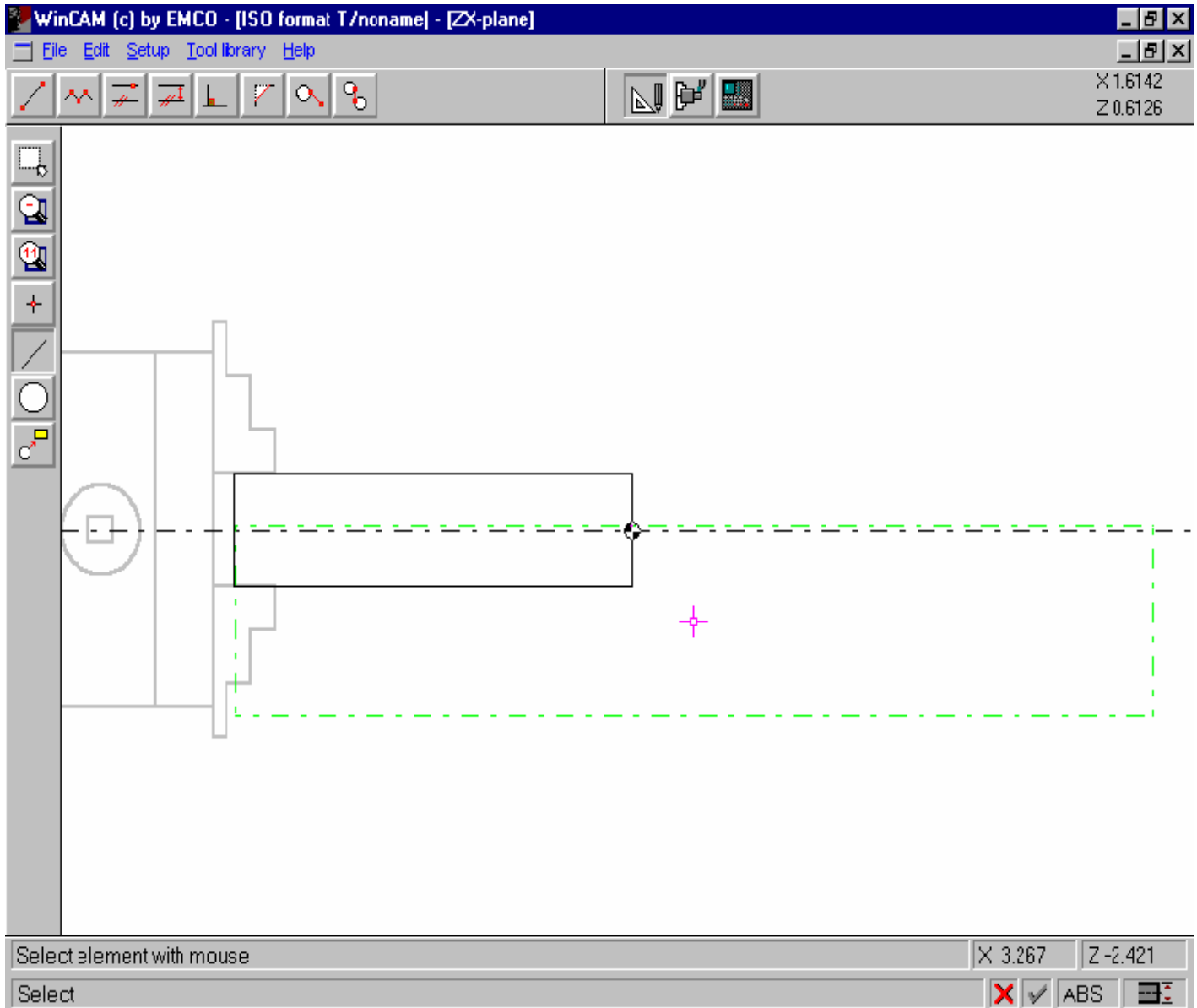






innovative machine tools



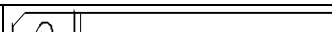

WinCAM Turning Level 2

5/8/03 Version 3
Made by EMCO
Authored by Chad Hawk



Tool Position 2

| | | | |
|---------|--------------------------------|-------------------------|---|
| 260 601 | Right hand Turning Tool | No. SDJCR 1210 D07 |  |
| 271056 | Indexable inserts for Aluminum | No. DCGT 070204-27 H10T |  |

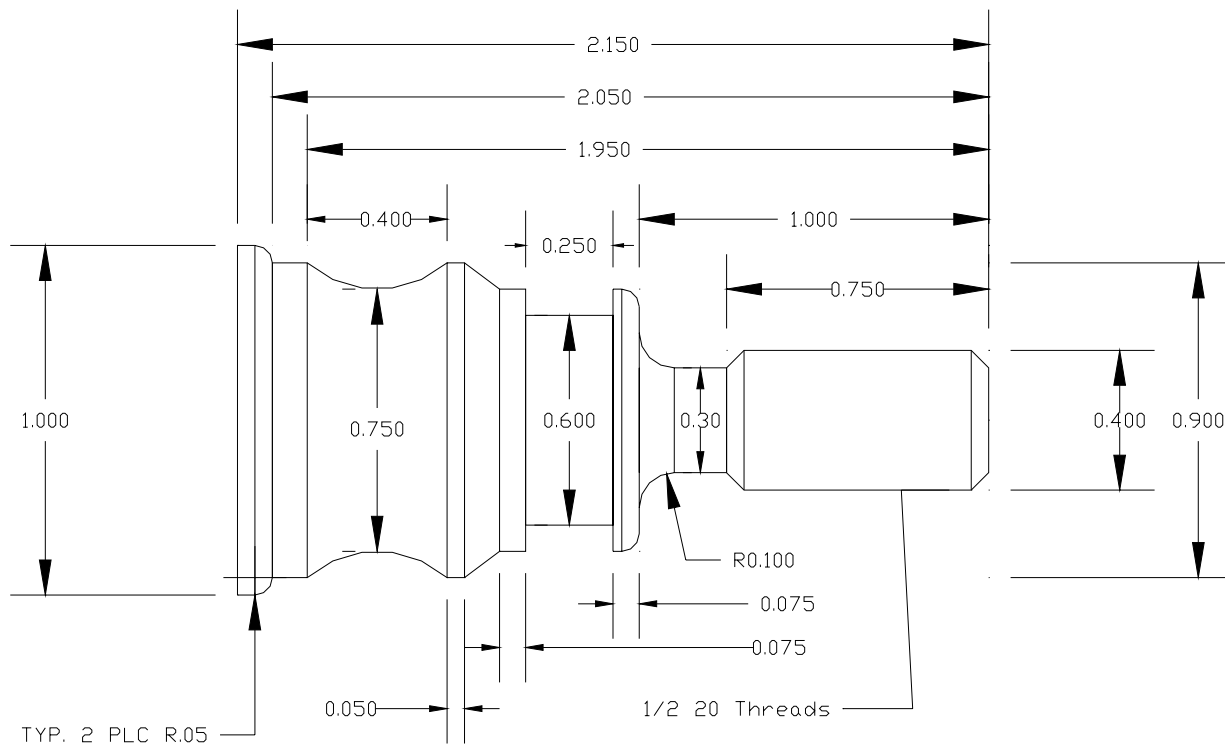
Tool Position 4

| | | | |
|---------|--------------------------------------|--|---|
| 260 620 | OD-thread tool Right | Max. Pitch 1,5 mm (.040") No. NL 1210-2 RH |  |
| 260 621 | Indexable inserts for OD-thread tool | Pitch 0,5 - 1,5 mm (.040") No. 16ER T A60° S36T |  |

Tool Position 6

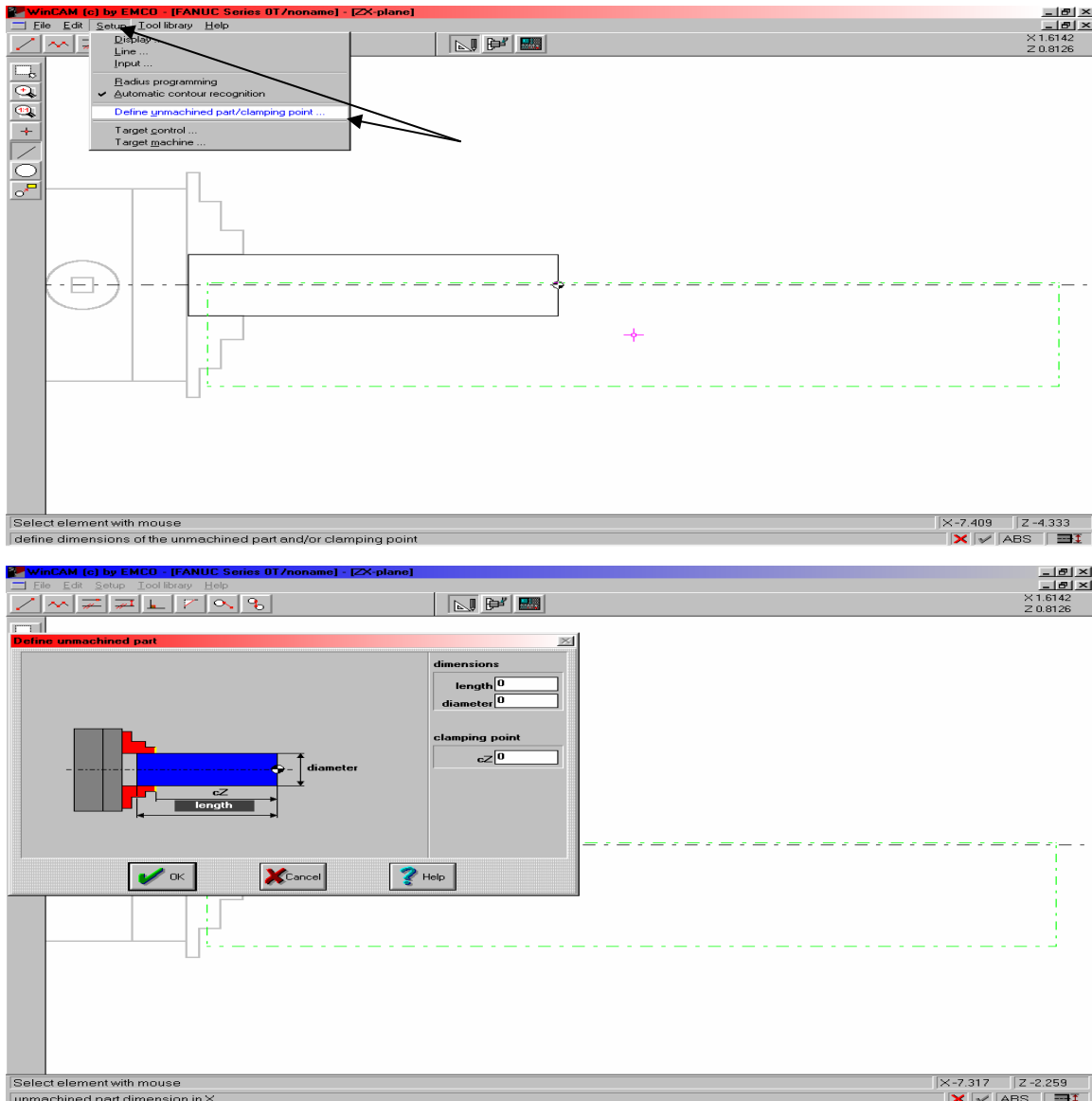
| | | | |
|---------|---|--------------------------------------|---|
| 264 020 | <u>Parting off tool</u> | No. L150.15.15.1212-3/M0 |  |
| 271086 | Indexable inserts for parting off tool, 2mm | No. LEMX 22FN FX-27 H10T - for alum. |  |

Level 2



WinCAM Turn CAD Setup Level 2

1. WE WILL START BY SETTING UP A PART 1" DIA. X 3.0 " 2011-T3 ALUMINUM
2. LEFT CLICK ON **SETUP** (THE TOP BAR OF THE SCREEN)
3. CLICK ON DEFINE **UNMACHINED PART/CLAMPING POINT**



