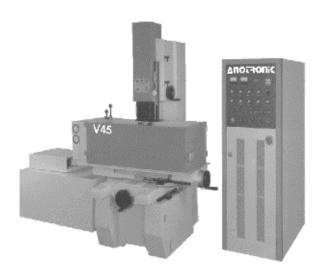


### operation manual

### **NC45**



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### INTRODUCTION OF FUNCTIONS

- 1. AUTOMATIC POINT TO POINT MOTION, THE MAXIMUN MEMORY CAPACITY IS 100\*40000 POINTS.
- 2. 10 SECTION AUTOMATIC FINISH MACHINING ENABLE THE WORKPIECE CAN BE MACHINING FROM ROUGHING. ITERMEDIARY ROUGHING TO FINING.
- 3. FIVE DIFFERENCE KIND MACHINING DEPTH CAN BE SET ON SAME WORKPIECE EACH TIME.
- 4. 30 FILES STORAGE CAPACITY ENABLE THE USER TO STOR 30 DIFFERENT CLIENT'S DATA.
- 5. AUTOMATIC ELECTRODE WEAR COMPENSATE CAPACITY. THE MAGNITUDE OF ELECTRODE WEAR CAN BE PRE-SET BEFORE MULTI-POINTS MACHINING AND THE DEPTH OF ALL POINTS ARE THE SAME.
- 6. AUTOMATIC EDGING TOUCH AND CENTER POINT SEARCH FUNCTION FOR POSITIONING THE ELECTRODE AND WORKPIECE.
- 7. AUTOMATIC ADJUST OF MACHINING CONDITIONS. THE COMPUTER WILL REVISE THE DISCHARGE FREQUENCY AND WORKING TIME WHEN DISCHARGE IS IN THE CIRCUMSTANCE OF UNSTABLE, AND FINALLY THE COMPUTER WILL RETURN TO THE CONDITIONS AS IT WAS AFTER THE UNSTABLE SITUATION IS SETTLED.
- 8. AUTOMMATIC MACHINE HOME POSITION ABILITY.
- 9. EQUIPPED WITH THE ELECTRONIC CIRCUIT OF MIRROR FINISH MACHINING.
- 10. EQUIPPED WITH  $\bigcirc$   $\Box$  +  $\times$  ORBITING MOTION PARAMETERS AND SIDE SPARKING.
- 11. FIVE DIFFERENCE KIND ORBITING MOTION CAN BE PRE-SET IN A SAME WORKPIECE.

(A) DESCRIPTION OF KEYBOARD

AS SHOWN AS FIG. 1

- 1. FUNCTION KEYS: F1 TO F9 ARE DESIGNATED TO BE FUNCTION KEYS, AND DIFFERENCE PAGE OF SCREEN IS DIFFERENCE FUNCTION OF F1 TO F9.
- 2. NUMERAL KEYS: FOR EDITING THE DATA.
- 3. DECIMAL POINTS: FOR INPUTTING DECIMAL DATA.
- 4. SIGN KEYS: "+" "-" REPRESENT THE DIRECTION OF MOVING.
- 5. DIRECTION DEYS: "↑" "↓" "→ " " ←" ARE USED TO MOVE THE CURSOR.
- 6. ENTER KEY: "ENT" ENTERING THE DATA AND STORAGE IN THE MEMORY.
- 7. CONTROL KEYS: THERE ARE 8 DIFFERENT CONTROL KEYS. THOSE KEYS

  CAN BE SET RESPECTIVELY; THE EXPLANATION

  SUBTITLE WILL BE DISCLOSED AT THE BOTTOM OF

  THE SCREEN, WHEN A CONTROL KEY IS BEING SET,

  THE CHARACTER WILL BE SHOWN WITH HIGHLIGHT,

  AND THE CORRESPOND ACTION WILL BE TICKED

  SIMULTANEOUS. PRESSING THE SAME KEY AGAIN,

  CORESSPOND ACTION WILL BE OFF SIMULTANEOUS.
  - A: FAST JMP TO CONTROL THE FLUSHING SPEED OF SPINDLE Z-AXIS.
  - B: BUZZER WILL BE GO OFF WHEN ERROR OCCURED.
  - C: SLEEP WHEN THE IS SET, ALL POWER SOURCE WILL BE OFF AUTOMATICALLY WHENEVER THE MACHINING CYCLE IS COMPLETED. OTHERWISE THE POWER SOURCE OF DISCHARGE CIRCUITS WILL BE OFF AUTOMATICALLY AND THE POWER SOURCE OF COMPUTER STILL ON.
  - G. OIL LEVEL IF THE DIELECTRIC LEVEL IS LOWER THAN THE SETTING LEVEL OF MACHINING TANK THEN THE POWER SOURCE OF DISCHARGE CIRCUIT WILL BE OFF.
  - M. PUMP FOR SETTING DIELELCTRIC FLUID MOTOR ON AND OFF.
  - N. SYNC FLUSCH WHEN THE KEY IS SET, THE DIELECTRIC FLUID

    BE SUPPLING; DURING THE PERIOD OF SPARKING; OTHERWISE,

    THE DIELECTRIC FLUID WILL NOT BE SUPPLIED.
  - T. PULSED FLU TO CONTROL THE PULSED FLUID SUPPLY NOZZLE ACTION WHEN FLUSHING.
  - U. ARC ADJ IF ARC PRESENT, THE MACHINING CONDITIONS WILL BE CHANGED TO PREVENT, WHEN THE FUNCTION IS SETED.
    - NOTE: a. THE FUNCTIONKEYS WILL ONLY BE EXECUTED UNDER THE "MAIN" FUNCTION SCREEN APPEARS.
      - b. WHEN THE COMPUTER IS TURNING ON, THE BUZZER, PUMP, SYNC FLUSH ARE TURNING ON AS WILL, THE CHARACTERS IN HIGHLIGH STATUS AT THE BOTTOMM OF SCREEN.
- 8. QUIT : "5> " RETURN PREVIOUS PAGE OF SCREEN.
- 9. OTHER KEYS : V X Y Z ARE RESERVED.

