CERT-LR Mate 200iC Mastering Procedure

Zero Degree Mastering

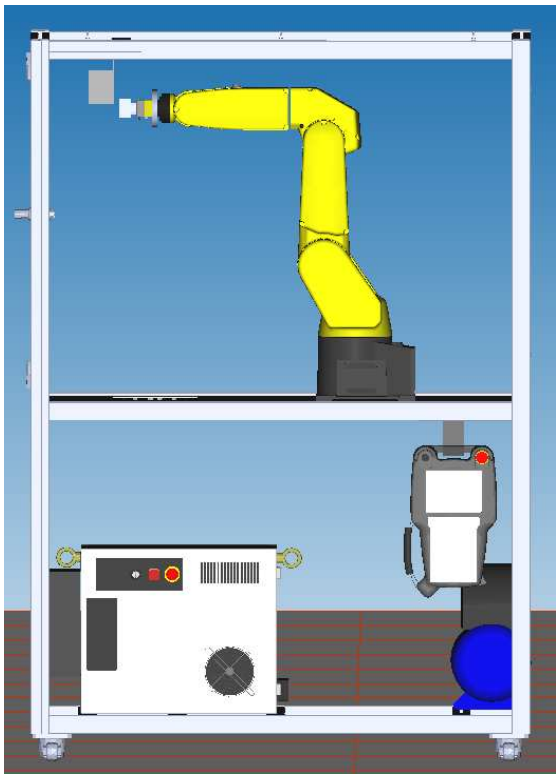
You can position all axes at their zero degree witness marks and record their serial pulse coder readings.

Calibration

When the controller receives the pulse coder reading from the SPC, this process is called calibration. Calibration occurs automatically each time the controller is turned on.

After mastering, however, calibration must be performed manually.

After mastering, calibration tells the robot to update its current position to agree with the new mastering data.



Procedure 1 Preparing the Robot for Mastering

Condition

- You see a SRVO–062 BZAL or SRVO–038 Pulse mismatch alarm.

Step

1 If necessary, replace the robot batteries with four new 1.5-volt alkaline batteries; size C or D depending on the robot. Observe the direction arrows in the battery box for proper orientation of the batteries.

2 Press MENUS.

3 Select SYSTEM.

4 Press F1, [TYPE].

5 If Master/Cal is not listed on the [TYPE] menu, do the following; otherwise, continue to Step 6.

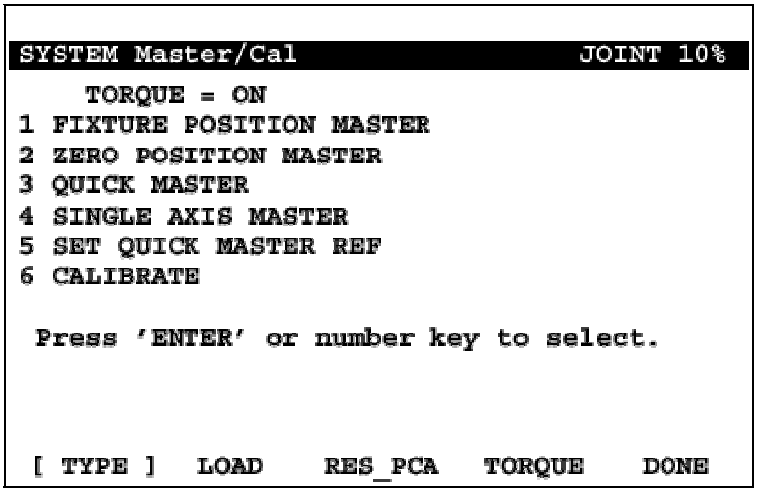
a Move the cursor to VARIABLE and press ENTER.

b Move the cursor to $MASTER_ENB.

c Press the numeric key “1” and then press ENTER on the teach pendant.

d Press F1, [TYPE].