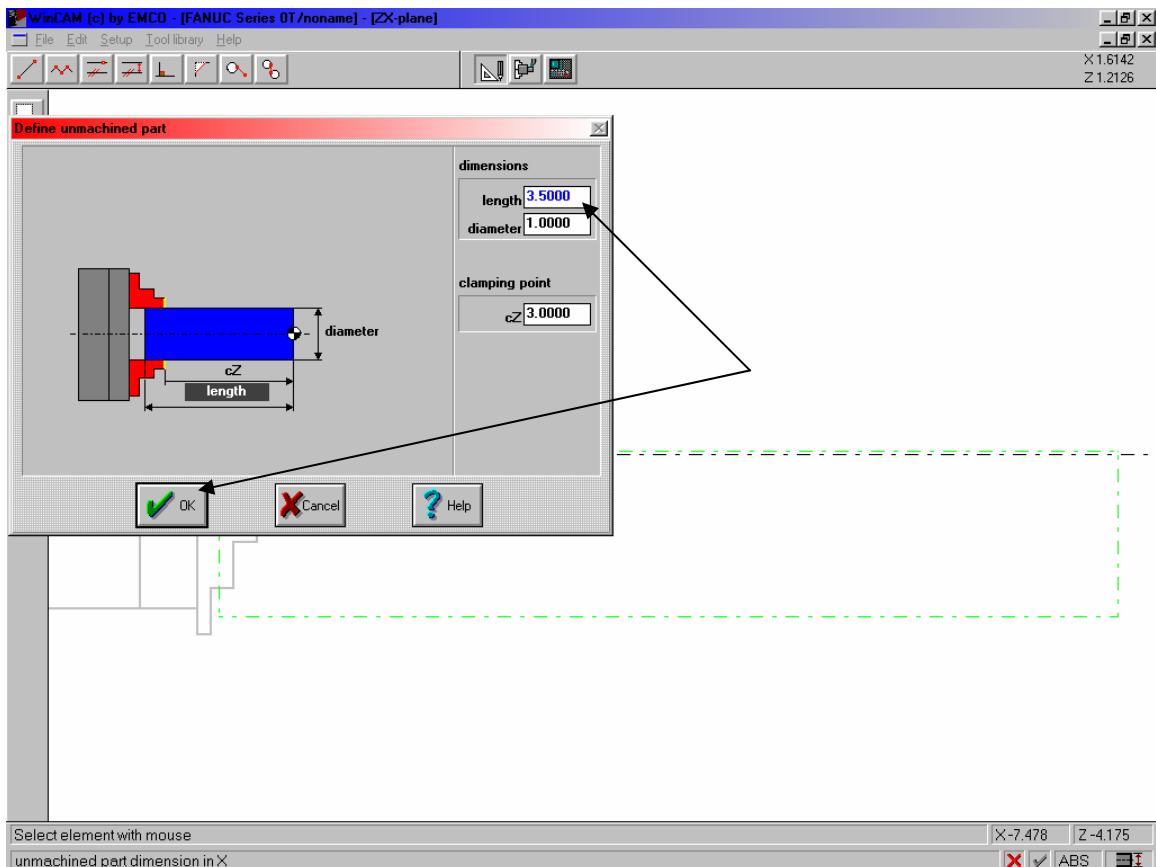
4. DOUBLE CLICK ON THE DIMINSIONS length (WHITE AREA)

5. TYPE 3. IN THE LENGTH BOX / THEN PRESS TAB


6. TYPE 1.0 IN THE DIAMETER BOX / THEN PRESS TAB

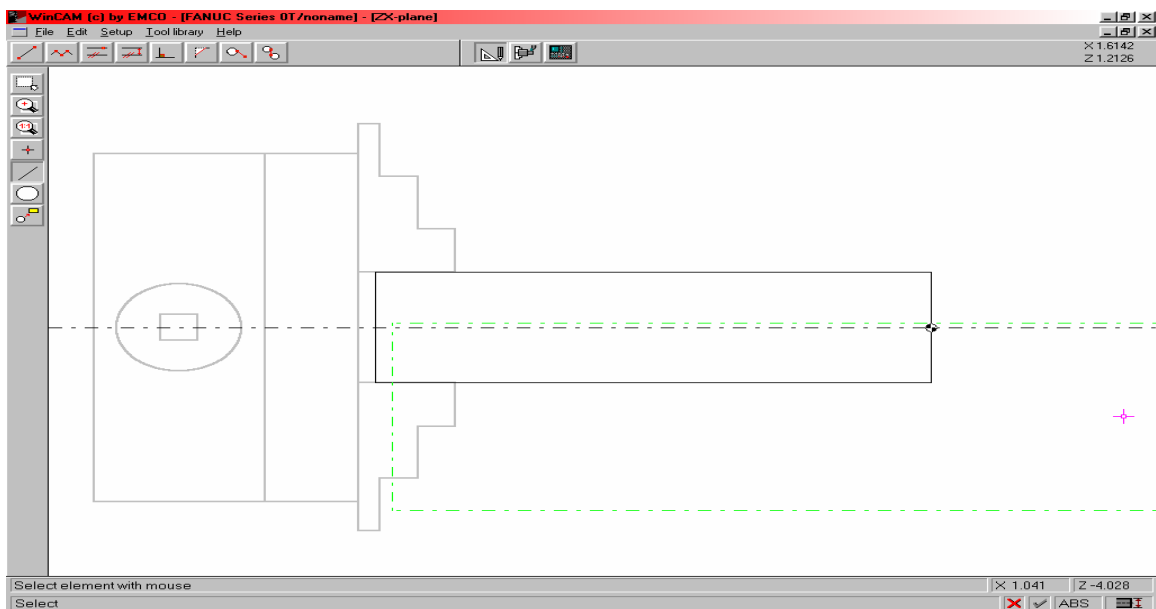
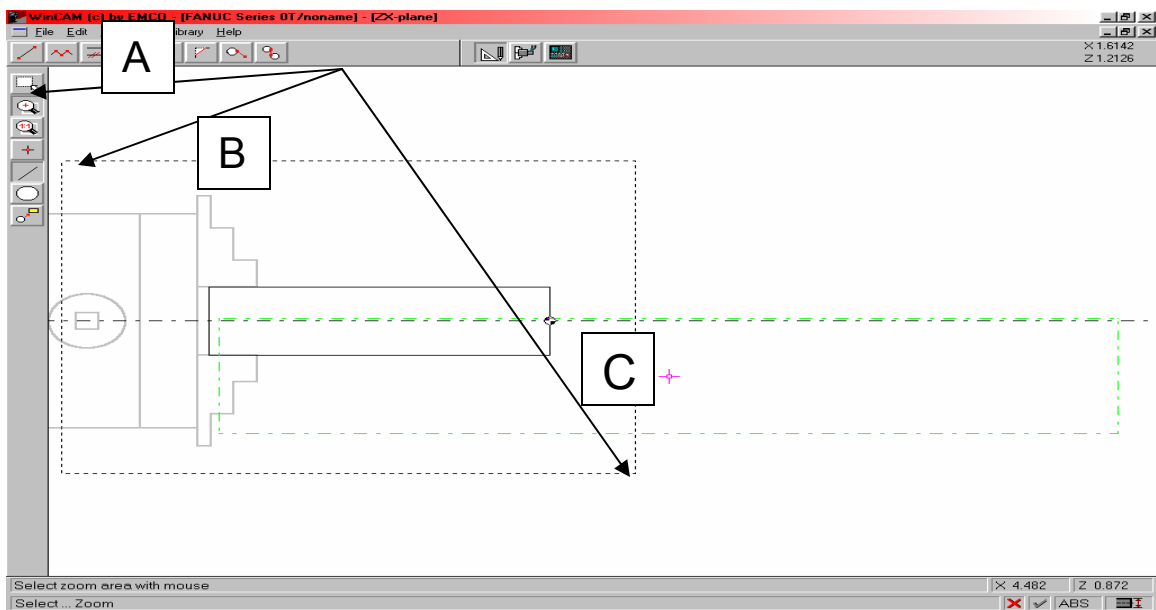
7. TYPE 2.4 IN THE cZ VALUE (AMOUNT OF STOCK PAST CHUCK JAWS)


8. CLICK OK 

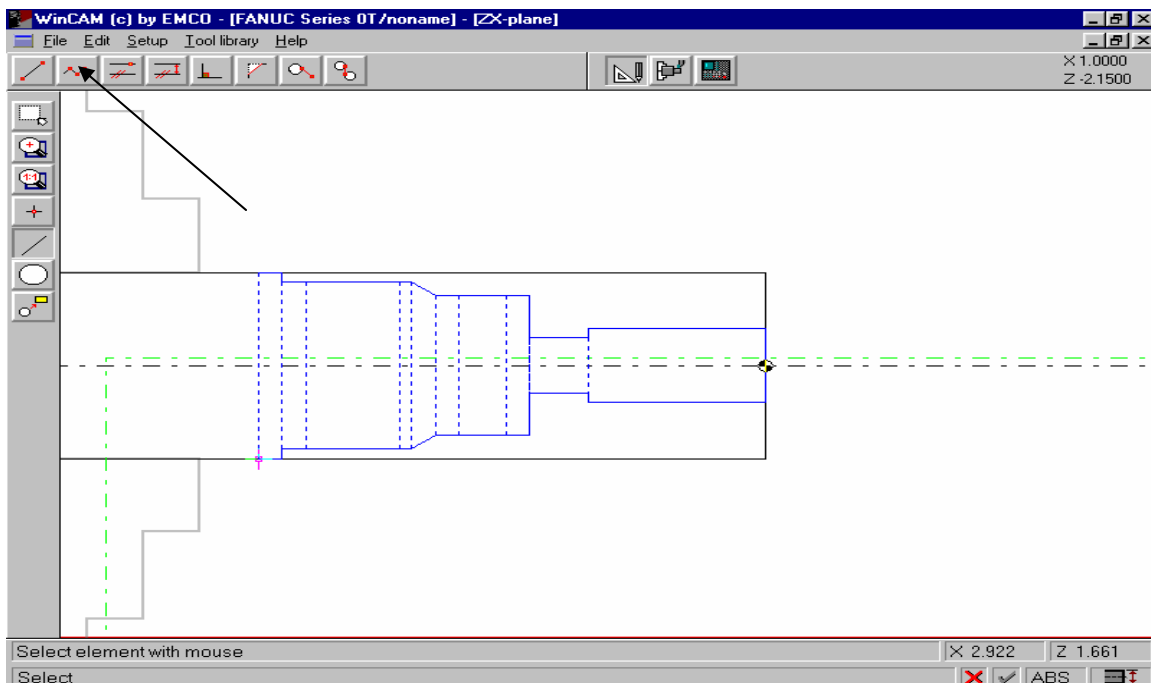





NOTE: PLACE THE MOUSE POINTER OVER ANY ICON AND WINCAM AUTOMATICALLY IDENTIFY THE ICON AT THE LOWER LEFT OF THE SCREEN.