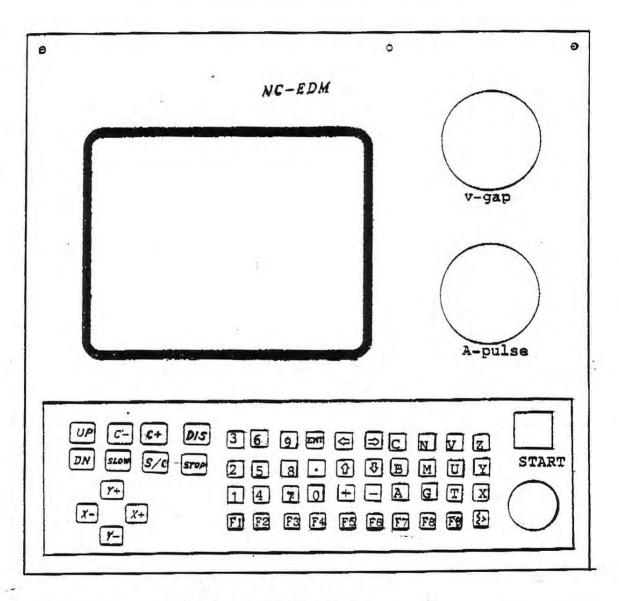
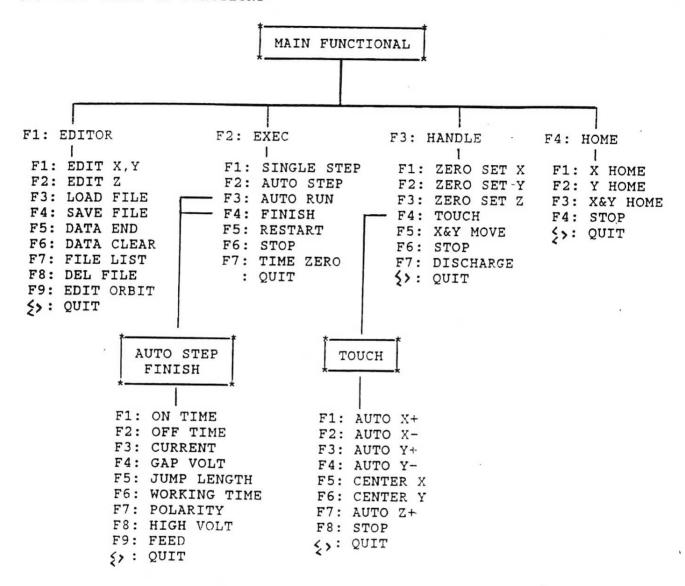


FIG. 1 CONTROL PANEL

### (B) FLOW CHART OF FUNCTIONS



MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC

(c) F3: HANDLE (d) F4: HOME

a. F1: EDITOR - PRESSED F1, YOU CAN SEE THE SCREEN AS FIG.3 AND DETAIL AS FOLLOWS.

F1: EDIT XY - INPUTTING THE MOVEMENT AMOUNT OF X & Y, AND "TIMES" REPEATED NUMBER AND AT THE PLACE OF "Z" INPUT THE SUBROUTINE YOU CHOSE FOR SPINDLE Z-AXIS. PRESSED F1, YOU CAN SEE THE SCREEN AS FIG.4, INPUT THE VALUE INTO THE POSITION WHERE THE CURSOR IS FLASHING.

"STEP": REPRESENT THE EDITED NUMBER OF COLUMN OF MOVEMENT AMOUNT OF X & Y, THE COMPUTER WILL AUTOMATICALLY INCREASE THE VALUE ACCORDING AS THE VALUE YOU EDITED, THE MAXIMUN VALUE IS 100.

" X " : REPRESENT THE MOVEMENT AMOUNT OF X, YOU EDITED FOR X-AXIS. THE MAXIMUN VALUE IS +40000.000 TO -40000.000 m/m.

"Y": REPRESENT THE MOVEMENT AMOUNT OF Y, YOU EDITED FOR Y-AXIS. THE MAXIMUN VALUE IS +40000.000 TO -40000.000 m/m.

" Z " : REPRESENT THE AMOUNT NUMBER OF SUBROUTINE OF MACHINING CONDITIONS OF SPINDLE Z-AXIS COULD BE CHOSEN.

"TIMES": REPRESENT THE REPEATITIVE TIMES UNDER THE EXECUTION OF X & Y MOVEMENT AMOUNT.

\*NOTE: WHEN COMPLETE INPUT THE COORDINATES, PLEASE MOVES
THE CURSOR TO THE LAST "STEP" YOU INPUT, AND PRESS
F5 AS AN END POINT. THE ERRO MESSAGE WILL BE
APPEARED DURING THE EXECUTION IF YOU DID NOT SET
THE END POINT. WHEN THE EDITING IS COMPLETE, KEY
IN "5> " TO RETURN TO THE PREVIOUS SCREEN

F2: EDIT Z - TO EDIT MACHINING CONDITIONS, MACHINING DEPTH.

PRESSED F1, YOU CAN SEE THE SCREEN AS FIG.5,
INPUT THE VALUE INTO THE POSITION WHERE THE CURSOR
IS FLASHING, AND EDITING THE NUMBER OF SUBROUTINE
OF SPINDLE Z-AXIS.

" CH ": REPRESENT THE SECTIONAL NUMBER OF SPINDLE Z-AXIS, THERE ARE 10 SECTION, NUMBER FROM 0 TO 9 OF WHICH IS INPUT AUTOMATICALLY BY COMPUTER.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC (c) F3: HANDLE (d) F4: HOME

F2: "DEPTH": REPRESENT THE SECTIONAL DEPTH VALUE OF SPINDLE OF Z-AXIS, OWING TO THE DOWNWARD VALUE OF SPINDLE Z-AXIS IS POSITION; THEREFORE, THIS VALUE IS NOT NECESSARY TO INPUT THE SIGN OF PLUSE (+) AND MINUS (-), THE VALUE IS EDITED BY THE ABSOLUTE COORDINATES UNDER THE ZERO POINT. THE MAXIMUN VALUE IS +40000.000 TO -40000.000 m/m.

" Nt " : TON, REPRESENT THE PULSE ON TIME, IT IS ALSO REPRESENT BY MEANS OF SECTION, THE RANGING FROM 0 TO 99, THE INTERVAL TIME OF EACH SECTION IS 4 us, THE MAXIMUN VALUE CAN BE SHOWN UP TO 400 us.

"Ft": TOFF, REPRESENT THE PULSE OFF TIME, IT IS ALSO REPRESENT BY MMEANS OF SECTION, THE RANGING FROM 0 TO 99, THE INTERVAL TIMME OF EACH SECTION IS 4 US, THE MAXIMUN VALUE CAN BE SHOWN UP TO 400 US.

" I " : REPRESENT THE PEAK CURRENT VALUE, THE VALUE FROM 0 TO 50 AMP.

CURRENT: X = +00000.000

Y = +00000.000Z = +00000.000

ABS: X = +00000.000

Y = +00000.000

MIN : Z' = +00000.000

MAIN

F1: EDITOR

F2: EXEC

F3: HANDLE

F4: HOME

Y + 00000.0Z + 00000.0

A:FAST JMP M:PUMP

B:BUZZER

C:SLEEP N:SYNC FLUSH T:PULSED FLU U:ARC ADJ

G:OIL LEVEL

00:00:29

FIG 2. MAIN FUNCTION

CURRENT: X = +00000.000

Y = +00000.000

Z = +00000.000

ABS : X = +00000.000

Y = +00000.000MIN: Z = +00000.000

EDIT

EDIT X,Y F1:

F2: EDIT Z

F3: LOAD FILE

F4: SAVE FILE

F5: DATA END

F6: DATA CLEAR

F7: FILE LIST

F8: DEL FILE

F9: EDIT ORBIT

QUIT.

