

Document Purpose: For maintenance and proper performance of the -80C Ultra-Low Temperature Freezer, Trained members of Dr. Giri Athrey's Lab need to perform the following tasks at the specified intervals.

MODEL: U85-22

Serial Number: 07081280

See Manufacturer's engineer manual for more information.

Monthly Alarm Battery Test

Instructions: without opening the door to the freezer, on the bottom left near the temperature readouts is a flip switch. This switch should ALWAYS be in the UP position. This indicates that if the temperature of the unit falls below a certain temperature the alarm will automatically sound. Temporarily flip this switch to the bottom position. The alarm will sound and the visual alarm light will luminate. Verifying these items are in working condition, return the switch to the UP position. If corrective action is required on any day, circle the date in the Date Tested column and explain the action taken on that date in the corrective actions section at the bottom of this Section. See figure 1 for alarm and switch identification.

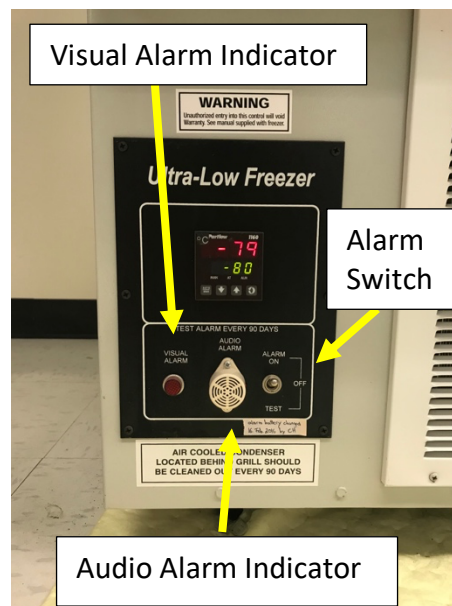


Figure 1: Alarm Indicator panel at the bottom left of the -80C Freezer

Monthly (CY 2020)	Date Tested	Visual Alarm Luminate?	Audio Alarm Makes Sound?	Switch Returned to UP Position?	Initials
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

Alarm Battery Replacement Directions

INSTRUCTIONS: Unscrew the 14 screws on the panel on the right side of the freezer. See figure 2. Battery is located in the bottom right in the area behind the panel. Battery is a Rayovac Model 918 6v Lantern battery (See figure 3 for location and visual identification). POSITIVE TERMINAL IS ON THE RIGHT, NEGATIVE TERMINAL IS ON THE LEFT!!! Add change documentation on the battery itself **AND** on the front panel of the freezer **AND** to the laboratory maintenance documentation packet/binder. NOTE: This is also where the breaker is located if the breaker switch flips for any reason.



Figure 3: Right side of the freezer, indicating the panel.



Figure 2: Rayovac Model 918 6V lantern battery and terminal identification.

Corrective Actions:

Battery was replaced by Travis Williams on June 18, 2020.

Monthly De-Snow of interior of Freezer

Instructions: Using a clean brush and drywall spatula, remove the “snow” and ice that has accumulated between the exterior door and the interior shelf covers, catching the “snow” in an autoclave tray for disposal down the chemicals only sink. If applicable, use a drywall spatula to remove the ice that may accumulate on the shelf cover latches on the interior of the shelf and on the shelf cover hinges. This will prevent the shelf covers from opening unexpectedly and losing cold air for that shelf. This process can take up to a week (performing one shelf per day) to ensure that freezer temperatures do not drop too low.

Using a Clean brush, wipe out the snow from the interior of the shelves. Be sure to have some diapers or disposable absorbent pads below to prevent water accumulation on the floor. If corrective action is required on any day, circle the date in the Date Tested column and explain the action taken on that date in the corrective actions section at the bottom of this Section.

Month (CY 2020)	Date	External Shelves De-Iced	Internal Shelves De-Snowed	Initials
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

NOTE: Do not leave the door to the freezer open for more than 2 minutes at a time. This will prevent the internal temperature from dropping below -70C

Corrective Actions:

Radiator Cleaning

INSTRUCTIONS: Follow the sub section directions in order. Be careful of moving parts and sharp edges. You will need a Philips head screwdriver to perform this section. If corrective action is required on any day, circle the date in the Date Tested column and explain the action taken on that date in the corrective actions section at the bottom of this Section.

Panel Removal Instructions:

1. Remove the six screws (Figure 4: circled in green) that hold on the front panel. Start with the bottom left screw and work counter clockwise along the bottom to the top. Set aside in a safe place so they are not lost.
2. Remove the panel and wipe down the front and the back sides with a damp paper towel. Do not submerge or use soap on this.
3. Set aside to dry while you clean the condenser coil.

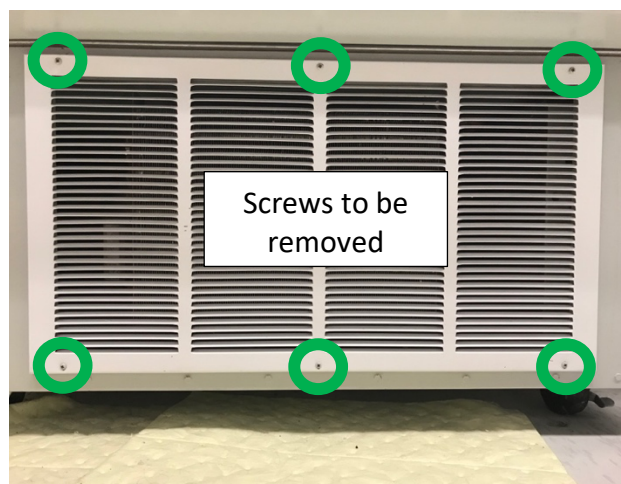


Figure 4: Front Condenser cover located at the bottom of the -80C freezer.

Radiator Coil Cleaning Instructions

1. Using a damp paper towel, VERY CAREFULLY wipe the dust off of the condenser fins. ALWAYS wipe with the direction of the fins and never perpendicular to them as this will damage the heat exchanger fins.
2. You may have to use multiple damp paper towels. Do not ever use soap or any chemicals on this as it will void the warranty and/or damage the heat exchanger fins.
3. Do not leave any paper debris on the fins
4. **CAUTION!:** Be careful of the exposed fans that are running behind/next to the heat exchanger fins.

Panel Replacement Instructions:

1. Align the cleaned panel with the screw holes.
2. Starting with the top left screws and working clockwise from the top, replace the screws by only screwing them in 50% of the way until all screws are replaced
3. Finish tightening the screws, starting with the top left corner and work clockwise, tightening only the corner screws.
4. Finish tightening the center screws.

Side Vent Panel Cleaning:

1. Without removing the panel on the left bottom side of the freezer, wipe down the exterior to remove dust buildup with a damp paper towel.
2. **CAUTION!:** watch for sharp edges.

Month (CY 2020)	Date	Front Panel Cleaned	Radiator Coil Cleaned	Side Panel Cleaned	Initials
January					
April					
July					
October					

Corrective Actions:
