

6.5 HANDLE OPERATION CANNOT BE DONE

Points

- (1) Check another manual operation (JOG) is accepted.
- (2) Check CNC status display.

Causes and Countermeasure

- 1 JOG operation is not acceptable, either
- 2 When only handle operation (MPG) cannot be done

Consult with item 6.3 and 6.4.

- (1) Check CNC status display at lower left corner of the CRT.
(Refer to **1.4 NC STATUS DISPLAY** for details)
When the status display shows HND, mode selection is correct.
If it is not HND, mode select signal is not input correctly. Check the mode select signal using the PMC's diagnostic function(PMCDGN).

		#7	#6	#5	#4	#3	#2	#1	#0
DGN	0122						MD4	MD2	MD1
							↓	↓	↓
Manual handle mode							1	0	0

- (2) Manual handle feed axis select signal is not input.
Check the signals using diagnostic function (PMCDGN).

[M-series]

		#7	#6	#5	#4	#3	#2	#1	#0
DGN	0116	HX							
DGN	0117	HY							
DGN	0118	HZ							
DGN	0119	H4							

Manual pulse generator axis selection signal and selected axis are :

- (i) If one manual pulse generator is used

HX	HY	HZ	H4	Selected axis
0	0	0	0	No selection
1	0	0	0	X axis
0	1	0	0	Y axis
0	0	1	0	Z axis
0	0	0	1	4th axis

- (ii) If two or three manual pulse generators are used

		#7	#6	#5	#4	#3	#2	#1	#0
PRM	0003	HSLE							

HSLE Specifies whether to enable the manual pulse generator axis selection signal if three manual pulse generators are used:

- 0 : Disable (the first, second, and third manual pulse generators are fixed at the X-, Y-, and Z-axes, respectively.)
1 : Enable (as listed below)

		#7	#6	#5	#4	#3	#2	#1	#0
PRM	0019								MHPGB

MHPGB Selects the specification of the multihandle function.

0 : Specification A

1 : Specification B

(If the multihandle function is of specification A)

HX	HY	HZ	H4	Selected axis		
				First manual pulse generator	Second manual pulse generator	Third manual pulse generator
1	1	0	0	X axis	Y axis	No selection
1	0	1	0	X axis	Z axis	No selection
0	1	1	0	Y axis	Z axis	No selection
1	1	1	0	X axis	Y axis	Z axis
1	0	0	1	X axis	4th axis	No selection
0	1	0	1	Y axis	4th axis	No selection
1	1	0	1	X axis	Y axis	4th axis
0	0	1	1	Z axis	4th axis	No selection
1	0	1	1	X axis	Z axis	4th axis
0	1	1	1	Y axis	Z axis	4th axis

(If the multihandle function is of specification B)

X-axis	First manual pulse generator
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Y-axis	Second manual pulse generator
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Z-axis	Selected according to SLHZ0 and SLHZ1
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		#7	#6	#5	#4	#3	#2	#1	#0
DGN	0113							SLHZ1	SLHZ0

SLHZ1	SLHZ0	Z-axis
0	0	Selected according to parameter 117
0	1	First manual pulse generator
1	0	Second manual pulse generator
1	1	Third manual pulse generator

PRM	0117	Manual pulse generator for the 4th axis and Z-axis
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This parameter specifies which manual pulse generator is to be used for the 4th axis and Z-axis.

Example) Assuming the second manual pulse generator is used for the Z-axis, and the third, for the 4th axis:

$$\text{PRM 117} = \frac{3}{\text{4th axis}} \quad \frac{2}{\text{Z axis}}$$

[T series]

		#7	#6	#5	#4	#3	#2	#1	#0
DGN	0116	HX							
DGN	0117	HZ							
DGN	0118	H3							

(Valid only when bit 5 of parameter 0031 = 1)

DGN	0119	H4							
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Manual pulse generator axis selection signal and selected axis are :

