

# Chapter 12

## OBJECTIVE

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Set the Okuma User Parameters to allow for minimum travel of the turret(s) during a tool change.

## INTRODUCTION

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To perform a tool change operation it is necessary for the turret to be located on a "soft" limit. The soft limit is a location that places the turret at a safe distance from the work so that a tool change will not cause damage to the machine.

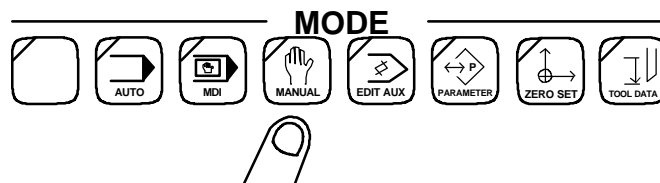
To reduce cycle time during production runs you may find it necessary to move this limit as close to the work as is **safely** possible (taking into consideration length of stock as well as length of tool holders).

## SETTING USER PARAMETERS

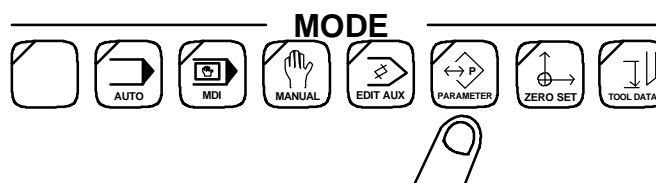
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The following procedures explain the necessary steps for setting the positive user parameter limits:

1. On the Operation Panel, select the Manual mode of operation.



2. Select the desired turret by pressing either the "A" or "B" Turret Control key.
3. Use the Pulse Handle to position the turret to the desired location. If you are unable to move the turret far enough away from the work (possibly because of the current User Parameter settings) go to page 10-3 for 2-axis or 10-6 for 4-axis information.
4. On the Operation Panel, select the Parameter mode of operation.



5. You should see the following screen. If you do not see this screen, press either function key [F6] or [F7] (ITEM) until this screen is displayed.

PARAMETER SET			N 0
Page 1			UNIT 1in
BC=05	* USER PARAMETER *		
	T	X	Z
+VARIABLE LIMIT(PROG)	A	████████	11.5436
-VARIABLE LIMIT(PROG)	A	6.5467	11.5436
+VARIABLE LIMIT(MACH)	A	246.9674	11.5436
-VARIABLE LIMIT(MACH)	A	684.5676	11.5436
DROOP DATA	A	0.0004	0.0006
SET	ADD	CAL	ITEM ↑
ITEM ↓			
F1	F2	F3	F4
F5	F6	F7	F8

It is important for you to note that there are other pages that look similar. **Ensure that you are on the \* USER PARAMETER \* page!**

6. At the Extended Keypad, use the Cursor Arrow keys to position the cursor over the data for the **+VARIABLE LIMIT(PROG) X** as shown above.
7. Select function key [F3] (CAL).
8. Select the WRITE key.

The value under the cursor will change.

9. At the Extended Keypad, use the Cursor Arrow keys to position the cursor over the data for the **+VARIABLE LIMIT(PROG) Z**.
10. Select function key [F3] (CAL).
11. Select the WRITE key.

The value under the cursor will change.

At this point you have finished setting the User Parameter data or soft limit settings.

## **OPENING USER PARAMETERS ( 2-AXIS )**

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When you have set the User Parameter soft limit close to the work, it may later be necessary to "open" the axes travels. Opening the axes travel simply refers to increasing the amount of possible movement for the X and Z axes.

The following information explains how to perform this operation:

1. Use the information in Chapter 10 to enter the following programs into the OSP bubble memory if they are not already there.

2. Name this program OPENXA.

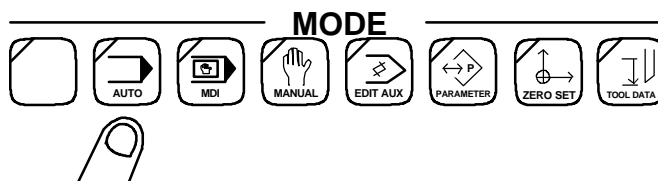
```
N10 VPVLX=[VPVLX+.1]
GOTO N10
M2
```

3. Name this program OPENZA.

```
N10 VPVLZ=[VPVLZ+.1]
GOTO N10
M2
```

Programs OPENXA and OPENZA will both read the current positive value in the System Parameter for X and Z then add .1 until the maximum value has been attained.

