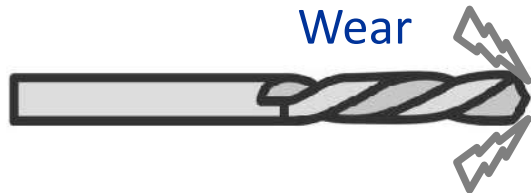
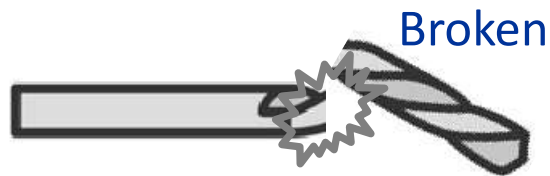
Only activate by dedicated key

Path 1 gets one-cycle stop, Path 2 runs automatically and the last part is processed.

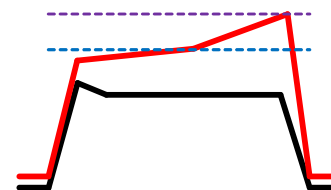
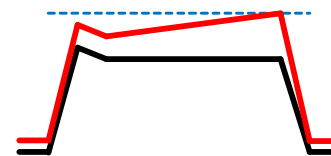
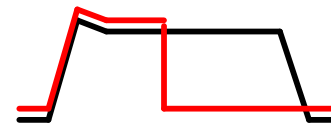
# Machining load detection function (Option)

Measure machining load and detect tool breakage/wear  
**Prevent producing defective parts due to cutting tool troubles**

## Tool condition



## Detect abnormal servo data of machining load



## Operation control

Machine stop by alarm

Notice by message of tool change schedule

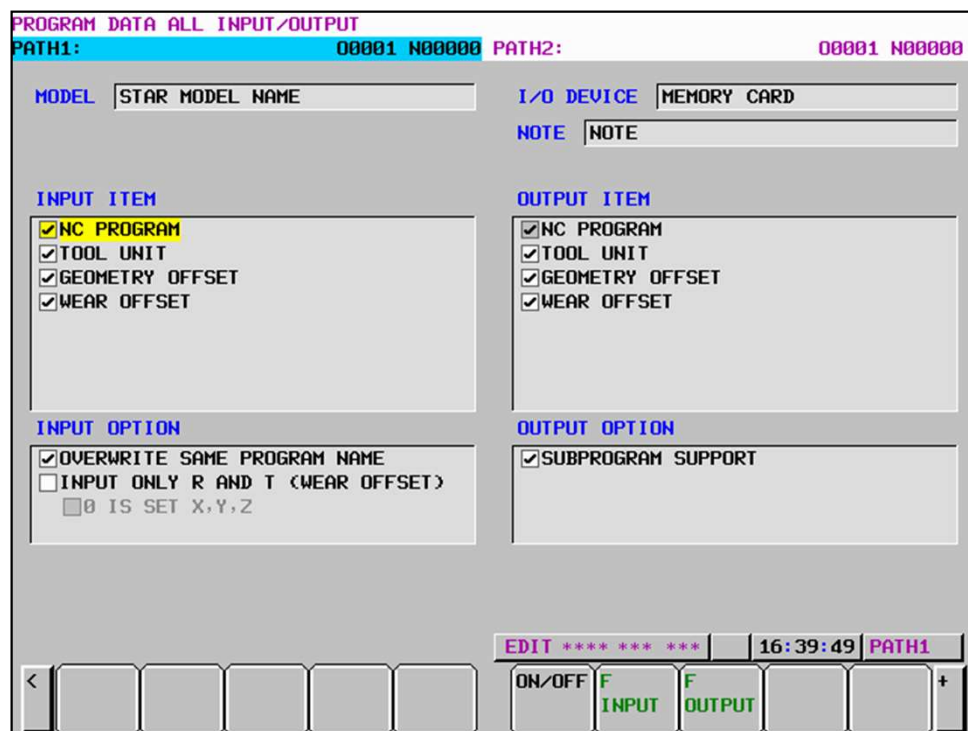
Machining stop by one-cycle stop

# Batch inputs/outputs of program data

## Inputs/Outputs program data in batches

Program data file includes;