(i) If one manual pulse generator is used

HX	HY	H3	H4	Selected axis
0	0	0	0	No selection
1	0	0	0	X axis
0	1	0	0	Z axis
0	0	1	0	3rd axis
0	0	0	1	4th axis

(ii) If two manual pulse generators are used

HX	HZ	H3	H4	Selected axis	
				First manual pulse generator	Second manual pulse generator
1	1	0	0	X-axis	Z-axis
1	0	1	0	X-axis	3rd axis
0	1	1	0	Z-axis	3rd axis
1	1	1	0	X-axis	Z-axis
1	0	0	1	X-axis	4th axis
0	1	0	1	Z-axis	4th axis
1	1	0	1	X-axis	Z-axis
0	0	1	1	3rd axis	4th axis
1	0	1	1	X-axis	3rd axis
0	1	1	1	Z-axis	3rd axis

(3) Manual handle feed multiplication is not correct

Check the following signals using PMC's PCDGN. Also confirm the following parameters based on the parameter list.

[M series]

		#7	#6	#5	#4	#3	#2	#1	#0
DGN	0120			MP2	MP1				

[T series]

		#7	#6	#5	#4	#3	#2	#1	#0
DGN	0117								MP1
DGN	0118								MP2

MP2	MP1	Multiplication
0	0	1
0	1	10
1	0	m
1	1	n

PRM	0121	Magnification of handle feed m(1 to 127)						
PRM	0699	Magnification of handle feed n(1 to □ 1000)						
		#7	#6	#5	#4	#3	#2	#1
PRM	0386	HDPIG4	HDPIG3	HDPIG2	HDPIG1	HPNEG4	HPNEG3	HPNEG2
								HPNEG1
M series only								

HDPIGx Magnification of handle feed (X1000)

1 : Not effective

0 : Effective

HPNEGx Direction of MPG

1 : Reverse direction

0 : Same direction

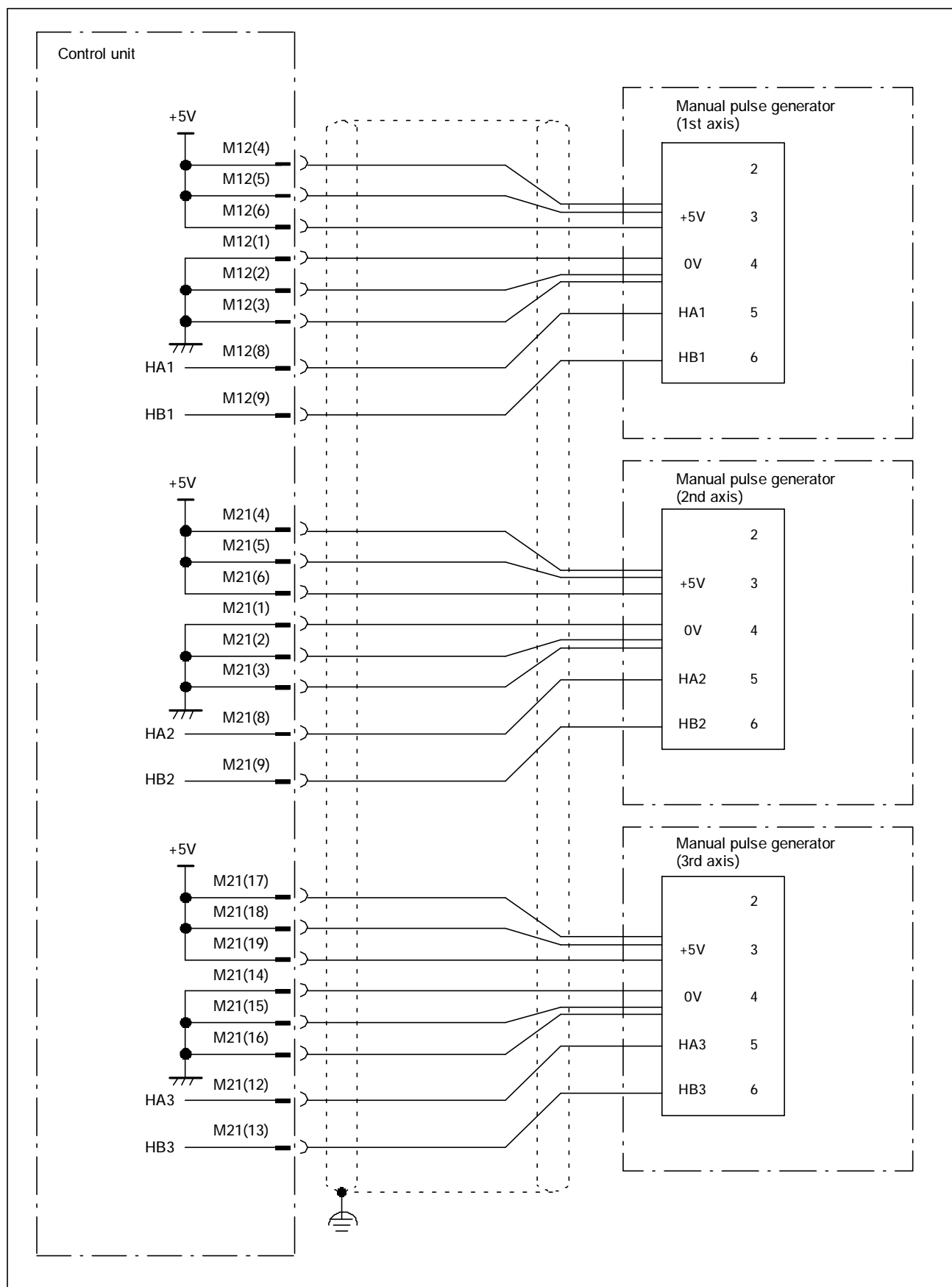
[M series]