A:FAST JMP M:PUMP

B:BUZZER

C:SLEEP N:SYNC FLUSH T:PULSED FLU

G:OIL LEVEL U:ARC ADJ

00:00:29

FIG. 3.

URREN	T : X = +00000	.000	ABS : X	Z = +00000.000 Z = +00000.000	I	TIDIT
	Y = +00000		MIN : Z	z = +00000.000	F1:	EDIT X,Y
STEP	X	Y	Z	TIMES	F2:	EDIT Z
E 1	+0.000	+0.000	0	0		
2	+0.000	+0.000	0	0 .	F3:	LOAD FILE
3	+0.000	+0.000	0	0	4.7	
4	+0.000	+0.000	0	0	F4:	SAVE FILE
5	+0.000	+0.000	0	0	F5:	DATA END
6	+0.000	+0.000	0	0	15:	DATA END
7	+0.000	+0.000	0		F6:	DATA CLEA
8	+0.000	+0.000	0	. 0	10.	DATA CEL
					F7:	FILE LIST
					F8:	DEL FILE
					F9:	EDIT ORBI
A:FAST M:PUM		ZER C:SLI C FLUSH T:PU	EEP LSED FLU	G:OIL LEVEL U:ARC ADJ	:	QUIT
11.1 0.1				00:00:29	1	

FIG. 4 EDIT X.Y.

('H	DEPTH	Nt	Ft	1	GA	JP	WT	PO	HV	OB	F2:	EDIT Z
E O	+0.000	40	45	2	40	0	10	0	1	5		
1	+0.000	40	45	2	40	0	10	0	1	5	L3:	LOAD FILE
2	+0.000	40	45	2	40	0	10	0	1	5		
3	÷0.000	40	45	2	40	0	10	0	1	5	F4:	SAVE FILE
4	+0.000	40	45	2	40	0	10	0	1	5		DAME TAID
5	+0.000	40	45	2	40	0	10	0	1	5	F5:	DATA END
6	+0.000	40	45	2	40	0	10	0	1	5		DUDL CITA
7	+0.000	40	45	2	40	0	10	0	1	5	F6:	DATA CLEA
8	+0.000	40	45	2	40	0	10	0	1	5	F7:	FILE LIST
9	+0.000	40	45	2	40	0	10	, 0	1	5	17.	LIPE PIST
I	HOME .		SET	]							F8:	DEL FILE
	-1.000	+(	0.000								F9:	EDIT ORBIT

FIG. 5 EDIT Z

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC

(c) F3: HANDLE (d) F4: HOME

" GA " : REPRESENT THE MACHINING GAP VOLTAGE IN BETWEEN ELECTRODE AND WORKPIECE, VALUE FROM 20 TO 90 VOLTAGE.

" JP " : REPRESENT THE FLUSHING LENGTH OF SPINDLE Z-AXIS.

THE SECTIONAL FROM 0 TO 99, EACH UNIT'S FLUSHING
LENGTH IS 9.9 m/m.

" WT " : REPRESENT THE MACHINING TIME OF DISCHARGE, SECTIONAL FROM 0 TO 99, EACH UNIT'S TIME IS 0.1 SECOND, THE MAXIMUN VALUE IS 9.9 SECOND.

" PO " : REPRESENT THE POLARITY OF VOLTAGE IN BETWEEN ELECTRODE AND WORKPIECE, VALUE 0 TO 1, "0" MEANS THE ELECTRODE IS NEGATIVE AND THE WORKPIECE IS POST (TVe NZ6ATIVE)

" HV " : REPRESENT THE HIGHEST VOLTAGE OF BIPULSE CIRCUIT IN BETWEEN ELECTRODE AND WORKPIECE, SECTIONAL FROM 0 TO 3, "0" MMEANS IS 100V, "1" MEANS 150V, "2" MEANS 200V, "3" MMEANS 250V.

" OB " : REPRESENT THE EDITED NUMBER OF SUBROUTINE OF ORBITING FUNCTION. THE NUMBER IS FROM 0 TO 4, TOTAL 5 SUBROUTINES OF ORBITING FUNCTION COULD BE CHOSE.

\*NOTE: WHEN COMPLETE INPUT DATA, PLEASE MOVE THE CURSOR
TO THE LAST "STEP" YOU INPUT AND PRESS F5 AS AN
END POINT. THE ERROR MESSAGE OF "Z-AXIS DATA ERROR"
WILL BE APPEARED IF YOU DID NOT SET END POINT. WHEN
THE EDITING IS COMPLETED, KEY IN " > " TO RETURN
TO THE PREVIOUS SCREEN.

"HOME" : REPRESENT THE HIGHEST DISTANCE IN BETWEEN ELECTRODE UPWARD AND THE WORKPIECE WHEN MACHINING IS
COMMPLETED AND THE DEPTHIS REACHED. WHEN THE
ELECTRODE RAISE TO THE POINT OF "HOMME" IT WILL
PROCEED MOVEMENT, SO THE MINIMUN VALUE OF THE POINT
IS -0.050 m/m, THE MAXIMUN VALUE IS -4000.000 m/m,
THEY ALL NEGATIVE VALUE. WHEN A MAXIMUN VALUE INPUT
IS OVER THE RANGE THE ERROR MESSAGE OF "Z-AXIS DATA
ERROR" WILL BE APPEARED DURING THE PERIOD OF EXECUTING.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC (c) F3: HANDLE (d) F4: HOME

"OFFSET": REPRESENT THE VALUE OF THE ELECTRODE WEAR,
PREDICT ELECTRODE CONSUMPTION CAN BE INPUT
HERE AND THE COMMPUTER WILL AUTOMATICALLY
COMPENSATE DURING. THE PERIOD OF EXECUTING, THE
VALUE OF COMPENSATION IS INCREASE ACCORDING AS
THE INCREASE OF MACHINING HOLES; SPINDLE Z-AXIS
SHALL BE RETURNED TO ZERO WHEN CHANGING THE
ELECTRODE TO AVOID MISTAKE INCURRED.

\*NOTE : PLEASE KEY IN " \$ > " WHEN THE DATA ARE INPUT COMPLETED. YOU MAY EDIT ANY SUBROUTINE WHICH NEEDS TO BE EDITED; OTHERWISE, PLEASE KEY IN " \$ > " TO RETURN TO THE PREVIOUS SCREEN.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC

(c) F3: HANDLE (d) F4: HOME

F3: LOAD FILE - TO RETRIEVE THE DATA SAVE IN FILES.

PRESSED F3 TO RETRIEVE A FILE, "PLEASE INPUT
FILE NAME ( 0 TO 999 )" WILL BE APPEARED IN
THE SCREEN, THEN KEY IN THE NUMBER YOU WANT
TO RETRIEVE THE FILE.

F4: SAVE FILE - WHEN FINISH THE EDITING OF MOVEMENT AMOUNT FOR X,Y AND Z, ALL OF THESE DATA CAN BE SAVE IN THE FLOPPY DISK IN ORDER TO BE USED REPEATELY.

