# Centrifuges
## Beckman Avanti J-20 XP1 (PSC 543, 659, NSC 340)
## Eppendorf 5804R, tabletop (NSC 338)
## Eppendorf 5430R, tabletop (PSC 533, NSC 340, 488)

**Avanti J-20 XP1**
**Every time you use the centrifuge, you MUST sign the log book.**
**Balance all tubes.**
**Clean up any spills in the rotor and/or the centrifuge.**

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1. Turn power on.
2. Open door with foot latch near floor on right.
3. Put rotor in and tighten lid
4. Rotor selection should automatically change when you put a new rotor in.
5. Punch speed button.  Select either rpm or rcf with buttons on right.  Type in speed and then enter.
6. Punch time button.  Select either time in HH:MM, W2T (whatever that is) or hold with buttons on right.  Type in time if time button selected and then enter.
7. Punch Temp. button.  Type in temp. and then enter.
8. Start
9. Stop if hold button has been selected.
10. Use foot latch to open door.
11. Turn centrifuge off.


## Eppendorf Centrifuge 5804R

1. Turn centrifuge on, switch on right side near bottom front.
2. Use fast cool to cool chamber and rotor quickly.  Make sure there isn't a blank in rotor before starting fast cool because the rotor spins.
3. Punch speed.  Speed will start flashing.  Use up and down arrows to adjust speed.  Punch speed again to switch between rpm, rcf and g.
4. Punch time.  Time will start flashing.  Use up and down arrows to adjust Time.
5. Punch Temp.  Temp. will start flashing.  Use up and down arrows to adjust Temp.
6. Punch Open to open door of chamber.
7. After samples in, close door and punch start.
8. When done, punch door to open centrifuge door.
9. You can change out the rotor.  The microfuge tube rotor is on the table to the left of the centrifuge.  To loosen the screw holding the rotor in place, use the tool that is in the top drawer to the left of the centrifuge.  The tool is long and has a black handle labeled AMF.

10. The screw to loosen is in the middle of the rotor. Take the rotor out and place on the table. Put the other rotor in and tighten the screw. Be sure to put the tool back in the drawer. The centrifuge doesn't immediately recognize a rotor change. Start the centrifuge and then stop it. This start/stop triggers the rotor recognition. Now you can change speed for the new rotor.

## Eppendorf Centrifuge 5430R
<span style="color:red">**Do not push the centrifuge door closed. Gently close the door just until the hydraulics in the door catches.**</span>

1. Turn centrifuge on using power button on front panel, lower right. This centrifuge has a standby mode if not used for some time. Standby mode shows "ep" in the display window and the power button is red. To switch to ready mode, press the power button. The power button is now green and the centrifuge parameters are displayed.
2. Press Door button to open centrifuge door.
3. To change rotors. There is a microfuge tube rotor and a 15 ml/30 ml tube rotor available. Use the rotor key next to the centrifuge to remove the rotor. Insert the key into the middle of the rotor and turn counter clockwise. Remove the rotor. Place the new rotor onto the motor shaft. Insert the rotor key and turn clockwise to tighten.
4. The centrifuge has automatic rotor detection. It detects a new inserted rotor and displays the name of the rotor for about 2 sec. This sets the maximum speed limit for the rotor. If you get an error message (Hint C), you started the centrifuge before the rotor was detected. Just restart the centrifuge.
5. Be sure to put the lid on the rotor before starting.
6. Balance your tubes or plates.
7. Close the centrifuge door. This door has hydraulics, so you don't have to push the door closed. With a couple fingers only, press the door closed just until it catches. The hydraulics will finish closing the door. Pushing the door closed with any amount of force will damage the hydraulics and require a service call.
8. Use Fast Temp to cool chamber and rotor quickly. Make sure that the rotor and lid are installed. Make sure there isn't a blank in rotor before starting fast cool because the rotor spins. Press Start/Stop key to end the Fast Temp.
9. You can set the centrifuge to fast cool at a specified time and also a specified time each day. See Debby for instructions.
10. With the arrow keys, set Time. Continuous run can be set by entering either 99.59 or less than 30 sec.
11. With the arrow keys, set Temp.
12. With the arrow keys, set Speed. Switch between rpm/rcf as needed.
13. Press start/stop to start run.
14. You can either let the time run out or press start/stop to end your run.