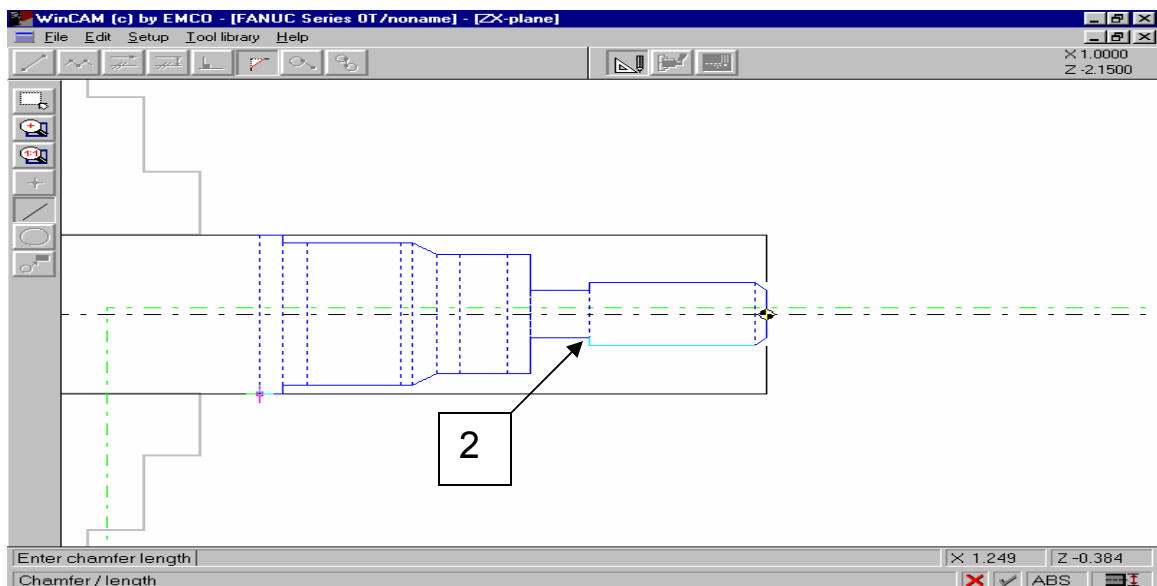
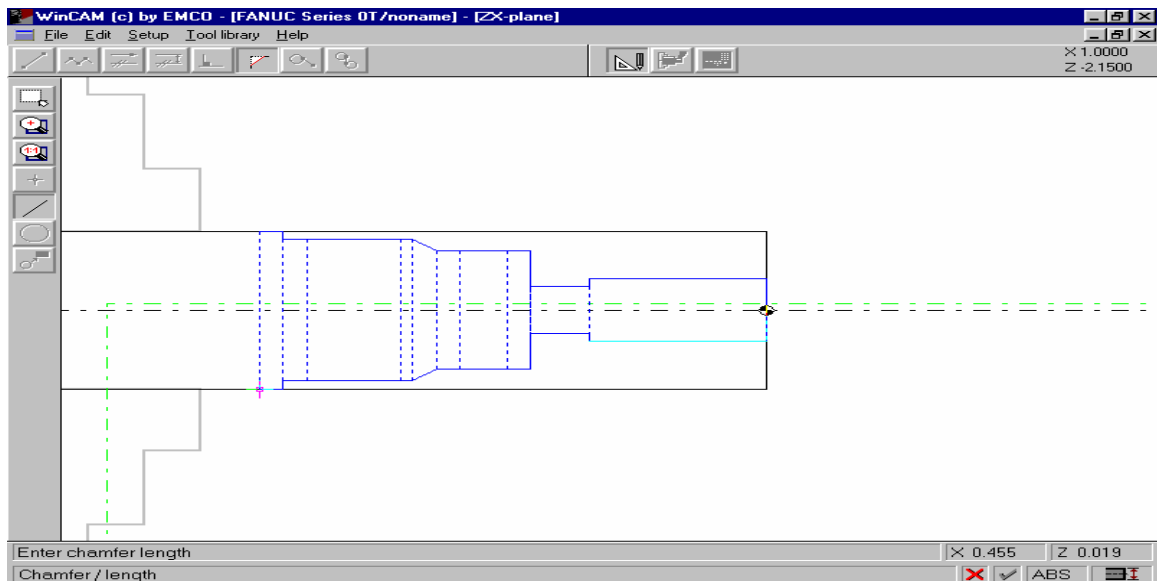
9. CLICK ON THE **ZOOM DRAWING ELEMENT** ICON  (A)
10. PLACE THE **MOUSE POINTER** OR + SYMBOL TO THE UPPER LEFT SIDE OF THE CHUCK (B)
11. CLICK & HOLD THE **LEFT** MOUSE BUTTON & DRAG TO THE BOTTOM RIGHT SIDE OF THE CHUCK (C)
12. LET GO OF MOUSE; YOUR VIEW WILL ENLARGE








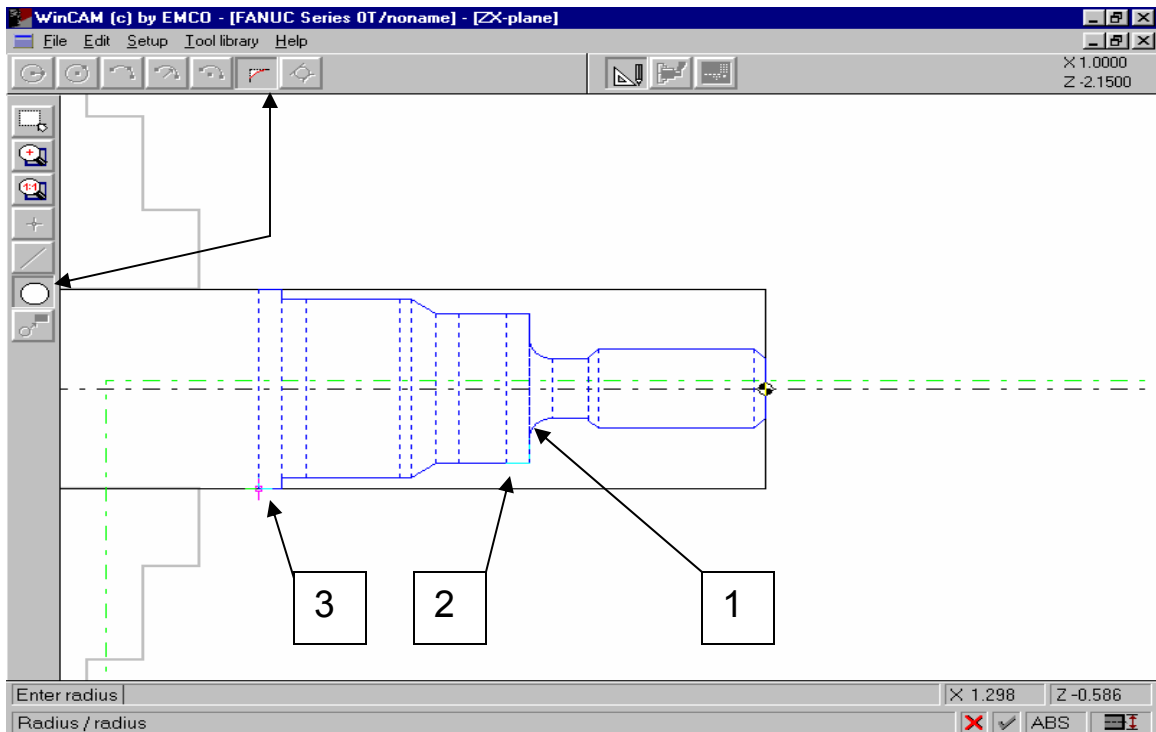
13. CLICK ON THE **POLYLINE** ICON  (MULTIPLE LINE)
14. TYPE **0, 0** FOR THE START POINT / THEN PRESS **ENTER**
15. TYPE **.4, 0** FOR THE NEXT POINT / PRESS **ENTER**
16. TYPE **.4, -.75** FOR THE NEXT POINT / PRESS **ENTER**
17. TYPE **.3, -.75** FOR THE NEXT POINT / PRESS **ENTER**
18. TYPE **.3, -1.0** FOR THE NEXT POINT / PRESS **ENTER**
19. TYPE **.75, -1.0** FOR THE ENDING POINT / PRESS **ENTER**
20. TYPE **.75, -1.075** FOR THE ENDING POINT / PRESS **ENTER**
21. TYPE **.75, -1.325** FOR THE ENDING POINT / PRESS **ENTER**
22. TYPE **.75, -1.4** FOR THE ENDING POINT / PRESS **ENTER**
23. TYPE **.9, -1.5** FOR THE ENDING POINT / PRESS **ENTER**
24. TYPE **.9, -1.55** FOR THE ENDING POINT / PRESS **ENTER**
25. TYPE **.9, -1.95** FOR THE ENDING POINT / PRESS **ENTER**
26. TYPE **.9, -2.05** FOR THE ENDING POINT / PRESS **ENTER**
27. TYPE **1.0, -2.05** FOR THE ENDING POINT / PRESS **ENTER**
28. TYPE **1.0, -2.15** FOR THE ENDING POINT / PRESS **ENTER**



29. CLICK ON **POLYLINE** ICON  DESELECTS POLYLINE
30. CLICK ON **INSERT CHAMFER** ICON 
31. CLICK ON THE **CORNER** OF THE FACE OF THE PART
32. TYPE **.05** FOR THE CHAMFER / THEN PRESS **ENTER**
33. CLICK ON **INSERT CHAMFER** ICON 
34. CLICK ON THE **NUMBER 2** LOCATION SHOWN BELOW
35. TYPE **.0499** FOR THE CHAMFER / THEN PRESS **ENTER**



36. CLICK ON THE **CIRCLE ICON** 
37. CLICK ON THE **INSERT RADIUS ICON** 
38. CLICK ON THE **NUMBER 1** LOCATION SHOWN BELOW
39. TYPE **.1** FOR THE RADIUS / THEN PRESS **ENTER**
40. CLICK ON THE **CIRCLE ICON** 
41. CLICK ON THE **INSERT RADIUS ICON** 
42. CLICK ON THE **NUMBER 2** LOCATION SHOWN BELOW
43. TYPE **.05** FOR THE RADIUS / THEN PRESS **ENTER**
44. CLICK ON THE **INSERT RADIUS ICON** 
45. CLICK ON THE **NUMBER 3** LOCATION SHOWN BELOW
46. TYPE **.05** FOR THE RADIUS / THEN PRESS **ENTER**