PRESSED F4, A "PLEASE INPUT FILE NAME (0 - 999)"
WILL BE APPEARED IN THE SCREEN, THE FILE NUMBER (0 - 999) MEANS ANY NUMBER FROM 0 TO 999 CAN BE INPUT, HOWEVER OWING TO THE SPACE RESTRICTION OF FLOPPY DISK, ONLY 30 EILES CAN BE SAVED, A ERROR MESSAGE WILL BE APPEARED WHEN YOU TRY TO SAVE 31 FILE. PRESSED F8 COULD DELETE ANY FILE.

F5: DATA END - WHEN EDITING X,Y (Z), AT LAST POINT SHALL BE SET A END POINT AND GIVE A "E" MARK.

F6: DATA CLEAR - THE MOVEMENT AMOUNT DATA OF X & Y WIL BE DELETD.

F7: FILE LIST - TO DISPLAY THE FILE NAMES IN THE SCREEN.

PRESSED F7 TO CHECK ALL THE FILE SAVED IN THE FLOPPY DISK.

F8: DEL FILE - TO DELETE FILE.

F9: EDIT ORBIT- TO PRESET ORBITING FUNCTION, IF YOU WANT.

PRESSED F9, YOU CAN SEE THE SCREEN AS FIG.6,

INPUT THE VALUE INTO THE POSITION WHERE THE

CURSOR IS FLASHING, AND EDITING THE NUMBER OF

SUBOUTINE OF ORBITING FUNCTION.

" HOME " : THERE ARE 4 DIFFERENT MODE OF ORBITING GRAPHIC, NUMBER FROMM 1 TO 4.

"QUADRANT": THERE ARE 5 DIFFERENT QUADRANT, NUMBER 1 TO 4
ARE 1'ST TO 4TH QUADRANT AND "5" MEANS FOUR
OUADRANT TO EXECUTE TOGETHER.

"OPERAT": NUMBER "1" MEANS THE OF OPERATING IS XY MODE FOR SIDE SPARKING, NUMBER "2" MEANS THE WAY OF OPERATING IS XYZ MODE FOR EXTEND WORKING.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC (c) F3: HANDLE (d) F4: HOME

"FEED": THERE ARE 10 DIFFERENT SPEED, NUMBER FROM 0 TO 9, WHEN THE WAY OF OPERATING IS XYZ MODE, THIS PARAMETER IS TO CONTROL THE MOVEMENT SPEED OF X & Y AXIS. WHEN THE WAY OF OPERATING IS XY MODE, THIS PARAMETER DO NOT NEED.

" SIZE " : INPUT THE RADIUS SCOPE OF SWING ORBIT, THE MIN-IMUN VALUE SHALL BE EXCESSED 0, THE MAXIMUM VALUE IS +60.000m/m.

\*NOTE : PLEASE KEY IN " > " WHEN THE DATA ARE INPUT COMPLETED. YOU MMAY EDIT ANY SUBROUTINE WHICH NEEDS TO BE EDITED; OTHERWISE, PLEASE KEY IN " > " TO RETURN TO THE PREVIOUS SCREEN.

ABS: X = +00000.000EDIT CURRENT : X = +00000.000Y = +00000.000Y = +00000.000Z = +00000.000MIN : Z = +00000.000F1: EDIT X,Y F2: FDIT Z SIZE MODE QL'AD OPER FEED F3: LOAD FILE +50.000 1 1 1 1 F4: SAVE FILE MODE  $1.\square$   $2.\pm$   $3.\times$ F5: DATA END QUADRANT: 1. 2 2 3. F6: DATA CLEAR OPERATE: 1.XY 2.XYZ F7: FILE LIST FEED: 0-9F8: DEL FILE F9: ORBIT SUB NAME : 0 EDIT ORBIT G:OIL LEVEL B:BUZZER C:SLEEP A:FAST JMP 57: U:ARC ADJ N:SYNC FLUSH T:PULSED FLU M:PUMP QUIT 00:00:29

FIG. 6 EDIT ORBIT

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

- (a) F1: EDITOR (b) F2: EXEC
- (c) F3: HANDLE (d) F4: HOME
- F2: OFF TIME TO CHANGE PULSE OFF TIME CYCLE, PRESS THIS KEY,
  USE UP & DOWN KEYS TO CHANGE THE PARMAETER,
  PRESS THE KEY AGAIN WHEN COMPLETED. SETTING
  VALUE FROM 0 TO 99.
  - F3: CURRENT TO CHANGE THE PEAK CURRENT VALUE, THE OPERATION PROCEDURE IS EXACTLY SAME AS ABOVE. SETTING VALUE FROM 0 TO 50 AMP.
- F4: GAP VOLT TO CHANGE THE VOLTAGE, THE OPERATION PROCEDURE IS EXACTLY SAME AS ABOVE. SETTING VALUE FROM 0 TO 99 VOLTAGE.
- F5: JMP LENGTH TO CHANGE THE FLUSHING LIGHT, THE OPERATION PROCEDURE IS EXACTLY SAME AS ABOVE. SETTING VALUE FROM 0 TO 99.
- F6: WORKING TIME TO CHANGE THE MACHING TIME, THE OPERATION PROCEDURE IS EXACTLY SAME AS ABOVE. SETTING VALUE FROM 0 TO 99.
- F7: POLARITY TO CHANGE THE POLARITY (POSITIVE OR NEGATIVE),
  THE OPERATION PROCEDURE IS EXACTLY SAME AS
  ABOVE. SETTING VALUE FROM 0 TO 1.
- F8: HIGH VOLT TO CHANGE THE HEIGHT VOLTAGE OF BIPULUSE CIRCUIT, THE OPERATION PROCEDURE IS EXACTLY SAME AS ABOVE. SETTING VALUE FROM 0 TO 3.
- F9: FEED TO CHANGE THE MOVMENT SPEED OF X & Y AXIS, THE OPERATION PROCEDURE IS EXACTLY SAME AS ABOVE. SETTING VALUE FROM 0 TO 9, THE FUNCTION IS ONLY USED IN XYZ MODE OF ORBITING FUNCTION.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