PRM	0118	Number of manual pulse generators in use
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(4) Checking manual pulse generator

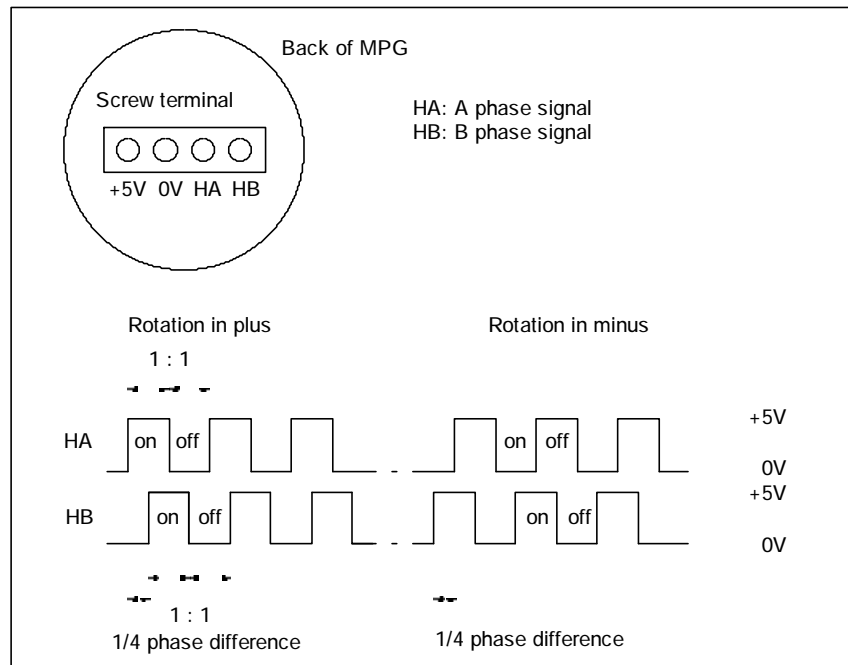
(a) Incorrect of cable

Check disconnection of cable or short circuit.



(b) Manual pulse generator is faulty

When you rotate the MPG, the following signal is output.
Measure the signal with synchroscope at screw terminal on back of MPG. If no signal is output, measure +5V voltage.



Check on and off ratio and phase difference of HA and HB.