6 Select Master/Cal. You will see a screen similar to the following.



7 Press F3, RES_PCA. You will see a screen similar to the following.

```
SYSTEM Master/Cal                          JOINT 10%

1 FIXTURE POSITION MASTER
2 ZERO POSITION MASTER
3 QUICK MASTER
4 SINGLE AXIS MASTER
5 SET QUICK MASTER REF
6 CALIBRATE

 Press 'ENTER' or number key to select.

Reset pulse coder alarm? [NO]

 [ TYPE ]                          YES       NO
```

8 Press F4, YES. You will see a screen similar to the following.

```
SYSTEM Master/Cal                          JOINT 10%
    TORQUE = ON
1 FIXTURE POSITION MASTER
2 ZERO POSITION MASTER
3 QUICK MASTER
4 SINGLE AXIS MASTER
5 SET QUICK MASTER REF
6 CALIBRATE

   Pulse coder alarm reset!



 [ TYPE ]   LOAD    RES_PCA   TORQUE    DONE
```

NOTE: If you exit the Master/Cal screen by pressing F5, DONE, the Master/Cal screen will be hidden. Master/Cal will not be available by pressing F1, [TYPE]. To display the Master/Cal screen again, perform Steps 1 through 6.

9 **Turn off the controller.**

10 Wait a few seconds, and then turn the controller on again.

11 If the SRVO–062 BZAL alarm is still present; there is a battery, cable or pulse coder problem. Refer to the SYSTEM R-30*i*A Controller Series Electrical Connection and Maintenance Manual for further information.

12 If a SRVO–038 Pulse Mismatch alarm is present at this time, repeat steps 1 through 8 to reset it. It is not necessary to restart the robot after resetting to clear this alarm.

13 Move each axis that lost battery power by at least one motor revolution in either direction. Failure to do so will result in the SRVO–075 Pulse Not Established alarm recurring and mastering will not be possible.

a For each rotary axis, jog at least twenty degrees.

b For each linear axis, jog at least thirty millimeters.

14 Press the RESET key.

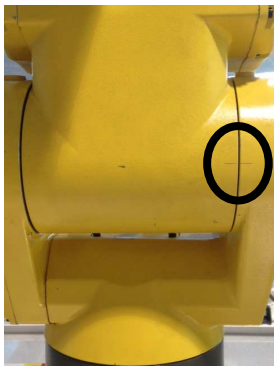
15 Perform the appropriate mastering procedure from the MASTER/CAL menu.

Procedure 2 Zero position Mastering

Condition

- Make sure all alarms relating to mastering have been reset.
- Make sure all robot axes are at their witness marks.