47. CLICK ON **CIRCULAR ARC WITH START, END AND**

CIRCLE POINT ICON 

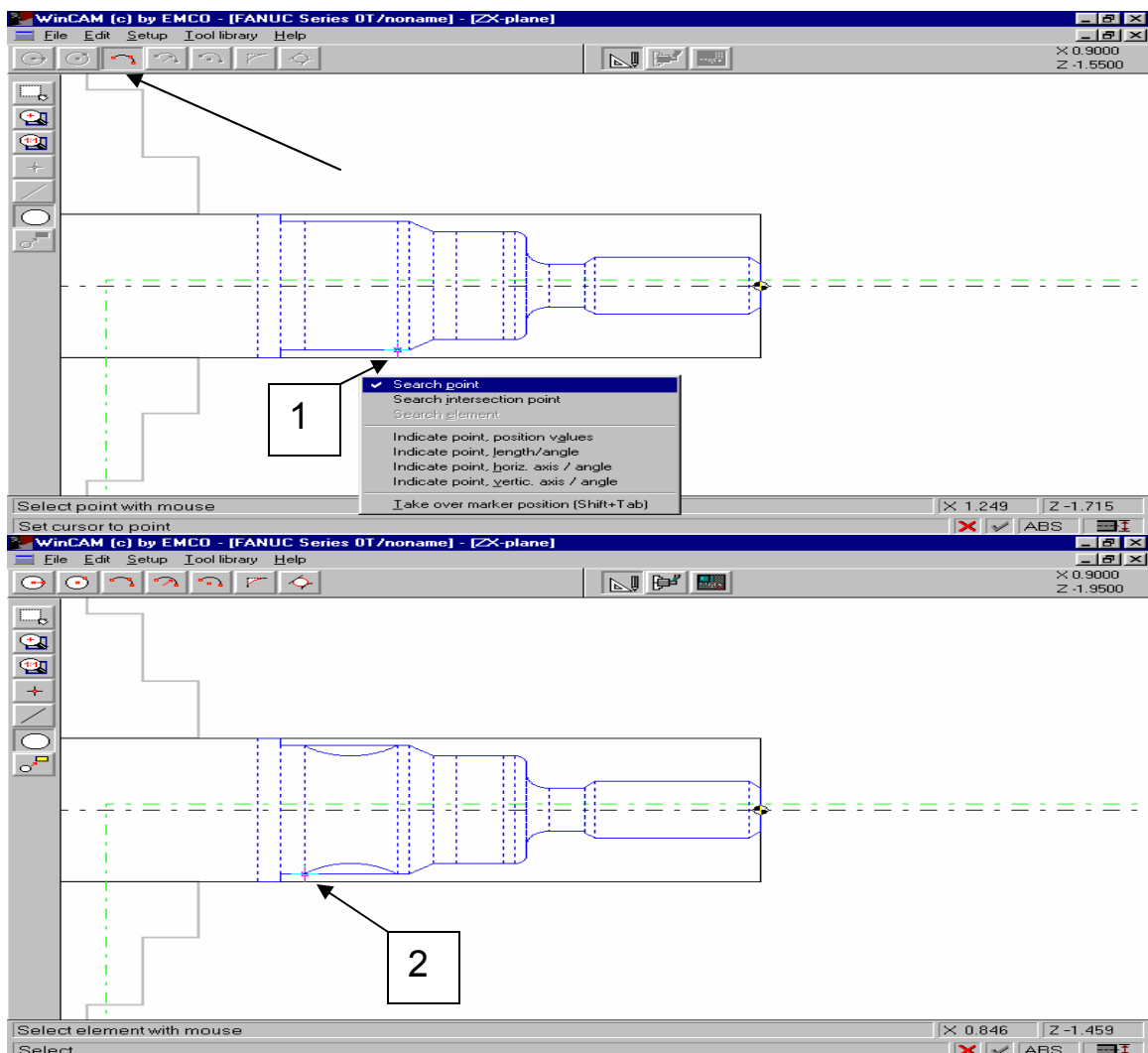
48. **RIGHT CLICK** AND HIGHLIGHT **SEARCH POINT** THEN **LEFT CLICK**

49. CLICK ON **NUMBER 1** LOCATION SHOWN BELOW

50. **RIGHT CLICK** AND HIGHLIGHT **SEARCH POINT** THEN **LEFT CLICK**

51. CLICK ON **NUMBER 2** LOCATION SHOWN BELOW

52. TYPE **.75, -1.75** FOR CIRCLE CENTER POINT THEN PRESS **ENTER**



53. CLICK ON THE **LINE** THAT CROSS THE ARC THEN PRESS **DELETE**

54. CLICK ON THE **LINE MENU** ICON 

55. CLICK ON THE **POLYLINE** ICON  (MULTIPLE LINE)

56. **RIGHT** CLICK AND HIGHLIGHT **SEARCH POINT** THEN **LEFT** CLICK

57. CLICK ON **NUMBER 1** LOCATION SHOWN BELOW

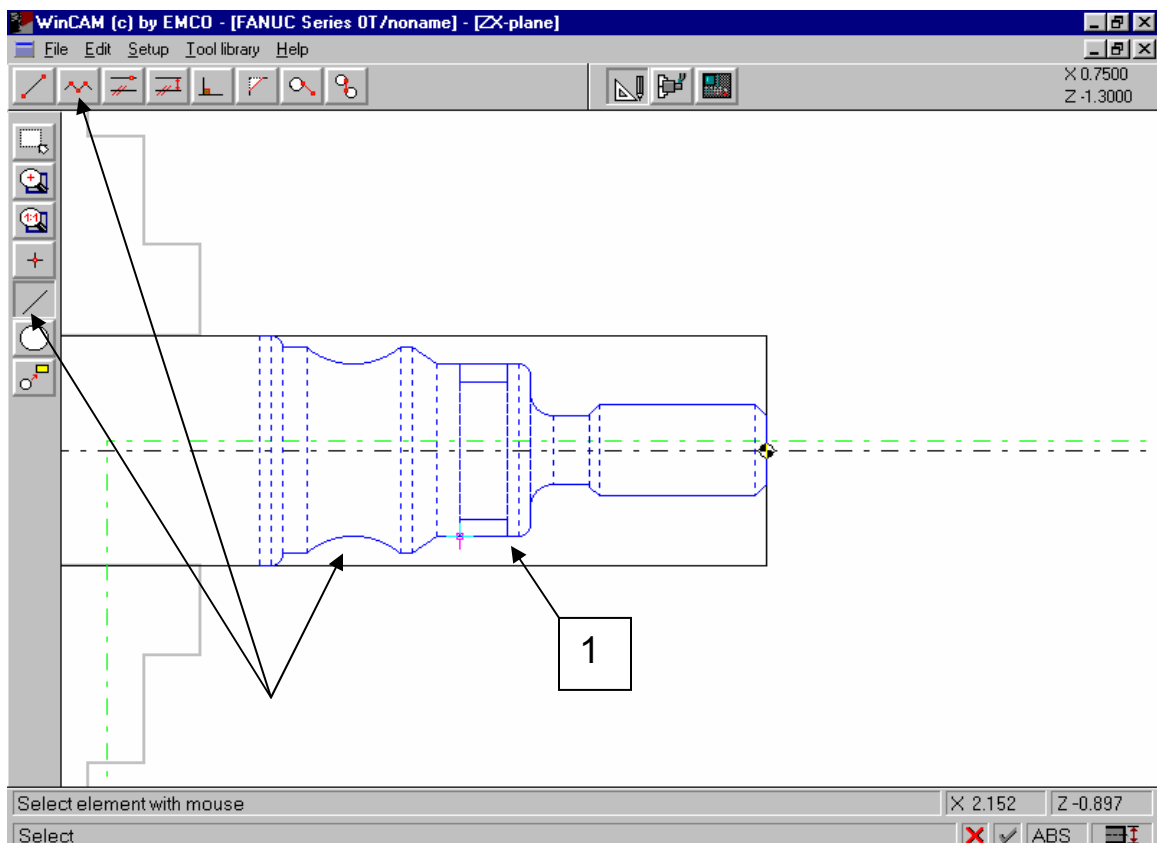
58. TYPE **.6, -1.075** FOR THE START POINT / PRESS **ENTER**

59. TYPE **.6, -1.325** FOR THE NEXT POINT / PRESS **ENTER**

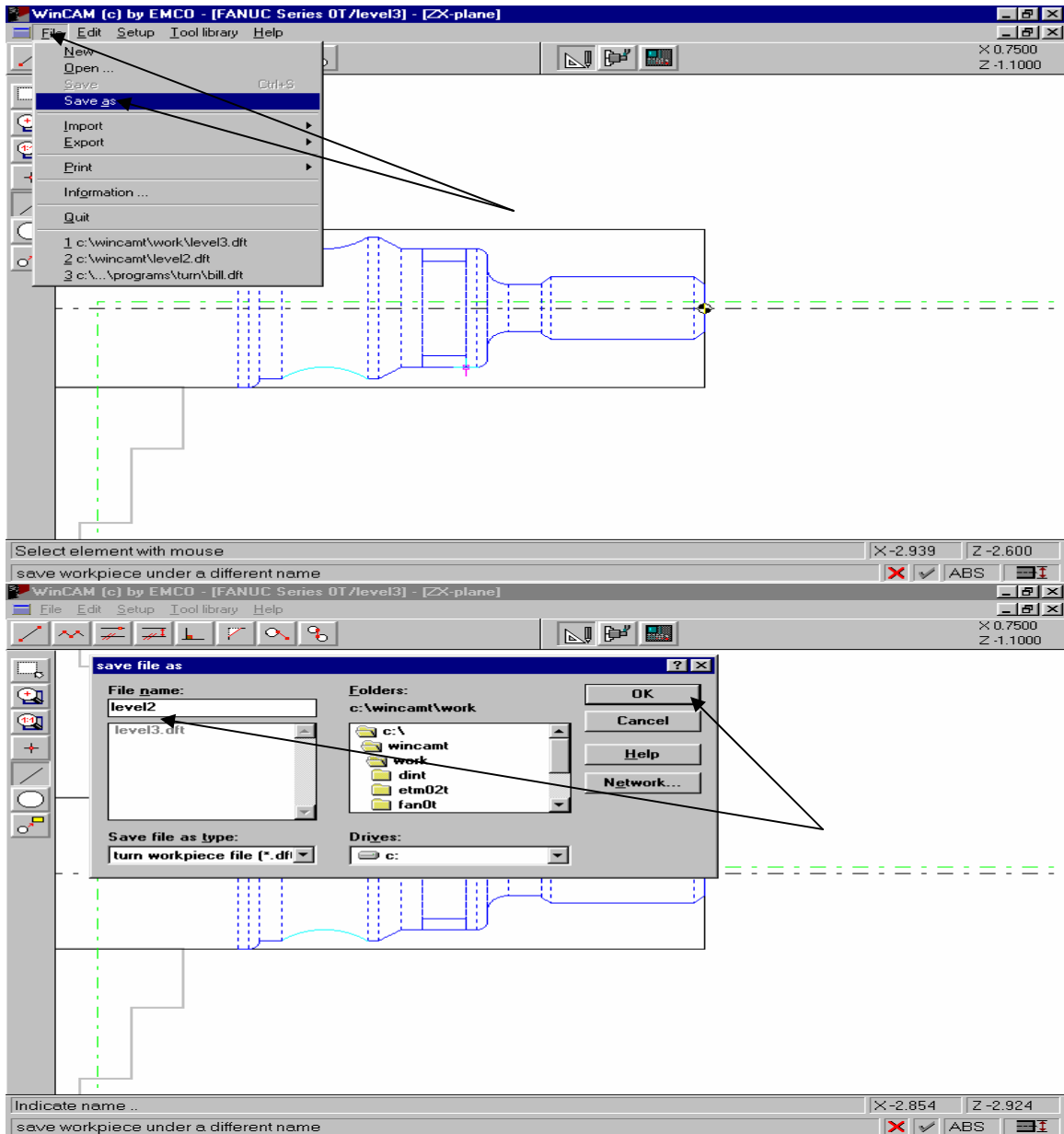
60. TYPE **.75, -1.325** FOR THE NEXT POINT / PRESS **ENTER**

61. CLICK ON **POLYLINE** ICON  DESELECTS POLYLINE

This is for the Grove




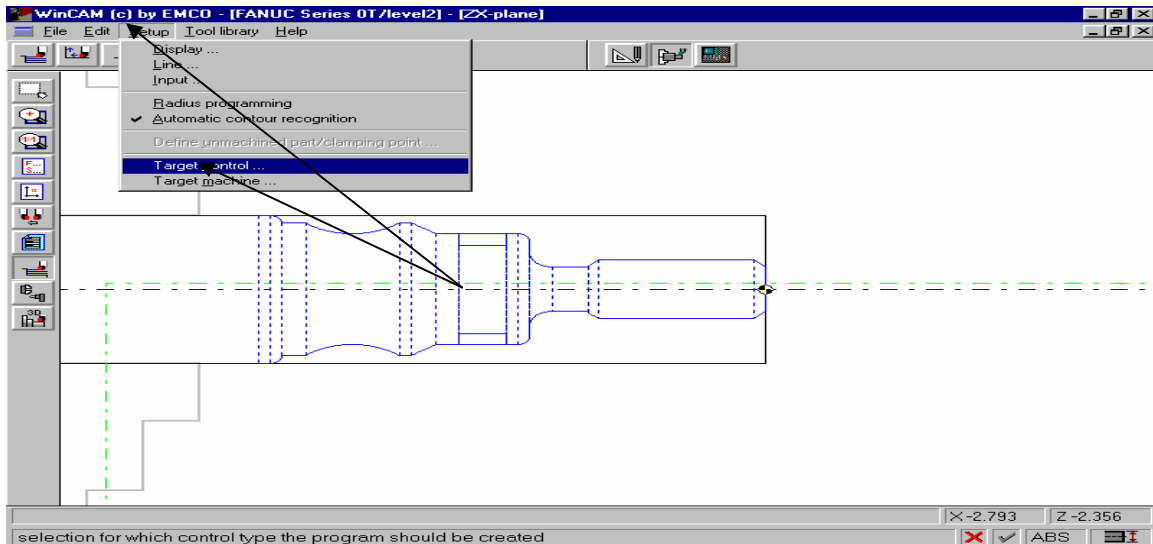
1. CLICK ON **FILE** (TOP LEFT OF THE SCREEN)
2. CLICK ON **SAVE AS**
3. TYPE **level2**
4. CLICK **OK**