- (a) F1: EDITOR (b) F2: EXEC (c) F3: HANDLE (d) F4: HOME
- b. F2: EXEC PRESSED F2, YOU CAN SEE THE SCREEN AS FIG.7

  AFTER ALL THE PARAMETERS ARE SETTING COMPLETED AS

  PREVIOUS, YOU MAY ENTER INTO THE MODE OF EXECUTION

  AND PERFORMING MACHINING.
  - F1: SINGLE STEP PRESSED THE KEY TO DO THE SINGLE POINT MOVEMENT ACCORDING TO THE MOVEMENT AMOUNT EDITED.
  - F2: AUTO STEP CONTINUOUS POINT MOVEMMENT, AUTOMATICALLY REPEAT THE FUNCTION OF F1, THE STAYING TIME IN BETWEEN HOLD TO HOLD IS 1 SECOND.
  - F3: AUTO RUN MACHINING DISCHARGE AND MOVEMENT ARE AUTOMAT-ICALLY EXECUTING. MACHINING CONDITIONS IS ACCORDING TO THE NUMBER SUBROUTINE OF SPINDLE Z-AXIS YOU SET.
    - F4: FINISH SAME AS F3, BUT EACH TIME ONLY EXECUTE ONE MACHINING IS COMPLETED, IT WILL EXECUTE NEXT MACHINING SECTION OF SECTIONAL DEPTH OF ALL ARE REACHED.
  - F5: RESTART PRESSED THE KEY TO SET THE MOVEMENT COORDINATE IS THE FIRST HOLD, ie. NEXT MOVEMENT WILL BE STARTED FROM THIS HOLD.
  - F6: STOP PRESS THE KEY (OR " > ") TO STOP ALL THE ACTIONS.
  - F7: TIME ZERO PRESS THE KEY TO RESET TIMER.
    - \*NOTE: WHEN IN THE MODE OF MACHINING DISCHARGE, BY PRESSING THE FUNCTION KEY, YOU MAY CHANGE THE PARAMETER OF MACHINING CONDITIONS. THE DETAIL FEATURES ARE AS FOLLOWS AND FIG.8.
  - F1: ON TIME TO CHANGE PULSE ON TIME CYCLE, PRESS THIS KEY,
    USE UP & DOWN KEYS TO CHANGE THE PARAMETER, PRESS
    THE KEY AGAIN WHEN COMPLETED. SETTING VALUE FROM
    0 TO 99.

EXEC ABS: X = +00000.000CURRENT: X = +00000.000Y = +00000.000Y = +00000.000MIN : Z = +00000.000F1: SINGLE STEP Z = +00000.000F2: AUTO STEP F3: AUTO RUN FINISH F4: F5: RESTART Z+00000.0( F6: STOP F7: TIME ZERO G:OIL LEVEL B:BUZZER C:SLEEP A:FAST JMP QUIT U:ARC ADJ N:SYNC FLUSH T:PULSED FLU M:PUMP 00:00:29

FIG. 7 EXECUTION

CURRENT: $X = +00000.000$ Y = +00000.000	ABS : $X = +00000.000$ Y = +00000.000	CONDITION
Z = +00000.000	MIN : Z = +00000.000	F1: ON TIME
X+00000.000	ON TIME : 40 (165uS) OFF TIME : 45 (190uS)	F2: OFF TIME
	CURRENT : 2 (A) GAP VOLT : 40 (V)	F3: CURRENT
Y + 00000.000	JMP LENGTH : 1 (100uM) WORK TIME : 10 (1.0S)	F4: GAP VOLT
Z+00000.000	POLARITY : 0 (+/-) HIGH VOLT : 1 (150V)	F5: JMP LENGTH
	ORBIT-FEED :	F6: WORKING TIME
	START Z : 0	F7: POLARITY
REMNANT : 0	STOP Z : 0 WORK Z : 0	F8: HICH VOLT
DEPTH :11111.000m/m		F9: FEED UP:INC DN:DE
Million billi Dibonnia	SLEEP G:OIL LEVEL PULSED FLU U:ARC ADJ	<pre><pre><pre><pre><pre></pre></pre></pre></pre></pre>
	00:00:29	

FIG. 8 MACHINING CONDITIONS

DETAIL DESCRIPTION OF (b) F2: EXEC AS FOLLOWS:

1. THE SINGLE OR AUTO STEP FOR THE PURPOSE OF REVISING AFTER EDITING. AT THE BOTTOM OF RIGHT HAND SIDE OF THE SCREEN, THE NUMBER OF LINE AND REPETITIVE TIMES WILL BE APPEARED. WHEN THE MOVEMENT IS COMPLETED A SENTENCE OF "END STEP" WILL BE APPEARED IN THE SCREEN, PRESSED F5 TO RESTART.

\*NOTE: WHEN THE MOVEMENT AMOUNT OF X & Y AXIS IS CHANGED, F5 MUST BE PRESSED IN ORDER TO RESTART; OTHERWISE, THE MOVEMENT AMOUNT X & Y AXIS WILL BE INCORRECTED.

- 2. PRESET THE STATUS OF DIELECTRIC FLUID SUPPLY BEFORE ENTERING INTO MACHINING, THE PUMPER AND SYNCHRONOUS DIELECTRIC FLUID SUPPLY SHALL BE SET IN THE STATUS OF RESET.
- 3. A REQUEST TO INPUT START SECTION OF SECTIONAL DEPTH OF SPINDLE Z AXIS AND END SECTION WILL BE APPEARED AT THE BOTTOM OF RIGHT HAND SIDE OF THE SCREEN WHEN ENTERING INTO SINGLE OR AUTO STEP MACHINING, PLEASE INPUT THE DATA IN SEQUENCY. WHEN THE END SECTION INPUT IS EXCESS THE EDITING VALUE OF SECTIONAL DEPTH OF SPINDLE Z AXIS, THE EDITING VALUE OF SECTIONAL DEPTH OF SPINDLE Z AXIS WILL BE USED DURING THE PERIOD OF EXECUTING; HOWEVER, IF THE END SECTION IS LESS THAN THE EDITING VALUE OF END SECTION OF SECTIONAL DEPTH OF SPINDLE Z AXIS, THEN THE SYSTEM WILL NOT ACCEPT, YOU WILL HAVE TO INPUT AGAIN.
- 4. THE SCREEN WILL BE CHANGE TO MMACHINING CONDITIONS SCREEN WHEN ENTERING INTO MACHINING. USING THE GUIDE OF FUNCTIONAL TABLE COULD CHANGE THE MACHINING CONDITIONS.
- 5. SET THE SLEEP SWITCH IN THE ON STATUS TO TURN OFF ALL POWER AFTER EXECUTING IS COMMPLETED.
- 6. IF THE ACTION IS WRONG DURING THE PERIOD OF EXECUTION, PRESS " \$> " TO STOP MACHINING DISCHARGE AND RETURN TO THE PREVIOUS FUNCTIONAL TABLE.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC (c) F3: HANDLE (d) F4: HOME

- F3: HANDLE PRESS F3, YOU CAN SEE THE SCREEN AS FIG.9 AND DETAILS ARE AS FOLLOWS:
  - F1: ZERO SET X RELATIVE COORDINATES OF X-AXIS RETURN TO ZERO. i.e. SETTING THE REFERENCE POINT OF WORKPIECE IN X-AXIS.
- F2: ZERO SET Y RELATIVE COORDINATES OF Y-AXIS RETURN TO ZERO. i.e. SETTING THE REFERENCE POINT OF WORKPIECE IN Y-AXIS.
- F3: ZERO SET Z RELATIVE COORDINATES OF Z-AXIS RETURN TO ZERO. i.e. SETTING THE REFERENCE POINT OF WORKPIECE IN Y-AXIS.
- F4: TOUCH THE COMMPUTER WILL HELP YOU TO DO THE EDGING TOUCH FOR POSITIONAL WORKPIECE.