- NC program
- Tool unit data
- Geometry offset
- Wear offset



PROGRAM DATA ALL INPUT/OUTPUT

PATH1: 00001 N00000 PATH2: 00001 N00000

MODEL STAR MODEL NAME I/O DEVICE MEMORY CARD

NOTE NOTE

**INPUT ITEM**

- NC PROGRAM
- TOOL UNIT
- GEOMETRY OFFSET
- WEAR OFFSET

**OUTPUT ITEM**

- NC PROGRAM
- TOOL UNIT
- GEOMETRY OFFSET
- WEAR OFFSET

**INPUT OPTION**

- OVERWRITE SAME PROGRAM NAME
- INPUT ONLY R AND T (WEAR OFFSET)
  - 0 IS SET X,Y,Z

**OUTPUT OPTION**

- SUBPROGRAM SUPPORT

EDIT \*\*\*\* \* 16:39:49 PATH1

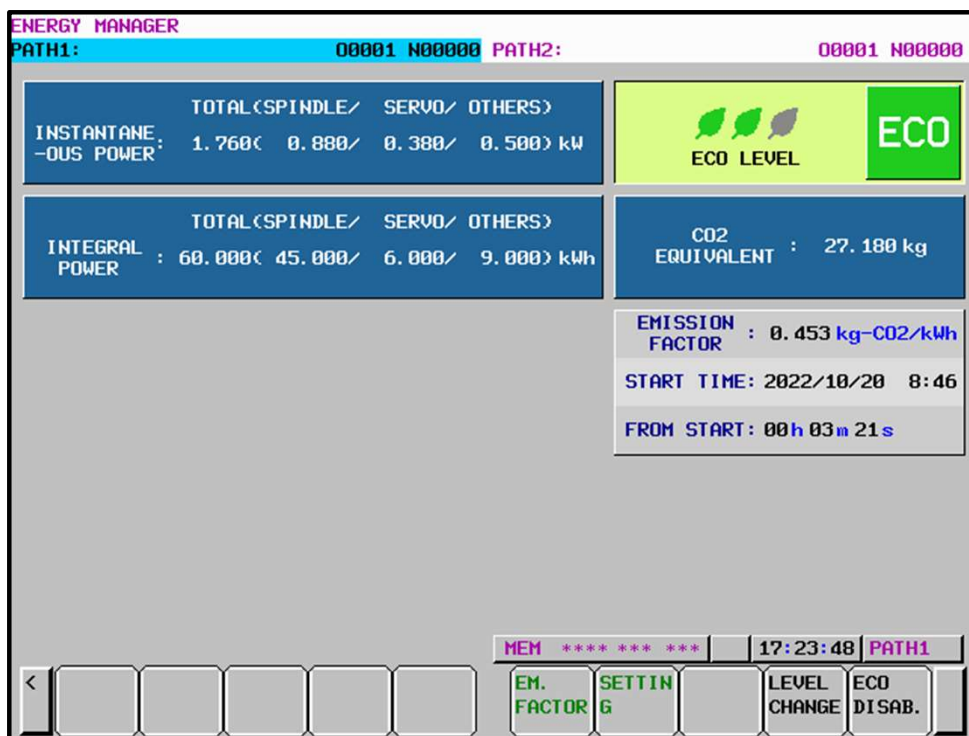
ON/OFF F INPUT F OUTPUT +

## Main functions

- Select inputs/outputs data
- Inputs/Outputs sub-program (M98,G65,G66)
- Input error prevention function
- Memo function
- I/O device switching
- Selectable wear offset input condition

# New function of ECO mode

**Correspondence to ECO LEVEL 2**  
**Only selected items can be shut-down**  
**referring to shut-down condition**



## Subject to standby power reduction

- ECO LEVEL 1



only servo motor

- ECO LEVEL 2 New



Items selectable

- ECO LEVEL 3



servo motor  
 spindle motor  
 peripheral equipment  
 ≡ machine ready OFF

Efficiency

Small

Large



# EASY EDIT (option)

**Dedicated screen for editing NC program**

Complicated canned cycle can be created easily

Editable referring to explanation of command

Visual confirmation of process order and synchronization between channels

The screenshot displays the EASY EDIT interface with several overlapping windows:

- G CODE List (Left):** A scrollable list of G-codes from G0 to G40. G28, 'REFERENCE POINT', is highlighted in yellow.
- HELP: G266 (PATH1.2) 1/1 (Center):** A help window for G266. It shows the command: `G266 A_ W_ S_ X_ Z_ F_ B_ (Q_) (K_) ;`. Below, it lists [FUNCTION] as 'Machining data setting' and [ARGUMENTS] with descriptions for A (Bar diameter), W (Part length), S (Spindle speed), X (Cut-off end position), Z (Z1-axis machining start), F (Cut-off feed rate), B (Cut-off tool insert), and Q (Maximum spindle speed constant surface speed). A note states '(96) is used at auto'. A prompt 'PRESS UP/DOWN CURSOR' is at the bottom.
- Parameter Table (Center):** A table comparing parameters for PATH1 (9/12) and PATH2 (8/14).
 

Parameter	PATH1	PATH2
01000	01000	01000
M200	M200	M200
M20	M20	M20
T100	T100	T2900
M500	M500	M500
T100	T100	T2000
M82	M82	M82
M600	M600	M600
M610	M610	M610
M83	M83	M83
M98 P7000	M98 P7000	M50
M99	M99	M99
- Main Editor (Right):** Shows two paths of NC code.
  - PATH1: 00001 N00000 27/37**

```

;
M500 ;
(CUT-OFF) ;
T100 M3 S#529 ;
G0 X[#531+1.0] Z[#530+#528+#533+1.0] T1
M82 ;
M600 ;
G1 X#524 F#522 ;
M610 ;
M83 ;
M80 ;
;
(BAR REPLACEMENT) ;

```
  - PATH2: 01000 30/56**

```

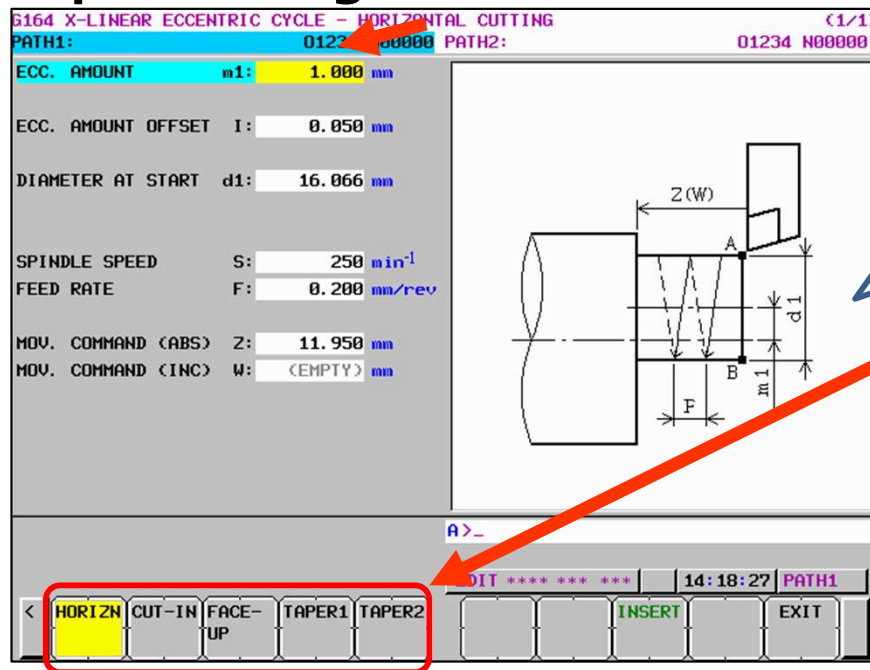
M76 ;
M500 ;
(PICK-UP) ;
G900 J50 ;
T2000 ;
M4 S#529 ;

```
- Bottom Panel:** Includes a status bar with 'EDIT \*\*\*\* \* \* \* \*', a timer '00:00:00', and a 'PATH1' indicator. Below are function keys: 'COMM.', 'CYCLE (INS)', 'CYCLE (ALT)', and '(EDIT) +'. A 'A>' prompt is visible above the keys.

## Eccentric machining cycle (option)

- Complicated eccentric machining can easily be achieved by simple setting
- Eccentric machining with Turning tools is possible
- Support program creation with an interactive dedicated screen

### ■ Command creation with simple setting



### ■ Work for various shapes