**You have just completed the CAD portion
of the Step by Step guide, go to the next
page for CAM**

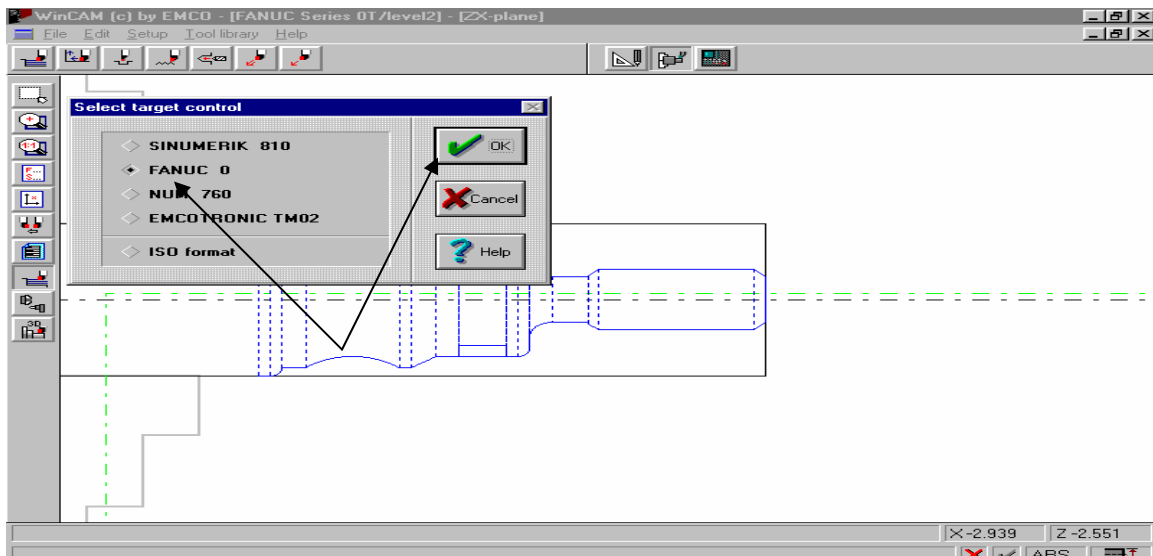
WinCAM Turn Step by Step CAM Setup











1. SELECT **CAM** ICON (UPPER MIDDLE OF SCREEN) 
THIS SWITCHES MODES TO COMPUTER AIDED MACHINING
2. CLICK ON **SETUP** (TOP LEFT OF THE SCREEN)
3. CLICK ON **TARGET CONTROL**

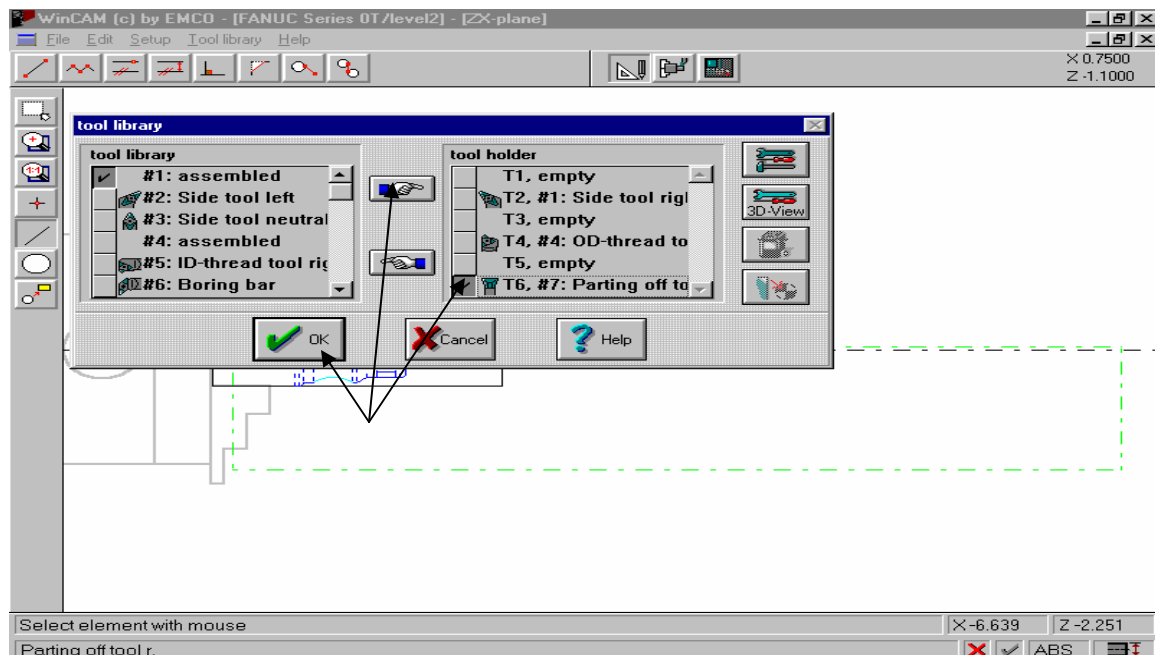


Note: Only use step (4) if you purchased the option(s) for
Siemens, Fanuc, Num 760 or Emcotronic TM02

4. CLICK ON THE **POST** FOR THE PROGRAM TO BE
FORMATTED example (**FANUC O**) THEN CLICK OK 




5. CLICK ON **TOOL LIBRARY**
6. CLICK THE GRAY BOX  **#1: Side tool right** UNDER TOOL LIBRARY
7. CLICK THE GRAY BOX  **T2, empty** UNDER TOOL HOLDER
8. CLICK THE **TRANSFER** ICON  (THIS PLACES TOOL IN TOOL HOLDER)
9. CLICK THE GRAY BOX  **#4: OD-thread tool r** UNDER TOOL LIBRARY
10. CLICK THE GRAY BOX  **T4, empty** UNDER TOOL HOLDER
11. CLICK THE **TRANSFER** ICON 
12. CLICK THE GRAY BOX  **#7: Parting off tool r** UNDER TOOL LIBRARY
13. CLICK THE GRAY BOX  **T6, empty** UNDER TOOL HOLDER
14. CLICK THE **TRANSFER** ICON 
15. CLICK OK  **OK**