  PRESSED F4, YOU CAN SEE THE SCREEN AS FIG.10
  THE DETAILS ARE AS FOLLOWS:
  - F1: AUTO X+: THE ELECTRODE ON THE LEFT SIDE AND THE WORK-PIECE ON THE RIGHT SID, THE ELECTODE MOVING TOWARD THE WORKPIECE BY THE MAGNITUDE OF 0.005 BY 0.005 m/m, WHEN THE SHORT CIRCUIT IS OCCURED THEN STOP.
- F2: AUTO X-: THE ELECTRODE ON THE RIGHT SIDE AND THE WORK-PIECE ON THE LEFT SIDE, THE ELECTRODE MOVING TOWARD THE WORKPIECE BY THE MAGNITUDE OF 0.005 BY 0.005 m/m, WHEN THE SHORT CIRCUIT IS OCCURED THEN STOP.
- F3: AUTO Y+: THE ELECTRODE ON THE FRONT AND THE WORKPIECE ON THE BACK, THE ELECTRODE MOVING TOWARD THE WORKPIECE BY THE MAGNITUDE OF 0.005 BY 0.005m/m, WHEN THE SHORT CIRCUIT IS OCCURED THEN STOP.
- F4: AUTO Y-: THE ELECTRODE ON THE BACK AND THE WORKPIECE ON FRONT SIDE, THE ELECTRODE MOVING TOWARD THE WORKPIECE BY THE MAGNITUDE OF 0.005 BY 0.005 m/m, WHEN THE SHORT CIRCUIT IS OCCURED THEN STOP.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC (c) F3: HANDLE (d) F4: HOME

- F5: CENTER X: AFTER WENT THROUGH THE EDGING OF F1 & F2
  POINTS, PRESS THE KEY TO CALCULATE THE
  DISTANCE IN BETWEEN TWO POINTS AND MOVE
  THE ELECTRODE TO THE BACK OF CENTRE POINT
  AND SET THE RELATIVE CORRDINATES OF X-AXIS
  TO ZERO.
- F6: CENTER Y: AFTER WENT THROUGH THE EDGING OF F3 & F4
  POINTS, PRESS THE KEY TO CALCULATE THE
  DISTANCE IN BETWEEN TWO POINTS AND MOVE
  AND SET THE RELATIVE CORRDINATES OF Y-AXIS
  TO ZERO.
- F7: AUTO Z+ : THE ELECTRODE AT THE UPPER, THE WORKPIECE
  AT THE LOWER THE ELECTRODE MOVING TOWARD
  THE WORKPIECE BY THE MAGNITUDE OF 0.005 BY
  0.005 m/m, WHEN THE SHORT CIRCUIT IS OCCURED
  THEN STOP.
- F5: X & Y MOVE DIRECTED INPUT THE MOVEMENT AMOUNT OF X & Y AXIS TO CONTROL THE MOVEMENT OF X & Y AXIS.
- F6: STOP PRESS THE KEY TO STOP THE MOVEMENT OF X & Y AXIS.
- F7: DISCHARGE IT IS MANUALLY MACHINING DISCHARGE, X & Y
  AXIS ARE FIXED THE TAKE THE FIRST SECTION
  OF FIRST SUBROUTINE OF MACHINING SECTION OF
  SECTIONAL DEPTH OF SPINDLE Z AXIS AS A BASE
  MACHINING CONDITIONS.

CURRENT: X = +00000.000ABS : X = +00000.000FANDLE Y = +00000.000Y = +00000.000Z = +00000.000MIN : Z = +00000.000F1: ZERO SET X ZERO SET Y F2: F3: ZERO SET Z AUTO TOUCH F4: X&Y MOVE F5: STOP F6: F7: DISCHARGE B:BUZZER C:SLEEP G:OIL LEVEL A:FAST JMP >: QUIT N:SYNC FLUSH T:PULSED FLU U:ARC ADJ M:PUMP 00:00:29

FIG. 9 HANDLE

Y = +00000.000Y = +00000.000MIN : Z = +00000.000Z = +00000.000Z+00000.000

AUTO HANDLE

F1: AUTO X+

F2: AUTO X-

F3: AUTO Y+

F4: AUTO Y-

F5: CENTER X

F6: CENTER Y

F7: AUTO Z+

F8: STOP

A:FAST JMP M:PUMP

B:BUZZER C:SLEEP

CURPENT : X = +00000.000

N:SYNC FLUSH T:PULSED FLU

G:OIL LEVEL U:ARC ADJ

ABS: X = +00000.000

00:00:29

>: QUIT

FIG. 10 AUTO TOUCH

### DETAIL DESCRIPTION OF (c) F3: HANDLE AS FOLLOWS:

- 1. SINGLE POINT RETURN TO ZERO, YOU CAN MOVE THE WORKTABLE BY PRESSING THE KEYS AND MAKE USE THE FUNCTIONS OF SHORT CIRCUIT AND RETURN TO ZERO ON THE FUNCTIONAL KEY TO RETURN ZERO FOR ALL AXIS.
- 2. CENTRE POINT RETURN TO ZERO, PLEASE ENTER INTO THE FUNCTION OF TOUCH AND MOVE THE ELECTRODE TO THE APPROPRIATE POSITION ACCORDING TO THE GRAPHIC IN SCREEN, AFTER EXECUTING TWO POINTS EDGING, GIVING THE FUNCTION OF CENTRE RETURN TO ZERO, THE COMPUTER WILL AUTOMATICALLY PROCESS THE ACTION OF CENTRE RETURN TO ZERO.
- 3. THE PANEL DESCRIPTION AS FOLLOWS:

DIS : INDICATION LAMP OF DISCHARGE

STOP : STOP

UP : Z-AXIS UPWARD
DN : Z AXIS DOWNWARD

S/C : SHORT CIRCUIR RELEASE SWITCH AND LAMP

SLOW: SPEED CHANGE AND LAMP

C+ : STAND-BY KEY
C - : STAND-BY KEY

X+ : THE ELECTRODE MOVES TOWARD RIGHT
X- : THE ELECTRODE MOVES TOWARD LEFT

Y+ : THE ELECTRODE MOVES FORWARD
Y- : THE ELECTRODE MOVES BACKWARD

\*NOTE: THIS FUNCTIONS CAN BE USED UNDER HANDLE CONTROL, BUT "DIS", "STOP", "UP", "DN" ARE ALWAYS AVAILABLE, "DN" CAN NOT BE USED UNDER THE CONDITION OF MACHINING

DISCHARGE.