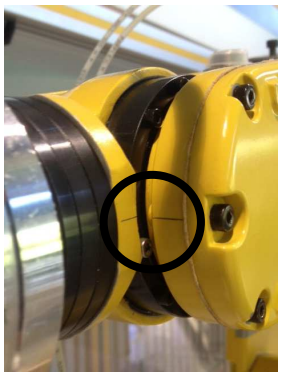
AXIS #1



AXIS #2

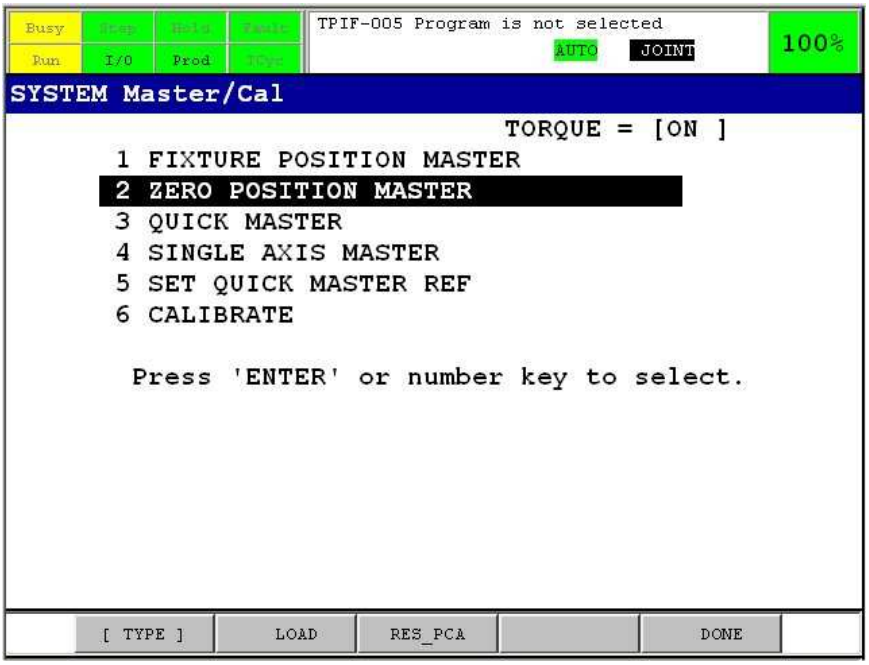
AXIS #3

AXIS #4

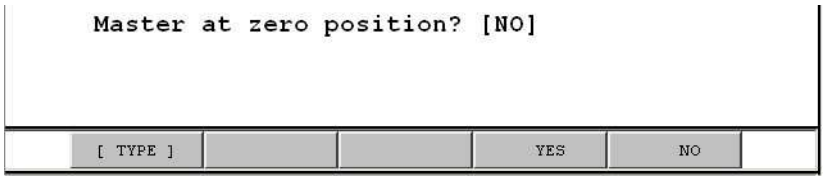


AXIS #3

Step 1 From the Master/Cal screen, choose ZERO POSITION MASTER, cursor down to ZERO POSITION MASTER and pressing the ENTER key.



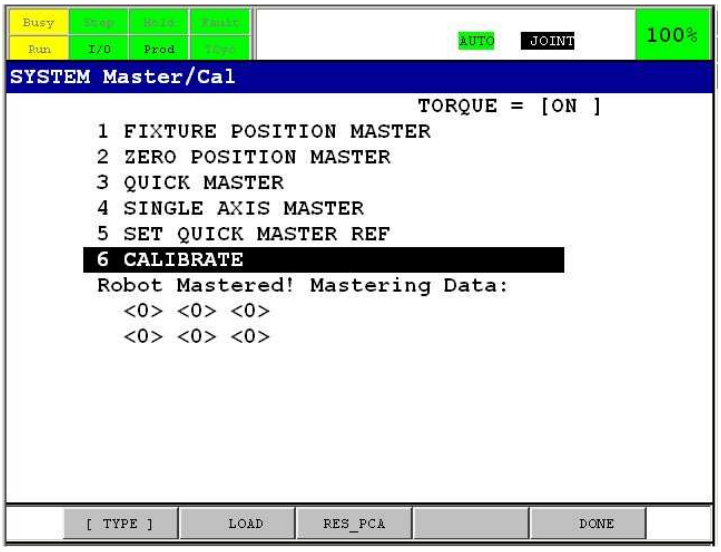
1 You will see the following choice.



2 Press F4, YES

3 Mastering will take place.

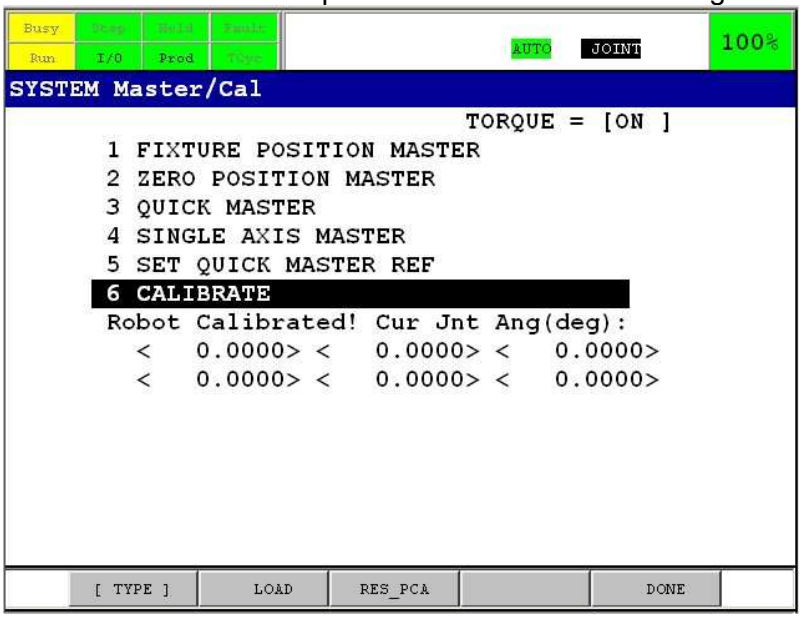
4 Select CALIBRATE from the choices in the Master/Cal screen as shown.



5 You will see the following choice

6 Press F4, YES

7 Calibration will take place as shown in the following screen.



The robot is now Mastered and Calibrated.