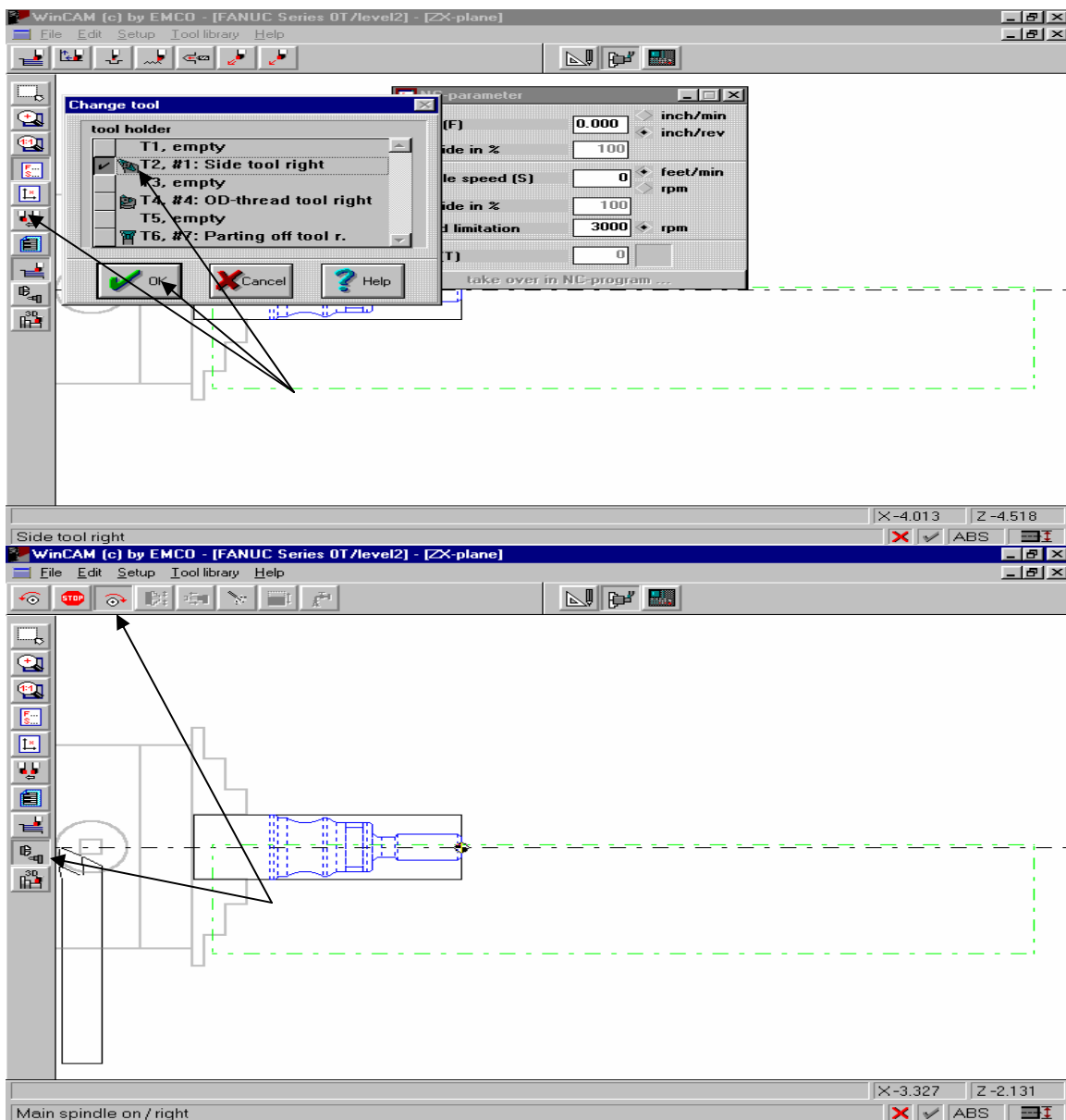
16. CLICK ON **CHANGE TOOL ICON** 





17. CLICK THE  **#1: Side tool right**

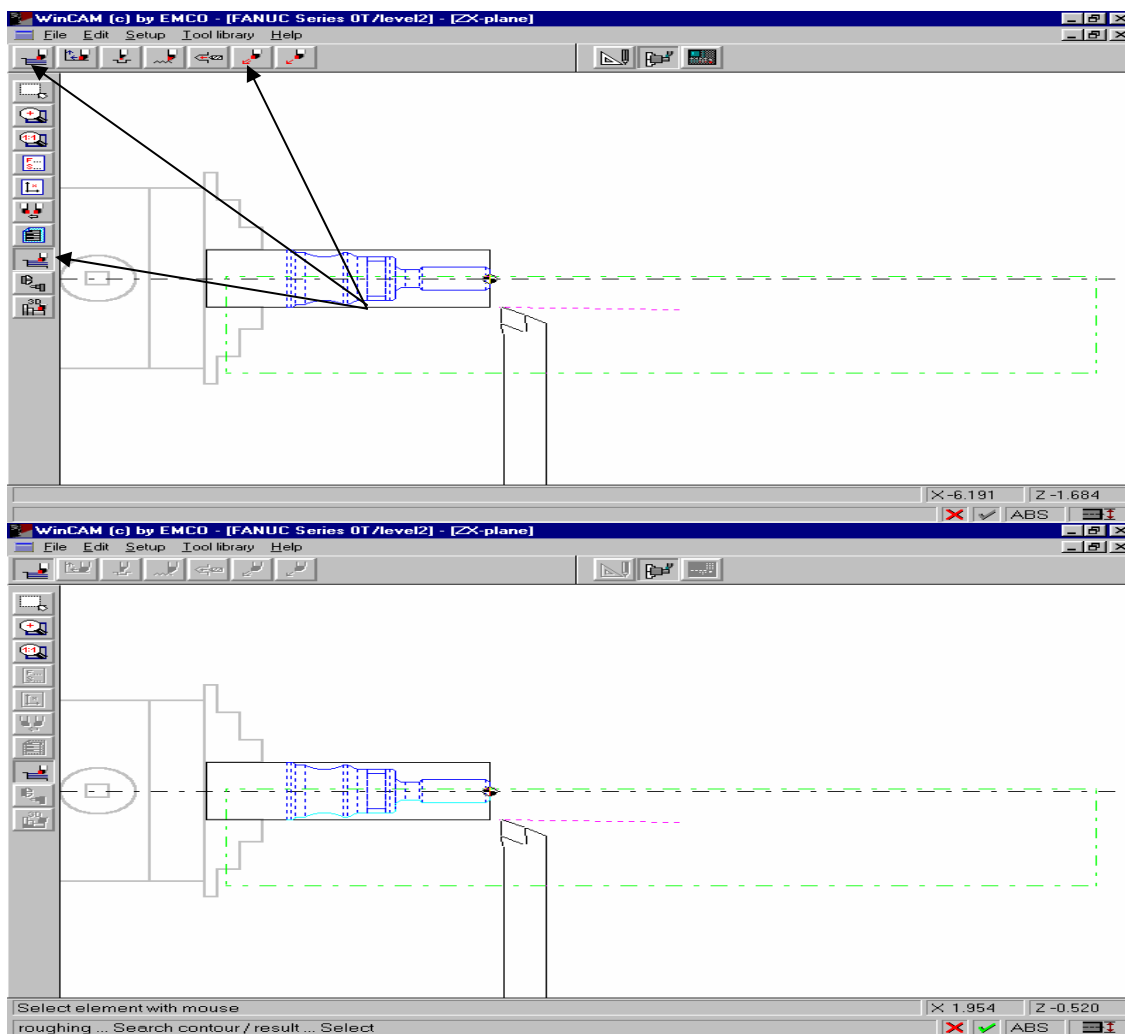
18. CLICK OK 


19. CLICK ON THE **PERIPHERY (CLAMPING DEVICES, ETC.)**
ICON 

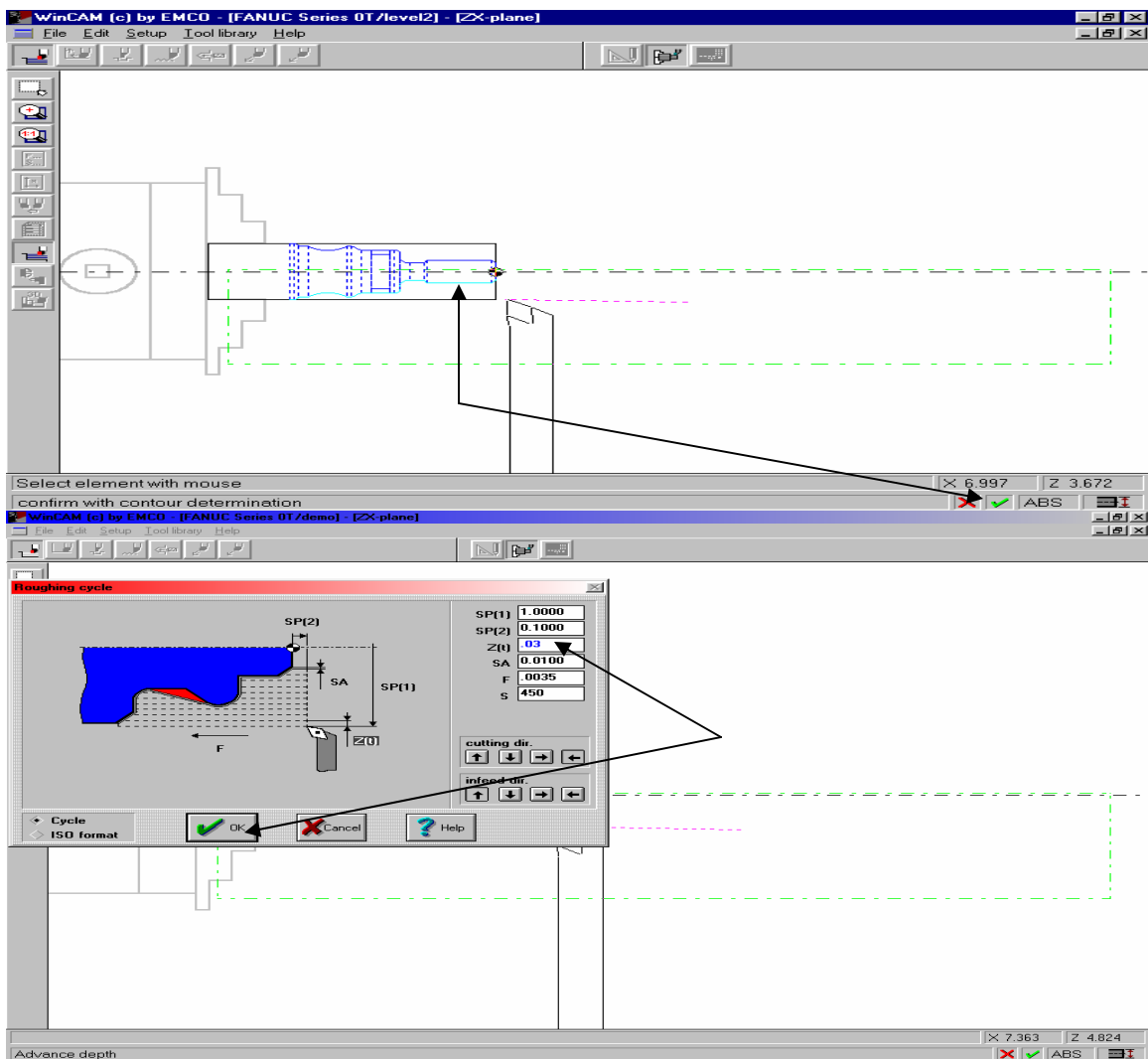
20. CLICK ON **MAIN SPINDLE ON/RIGHT ICON**  (M03)





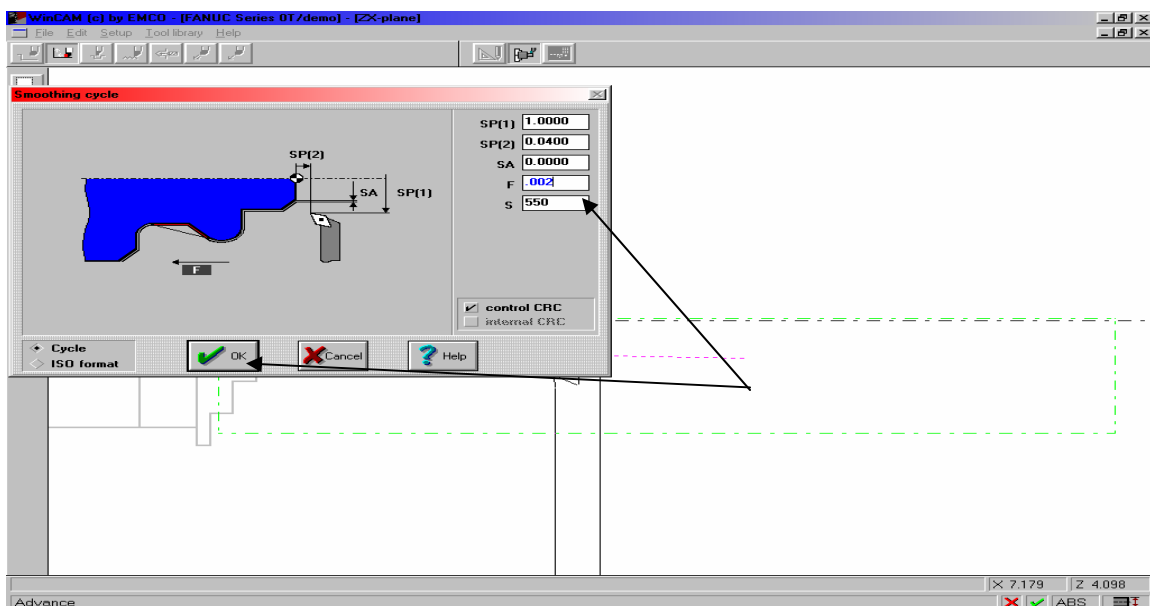
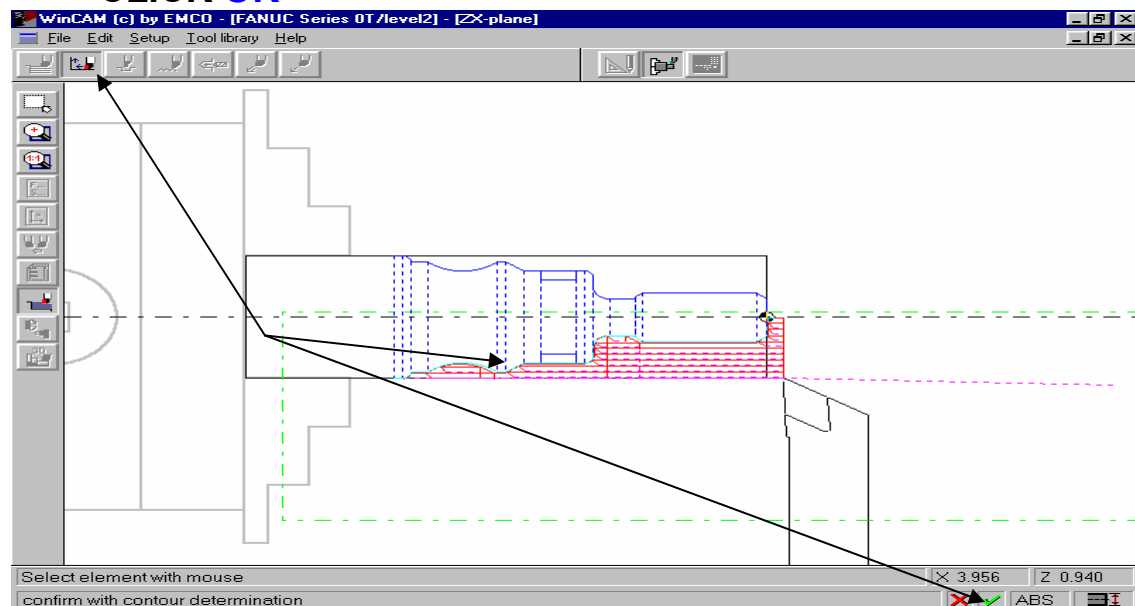
21. CLICK ON **MACHINING** ICON 
22. CLICK ON **MOVEMENT IN RAPID MOTION** ICON  (G00)
23. TYPE **1.1, 2.0** (SAFE MOVE) / THEN PRESS **ENTER**
24. CLICK ON **MOVEMENT IN RAPID MOTION** ICON  (G00)
25. TYPE **1.0, .1** (CYCLE POSITION) / THEN PRESS **ENTER**
26. CLICK ON **ROUGHING** ICON  (G73)
27. CLICK ON THE **CONTOUR** BEING MACHINED
28. PRESS SPACE BAR TO HIGHLIGHT THE DIRECTION OF THE CONTOUR THEN PRESS ENTER