MAIN FUNCTION: THE "MAIN" FUNCTION AS FIG. 2

(a) F1: EDITOR (b) F2: EXEC

(c) F3: HANDLE

(d) F4: HOME

- d. F4: HOME THE MACHINE SHALL BE RETURNED TO HOME POINT WHEN THE POWER IS ON, THE REASONS ARE NUMBER ONE TO SEARCH THE REFERENCE POINT OF WORKTABLE, SECOND TO THE ZERO OF ABSOLUTE COORDINATES PRESS F4, YOU CAN SEE THE SCREEN AS FIG. 12 AND DETAILS ARE AS FOLLOWS:
  - F1: X HOME THE WORKTABLE OF X-AXIS RETURN TO HOME POINT, AND ABSOLUTE COORDINATES (ABS Y) RETURN TO ZERO.
  - F2: Y HOME THE WORKTABLE OF Y-AXIS RETURN TO HOMME POINT. AND ABSOLUTE COORDINATES (ABS Y) RETURN TO ZERO.
  - F3: X,Y HOME THE WORKTABLE OF X & Y AXIS RETURN TO HOME POINT SIMULTANEOUS, AND ABSOLUTE COORDINATES X (ABS X) AND Y (ABS Y) RETURN TO ZERO.

F4: STOP - TO STOP ALL ACTIONS.

ABS : X = +00000.000CURRENT: X = +00000.000HOME Y = +00000.000Y = +00000.000MIN : Z = +00000.000Z = +00000.000F1: X HOME F2: Y HOME F3: X,Y HOME F4: STOP 7+0000.0G:OIL LEVEL C:SLEEP B:BUZZER A:FAST JMP :

QUIT

U:ARC ADJ

00:00:29

FIG.12 HOME

N:SYNC FLUSH T:PULSED FLU

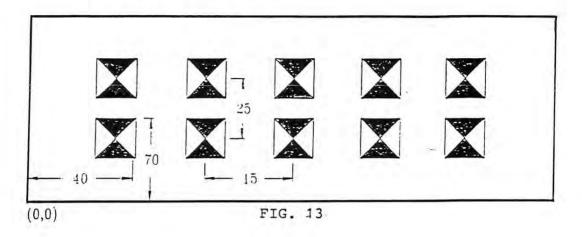
M:PUMP

- (D) OPERATION ITEM: THE ITEMS SHALL BE CAREFULLY IN OPERATING.
  - (a) THE SEQUENCY OF OPERATING:
    - 1. WHEN THE POWER IS ON, PLEASE ENTER INTO WORKTABLE TO MACHINE HOME.
    - 2. ENTER INTO THE HANDLE MOVEMENT AND SET THE ORIGIENT POINT OF WORKIECE OR CENTRE POINT OF WORKPIECE.
    - 3. ENTER INTO THE FUNCTION OF EDITING INPUT ALL PARAMETERS.
    - 4. SAVE ALL THE DATA IN THE FILES OF FLOPPY DISK.
    - 5. MACHINING DISCHARGE.
  - (b) ELECTRICITY CUT OFF:
    - 1. RE-START THE POWER.
    - 2. RETURN THE WORKTABLE TO MACHINE HOME.
    - 3. RETRIEVE ALL THE DATA FROM THE FILES OF FLOPPY DISK.
    - 4. ENTER INTO THE HANDLE MOVEMENT, TO SET ORIGIENT POINT OF SPINDLE Z-AXIS.
    - 5. MACHINING DISCHARGE.
    - \*NOTE: ABOVE SHALL BE OPERATED IN SEQUENCY IN ORDER TO SAVE A UNNECESSARY REPETITION IN EDITING DATA AND EDITING OF X & Y AXIS.
  - (c) THE SCREEN WILL APPEAR SOME ERROR MESSAGE WHEN THE SYSTEM IS IN EDITING OR EXECUTION, PLEASE RE-SETTING THESE DATA ACCORDING TO ERROR MESSAGE.
  - (d) THERE ARE SOME UNWANTED FILES CAN BE DELETED IF YOU HAVE SAVED OVER 30 FILES.
  - (e) DURING THE PERIOD OF WORKTABLE IS MOVING, SUDDENLY CAN NOT MOVE AGAIN. PLEASE CHECK WHETHER THE TRAVELLING STROKE IS REACHED MAXIMUN. IF YES, PLEASE ENTER INTO THE HANDLE FUNCTION AND REMOVE THE WORKTABLE FROM THE LIMITERS AND CHECK WHETER THE DATA ARE CORRECT OR NOT.

- (D) OPERATION ITEM: THE ITEMS SHALL BE CAREFULLY IN OPERATING.
  - (f) THE COMBINATION OF MACHINING DISCHARGE AND FLUID SUPPLY:
    - 1. PUMPER AND SYNCHRONOUS FLUID SUPPLY ARE ON: DIELECTRIC FLUID WILL BE SUPPLIED WHEN IN MACHINING DISCHARGE.
    - 2. PUMPER IS ON AND SYNCHRONOUS FLUID SUPPLY IS OFF:
      DIELECTRIC FLUID WILL BE SUPPLIED WHEN NOT IN MACHINING
      DISCHARGE AND FLUID WILL NOT SUPPLIED WHEN IN MACHINING
      DISCHARGE.
    - 3. PUMPER IS OFF AND SYNCHRONOUS FLUID IS ON: NO FLUID SUPPLY AT ALL.
    - 4. PUMPER AND SYNCHRONOUS FLUID ARE OFF : NO FLUID SUPPLY AT ALL.
  - (g) THE KEY OF C/S IS FOR THE PURPOSE OF MOVING WORKTABLE WHEN SHORT CIRCUIT IS OCCURED. PLEASE USE THE KEY CAREFULLY, WHEN THE ELECTRODE JUMP OFF THE SHORT CIRCUIT STATUS, PLEASE THE S/C KEY IMMEDIATELY; OTHERWISE, THE ELECTRODE WILL BE DAMAGED.

WHEN THE KEY IS PRESSED, THE SYSTEM WILL NOT DETECT ALL SHORT CIRCUIT THE COMPUTER WILL APPEARS A WARING MESSAGE IN THE SCREEN.

(a) APPLICATION (1)
AS THE FIG.13 SHOWN, TO MACINING A CONTINUOUS HOLDS AND MACHINING DEPTH IS 10m/m.



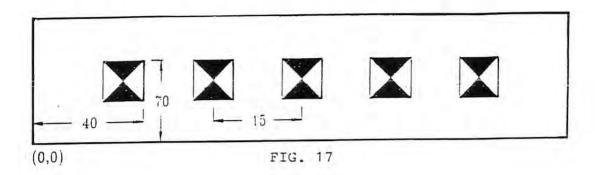
### OPERATION STEPS ARE AS FOLLOWS:

- 1. IN THE MAIN FUNCTION, PRESS F4 AND F3 TO MACHINE HOME.
  - 2. IN THE MAIN FUNCTION, PRESS F3 INTO THE HANDLE MODE TO DO THE POSITIONAL WORKPIECE AND ORIGIENT POINT SETTING.
  - 3. IN THE MAIN FUNCTION, PRESS F1 INTO THE EDITOR MODE, PRESS F1 AGAIN INTO EDITING X & Y, THEN INPUT THE AMOUNT OF MOVEMENT AS FIG. 14 WHEN COMPLETED EDITING, MOVING THE CURSOR TO THE LAST STEP PLACE AND PRESS F5 TO SET AN END PIONT, PRESS " TO RETURN TO THE PREVIOUS SCREEN.