4. On the Operation Panel, Select the AUTO mode of operation



5. Use the instruction for Loading Programs (see chapter 11) to P-Select OPENZA.
6. On the Operation Panel, press the CYCLE START button.

At this point the program will start running. The program will operate for only a few seconds and then an alarm will be displayed across the top of the screen. The text should read "430 ALARM-B bad value for system variable". This alarm is telling you that the Z positive limit value is now as large as it can be.

7. On the Operation Panel, press the CONTROL ON/RESET button.

The alarm condition will clear.

8. P-Select OPENXA.
9. On the Operation Panel, press the CYCLE START button.

At this point the program will start running. The program will operate for only a few seconds and then an alarm will be displayed across the top of the screen. The text should read "430 ALARM-B bad value for system variable". This alarm is telling you that the X positive limit value is now as large as it can be.

10. On the Operation Panel, press the CONTROL ON/RESET button.

The alarm condition will clear.

At this point you have finished the necessary steps for opening the User Parameter soft limit.

Return to page 12-1 for instructions on how to set the correct position for your soft limit user parameters.

## **OPENING USER PARAMETERS ( 4-AXIS )**

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When you have set the User Parameter soft limit close to the work, it may later be necessary to "open" the axes travels. Opening the axes travel simply refers to increasing the amount of possible movement for the X and Z axes.

The information on the following page explains how to perform this operation.

1. Use the information in Chapter 11 to enter the following programs into the OSP bubble memory if they are not already there.

2. Name this program OPENXA.

```
G13
N10 VPVLX=[VPVLX+.1]
GOTO N10
M2
```

3. Name this program OPENZA.

```
G13
N10 VPVLZ=[VPVLZ+.1]
GOTO N10
M2
```

4. Name this program OPENXB.

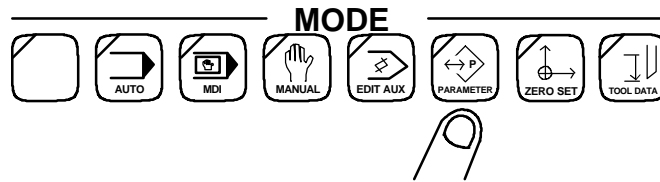
```
G14
N10 VPVLX=[VPVLX+.1]
GOTO N10
M2
```

5. Name this program OPENZB.

```
G14
N10 VPVLZ=[VPVLZ+.1]
GOTO N10
M2
```

Programs OPENXA, OPENZA, OPENXB and OPENZB will read the current positive value in the System Parameter for X and Z then add .1 until the maximum value has been attained.

6. On the Operation Panel, Select the AUTO mode of operation



7. Use the instruction for Loading Programs (see chapter 11) to P-Select OPENZA (or OPENZB).
8. On the Operation Panel, press the CYCLE START button.

At this point the program will start running. The program will operate for only a few seconds and then an alarm will be displayed across the top of the screen. The text should read "430 ALARM-B bad value for system variable". This alarm is telling you that the Z positive limit value is now as large as it can be.

9. On the Operation Panel, press the CONTROL ON/RESET button.

The alarm condition will clear.

10. P-Select OPENXA (or OPENXB).
11. On the Operation Panel, press the CYCLE START button.

At this point the program will start running. The program will operate for only a few seconds and then an alarm will be displayed across the top of the screen. The text should read "430 ALARM-B bad value for system variable". This alarm is telling you that the X positive limit value is now as large as it can be.

12. On the Operation Panel, press the CONTROL ON/RESET button.

The alarm condition will clear.

At this point you have finished the necessary steps for opening the User Parameter soft limit.

Return to page 12-1 for instructions on how to set the correct position for your soft limit user parameters.