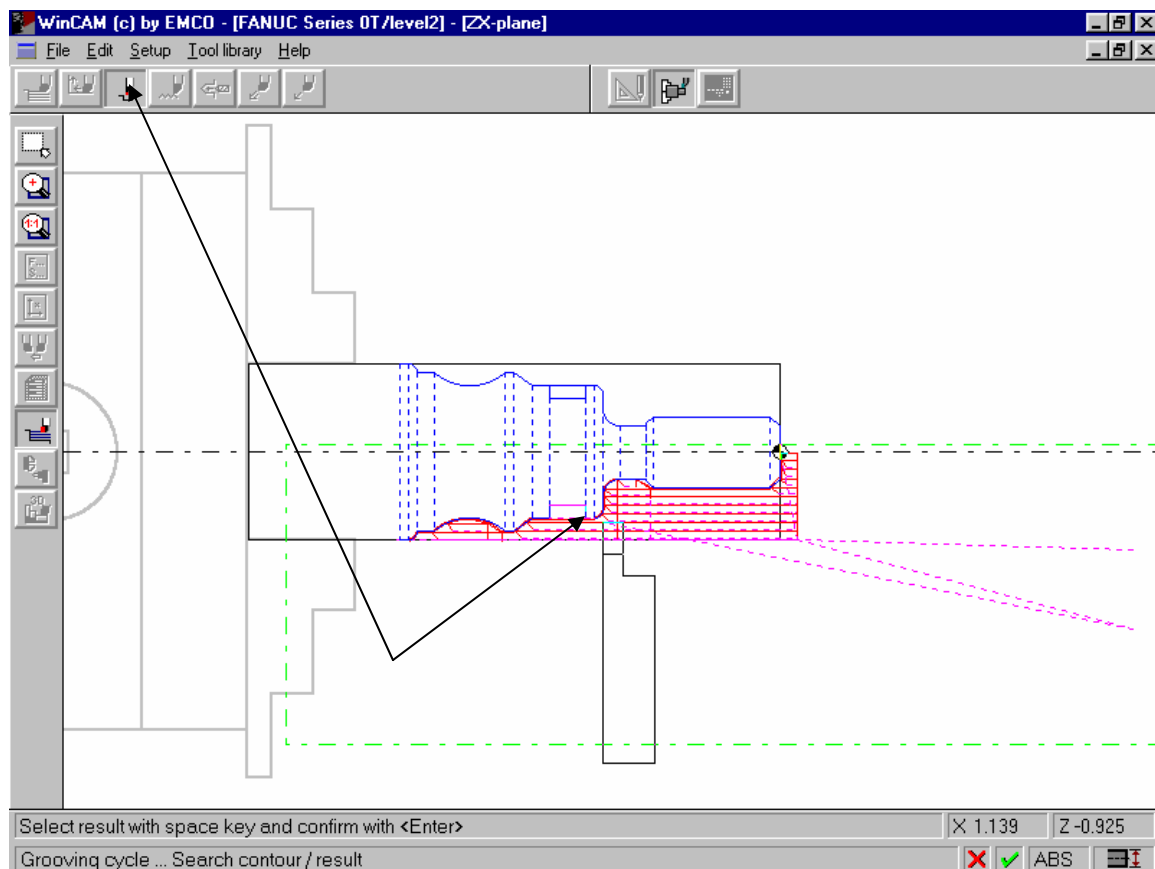
29. CLICK THE GREEN CHECK MARK  (LOWER RIGHT CORNER OF THE SCREEN)
30. DOUBLE CLICK **Z(t)** (WHITE AREA)
31. TYPE **.03** (ADVANCE DEPTH) / THEN PRESS **TAB**
32. TYPE **.005** IN SA (FINISH OFFSET) / THEN PRESS **TAB**
33. TYPE **.0035** IN F (ADVANCE) = DEFAULT (G95) FEED PER REVOLUTION / THEN PRESS **TAB**
34. TYPE **450** IN S (SPINDLE SPEED) = (G96) / CLICK **OK**





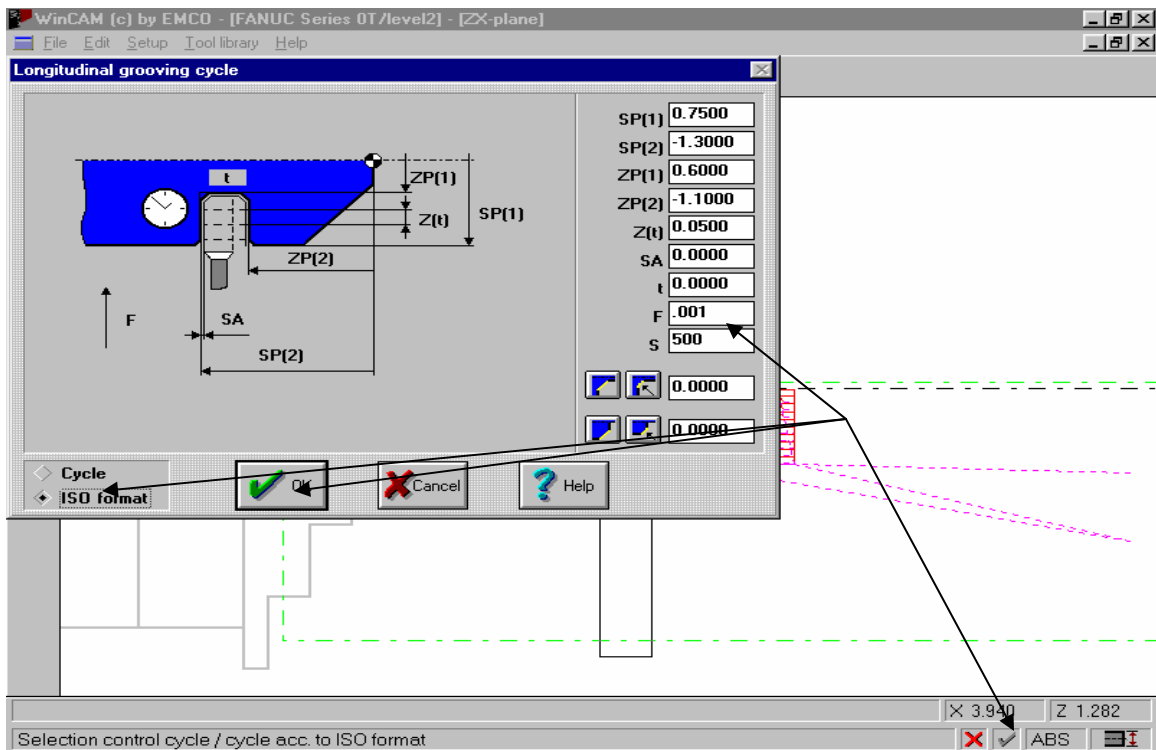
35. CLICK ON **FOLLOW CONTOUR** ICON  (G72)
36. CLICK ON THE **CONTOUR** BEING MACHINED
37. CLICK THE GREEN CHECK MARK  (LOWER RIGHT CORNER OF THE SCREEN)
38. DOUBLE CLICK ON THE **F** (ADVANCE) (WHITE AREA)
39. TYPE IN **.002** / THEN PRESS **TAB**
40. TYPE **550** IN **S** (FOR SURFACE FEET PER REV) / THEN CLICK **OK**






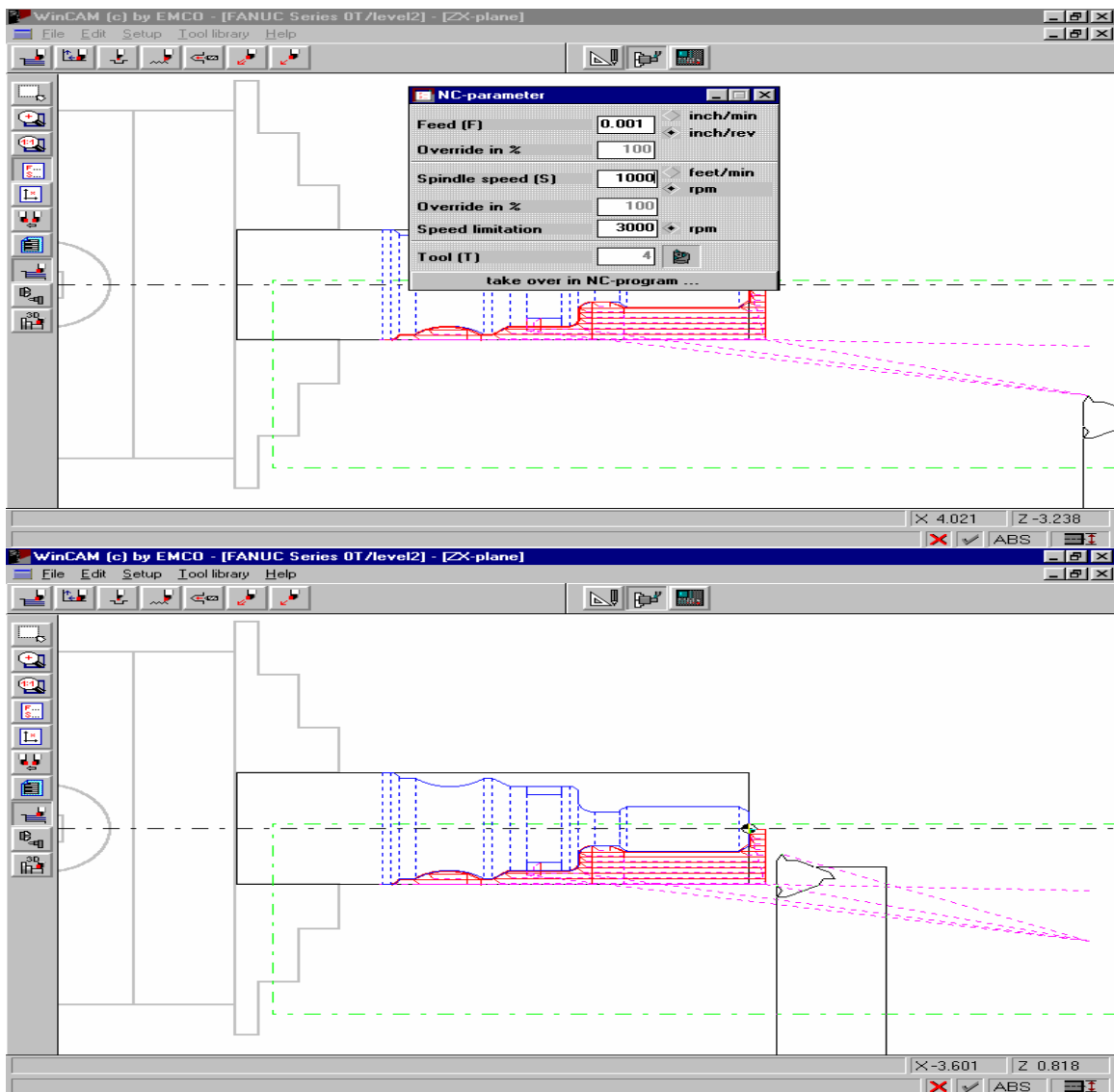
41. CLICK ON **MOVEMENT IN RAPID MOTION** ICON  (G00)
42. TYPE **2.0, 2.0** (SAFE MOVE) / THEN PRESS **ENTER**
43. CLICK ON **CHANGE TOOL** ICON 
44. SELECT **TOOL 6 #7** PARTING OFF TOOL
45. CLICK ON **MOVEMENT IN RAPID MOTION** ICON  (G00)
46. TYPE **.8, -1.0** / THEN PRESS **ENTER**
47. CLICK ON **GROOVING CYCLE** ICON
48. CLICK ON THE **FIRST LINE** IN THE GROOVE THEN PRESS **SPACE BAR** TO SELECT THE DIRECTION TO TRAVEL / THEN PRESS **ENTER**




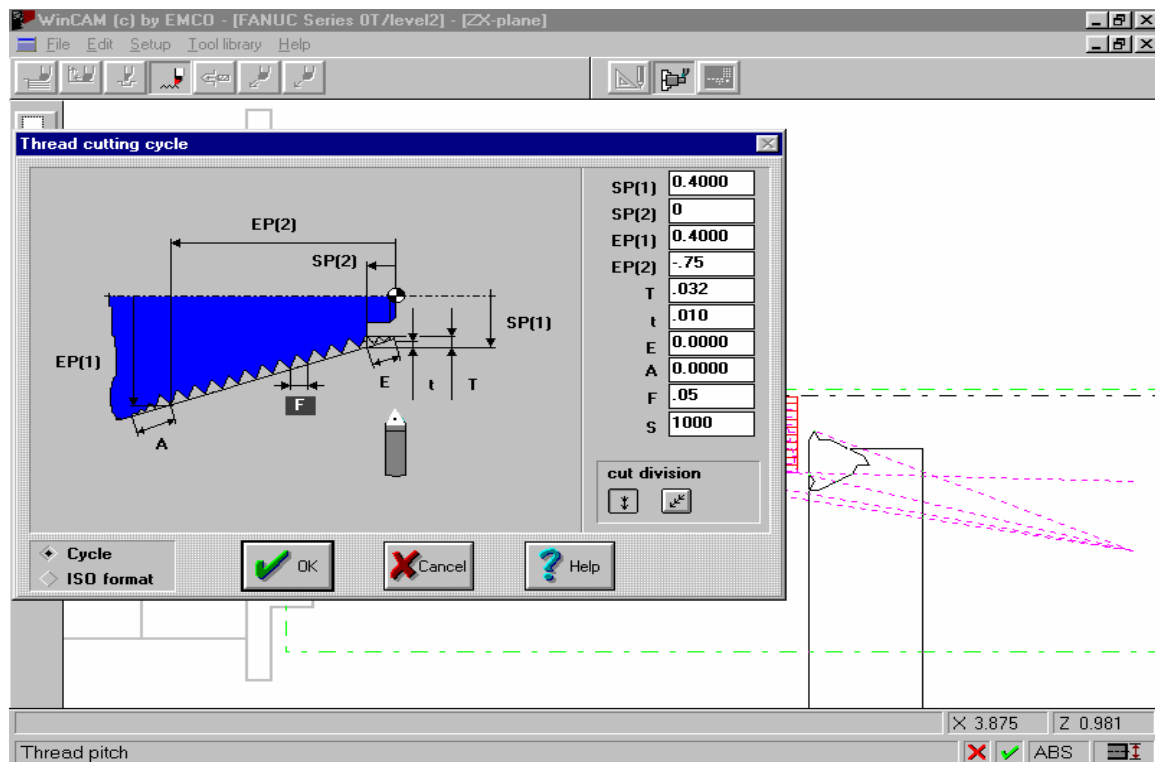
49. CLICK THE GREEN CHECK MARK  (LOWER RIGHT CORNER OF THE SCREEN)
50. DOUBLE CLICK ON THE **F** (ADVANCE) (WHITE AREA)
51. TYPE IN **.001** / THEN PRESS **TAB**
52. TYPE **500** IN **S** (FOR SURFACE FEET PER REV)
53. CLICK ON THE ISO FORMAT / THEN CLICK OK
54. CLICK ON **MOVEMENT IN RAPID MOTION** ICON  (G00)
55. TYPE **2.0, 2.0** (SAFE MOVE) / THEN PRESS **ENTER**



56. CLICK ON **CHANGE TOOL** ICON 
57. SELECT **TOOL 4 # 4** OD THREAD TOOL
58. CLICK ON THE F/S ICON 
59. CHANGE THE SPINDLE SPEED TO RPM AND TO 1000
60. THEN PRESS TAKE OVER IN NC PROGRAM THEN CLOSE
61. CLICK ON **MOVEMENT IN RAPID MOTION** ICON  (G00)
62. TYPE **.45, .20** / THEN PRESS **ENTER** (STAY OFF DIA. & 2 TIMES THE PITCH)

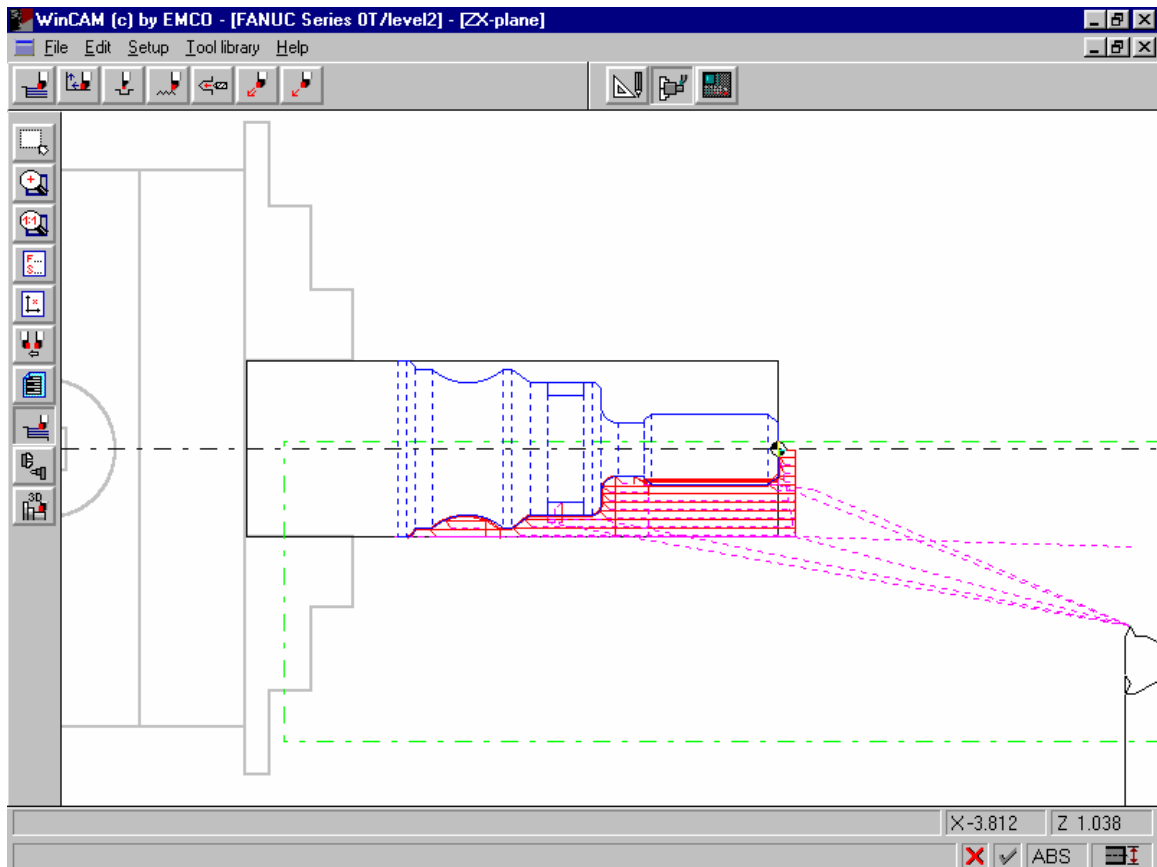


63. CLICK ON **THREADING** ICON
64. CLICK ON THE LINE TO BE THREADED
65. CLICK THE GREEN CHECK MARK  (LOWER RIGHT CORNER OF THE SCREEN)
66. DOUBLE CLICK ON THE **SP (2)** (WHITE AREA)
67. TYPE 0 THEN PRESS TAB 2 TIMES
68. TYPE -.75 IN THE EP (2) THEN PRESS TAB
69. T WILL BE .032 PRESS TAB
70. t WILL BE .010 PRESS TAB 3 TIMES
71. F WILL BE .050 THEN PRESS OK

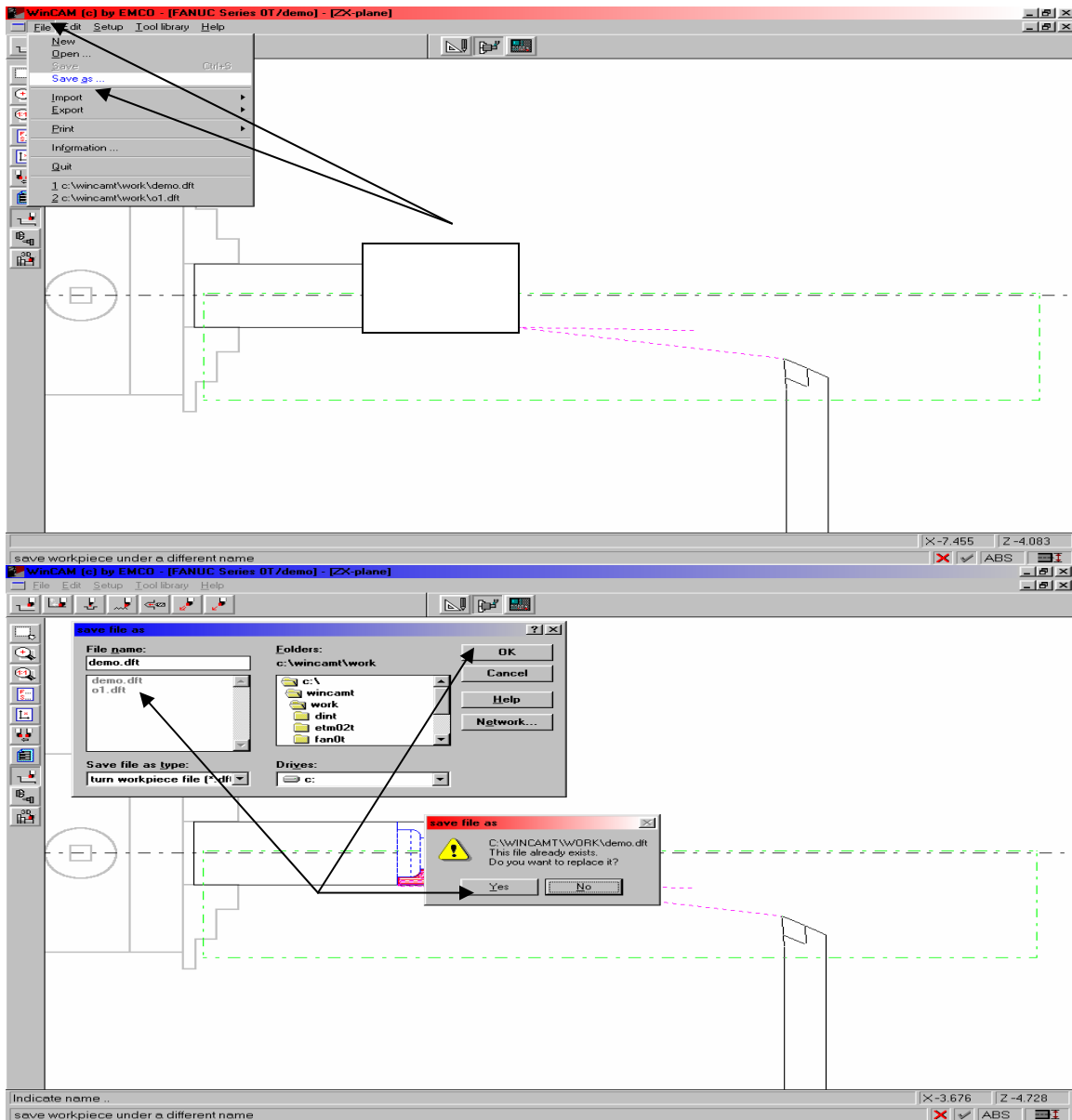


72. CLICK ON **MOVEMENT IN RAPID MOTION** ICON  (G00)

73. TYPE **2.0, 3.0** (SAFE MOVE) / THEN PRESS **ENTER**



1. CLICK ON **FILE** (TOP LEFT OF THE SCREEN)
2. CLICK ON **SAVE AS**
3. CLICK ON **Level2.DFT**
4. CLICK **OK**
5. CLICK **YES** TO FILE ALREADY EXISTS



You have just completed CAM portion
of Level2