STEP		1	X	1	Y	1	Z	1	TIMES	
	1	1	+40.000	1	+70.000	1	0	1	1	
	2	1	+15.000	1	+ 0.000	1	0	1	4	
	3	1	+ 0.000	1	+25.000	1	0	1	1	
E	4	1	-15.000	1	+ 0.000	1	0	1	4	

FIG. 14

(b) APPLICATION (2)
AS THE FIG. 17 SHOWN, TO MACHINING A CONTINUOUS HOLDS
AND MACHINING DEPTH ARE DIFFERENCE OF EACH HOLD.



### OPERATION STEPS ARE AS FOLLOWS:

- 1. IN THE MAIN FUNCTION, PRESS F4 AND F3 TO MACHINE HOME.
- 2. IN THE MAIN FUNCTION, PRESS F3 INTO THE HANDLE MODE TO DO THE POITIONAL WORKPIECE AND ORIGIENT POINT SETTING.
- 3. IN THE MAIN FUNCTION, PRESS F1 INOT THE EDITOR MODE, PRESS F1 AGAIN INTO EDITING X & Y, THEN INPUT THE AMOUNT OF MOVEMENT AS FIG. 18, WHEN COMPLETED EDITING, MOVING THE CURSOR TO THE LAST STEP PLACE AND PRESS F5 TO SET AN END POINT, PRESS " > " TO RETURN TO THE PREVIOUS SCREEN.

STEP	1	X	1	Y	1	Z	1	TIMES	
1	1	+40.000	1	+70.000	1	0	1	1	
2	-1	+15.000	1	+ 0.000	1	1	1	1	
3	1	+15.000	1	+ 0.000	ł	2	1	1	
4	1	+15.000	1	+ 0.000	1	3	1	1	
E 5	1	+15.000	1	+ 0.000	1	4	1	1	

FIG. 18

4. PRESS F2 TO EDIT Z, INPUT THE MACHINING DEPTH AND CONDITIONS AS FIG. 19 TO FIG. 23 MOVING CURSOR TO THE LAST I/O PLACE AND PRESS F5 TO SET THE DEPTHEST POINT, PRESS " > " TO RETURN TO THE PREVIOUS SCREEN.

4. PRESS F2 TO EDIT Z, INPUT THE MACHINING DEPTH AND CONDITIONS AS FIG. 15, MOVING CURSOR TO THE LAST I/O PLACE AND PRESS F5 TO SET THE DEPTHEST POINT, PRESS " 57 " TO THE PREVIOUS SCREEN.

CH   DEPTH	CH   DEPTH
0   + 1.000 1   + 2.000 2   + 3.000 3   + 4.000 4   + 5.000 5   + 6.000 6   + 7.000 7   + 8.000 8   + 9.000 E 9   +10.000	E 0   +10.000 1   + 0.000 2   + 0.000 3   + 0.000 4   + 0.000 5   + 0.000 6   + 0.000 7   + 0.000 8   + 0.000 9   + 0.000
FIG. 15	FIG. 16

- 5. PRESS F4 TO SAVE THE MACHINING CONDITIONS, MACHINING DEPTH AND MACHINING COORDINATES, PRESS " < > " TO RETURN TO THE MAIN FUNCTION.
- 6. PRESS F2 INTO THE EXEC MMODE, EITHER F1 OR F2 BE FIRST EXECUTION TO MAKE SURE EVERYTHING IS ALL RIGHT.
- 7. PRESS F3 TO INTO THE MODE OF AUTO STEP OR PRESS F4 TO ENTER INTO THE MODE OF FINISH (SEGAMENTAL DISCHARGE), TO INPUT THE START SECTION AND END SECTION OF SECTIONAL DEPTH OF SPINDLE Z-AXIS.

(IN FIG. 15 START=0, END=9, FIG. 16 START=0, END=0)

THE AUTOMMATICALLY MACHINING FROM FIRST HOLD TO LAST HOLD , IF THE SLEEP SWITCH HAS BEEN SETED THEN THE POWER WILL BE OFF AUTOMATICALLY AFTER MACHINING IS COMPLETED.

CH	1	1	DEPTH		DEPTH			CH	1		DEPTH	1	C	H			DEPTH	1
 0	1	+:	10.000	1	E	0	1	+	15.000	1	E	0	1	+:	20.000	1		
1	1	+	0.000	1		1	1	+	0.000	1		1	1	+	0.000	1		
2	ì	+	0.000	1		2	1	+	0.000	1		2	1	+	0.000	1		
3		+	0.000	1		3	1	+	0.000	1		3	1	+	0.000	1		
4	1	+	0.000	1		4	1	+	0.000	1		4	1	+	0.000	1		
5	1	+	0.000	1		5	1.	+	0.000	1		5	1	+	0.000	1		
6	1	+	0.000	1		6	1	+	0.000	1		6	1	+	0.000	1		
7	1	+	0.000	- 1		7	4	+	0.000	1		7	1	+	0.000	1		
8	i.	+	0.000	1		8	1	+	0.000	1		8	1	+	0.000	1		
9	1	+	0.000	1		9	1	+	0.000	1		9	1	+	0.000	- 1		

Z AXIS SUB NAME:0 FIG. 19

FIG. 20

Z AXIS SUB NAME:1 Z AXIS SUB NAME:2 FIG. 21

	CH   DEPTH		1		CH	1	1	DEPTH			
E	0	1	+:	25.000	1	E	0	1	+:	30.000	1
	1	1	+	0.000	1		1	1.	+	0.000	1
	2	1	+	0.000	1		2	1	+	0.000	1
	3	1	+	0.000	1		3	1	+	0.000	1
	4	1	+	0.000	1		4	1	+	0.000	1
	5	1	+	0.000	1		5	1	+	0.000	1
	6	1	+	0.000	1		6	1	+	0.000	1
	7	1	+	0.000	1		7	1	+	0.000	1
	8	1	+	0.000	1		8	4	+	0.000	- 1
	9	1	+	0.000	1		9	1	+	0.000	1

FIG. 22

Z AXIS SUB NAME: 3 Z AXIS SUB NAME: 4 FIG. 23

- 5. PRESS F4 TO SAVE THE MACHINING CONDITIONS, MACHINING DEPTH AND MACHINING COORDINATES, PRESS " 5> " TO RETURN TO THE MAIN FUNCTION.
- 6. PRESS F2 INTO THE EXEC MODE, EITHER F1 OR F2 BE FIRST EXECUTION TO MAKE SURE EVERYTHING IS ALL RIGHT.
- 7. PRESS F3 TO INTO THE MODE OF AUTO STEP, TO INPUT THE START SECTION AND END SECTION OF SECTIONAL DEPTH OF SPINDLE Z AXIS. (START=0 END=0) THE AUTOMATICALLY MMACHINING FROMM FIRST HOLD TO LAST HOLD, IF THE SLEEP SWITCH HAS BEEN SETED THEN THE POWER WILL BE OFF AUTOMATICALLY AFTER MACHINING IS COMPLETED.



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