

Chapter 7

Checks and Maintenance

This chapter explains equipment checks and maintenance. To keep the chamber in good working condition, perform checks and maintenance periodically.

7.1 Check and Maintenance Lists

■ Check list

For an explanation on each check item, see "7.2 Checks".

If any of the following checks result bad, contact the place of purchase or ESPEC CORP.

Table 7.1 Check list

Check item	When to check
Main power switch (leakage breaker) trip test (Not for 380V AC specification chambers)	<ul style="list-style-type: none"> • Once monthly • Before long test runs
Overheat protector trip test	Before every test

■ Maintenance list

For an explanation on each maintenance item, see "7.3 Maintenance".

Table 7.2 Maintenance list

Maintenance item	When to perform
Condenser cleaning	Once monthly
Test area cleaning	Before every test
Electric parts compartment cleaning	Once yearly
Take-down	Before long periods of disuse
Warm-up	After periods of disuse of 6 months or more

7.2 Checks

Main Power Switch (Leakage Breaker) Trip Test

(Not for 380V AC Specification Chambers)

Once a month and before long test runs, test-trip the main power switch (leakage breaker). The switch is found on the rear side of the chamber. With the main power switch in the ON position, press the test button. If the switch's lever falls to the middle position, the breaker is working properly.

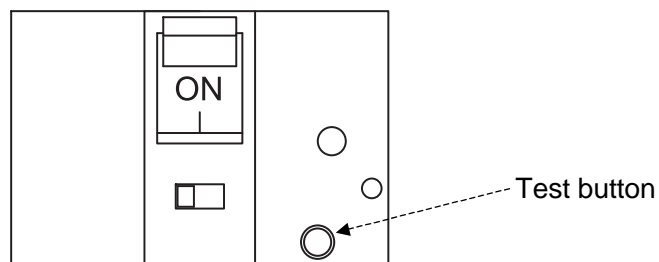


Fig. 7.1 Main power switch test button

Reference

When the leakage breaker in the main power switch trips, the switch's lever falls halfway between the ON and OFF positions. To turn power back ON again, first set the switch to the OFF position and then to the ON position.

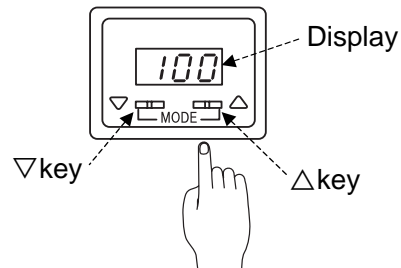
Overheat Protector Trip Test

Before every test, test-trip the overheat protector. The overheat protector is found on the instrumentation panel just below the operating panel area.



Procedure

1. Check the main power switch is in the ON position.
2. Press the **POWER** key to activate control power.
The display will come on and the main menu will appear shortly.
3. Press the **OPER./STOP** key.
The chamber will start up.

4. Set the overheat protector about 5°C lower than chamber temperature.
If the overheat protector is working properly, a buzzer will sound and the Alarm screen will be appear on the display when temperature inside the chamber reaches the overheat protector setting.
If a buzzer is not sounded, something is wrong with the equipment.
Contact the place of purchase or ESPEC CORP.



Overheat protector

5. To silence the buzzer, press either the  or  keys.
6. Reset the overheat protector.

7.3 Maintenance

Condenser Cleaning

Running the chamber with heavy dust buildup on the condenser will lower cooling performance and damage the refrigerator. Clean the condenser about once a month.

- Procedure**
1. Check the main power switch is in the OFF position.
 2. Remove the two screws that lock the mechanical parts compartment panel to the right side of the chamber and detach the panel. You will need a Phillips screwdriver.

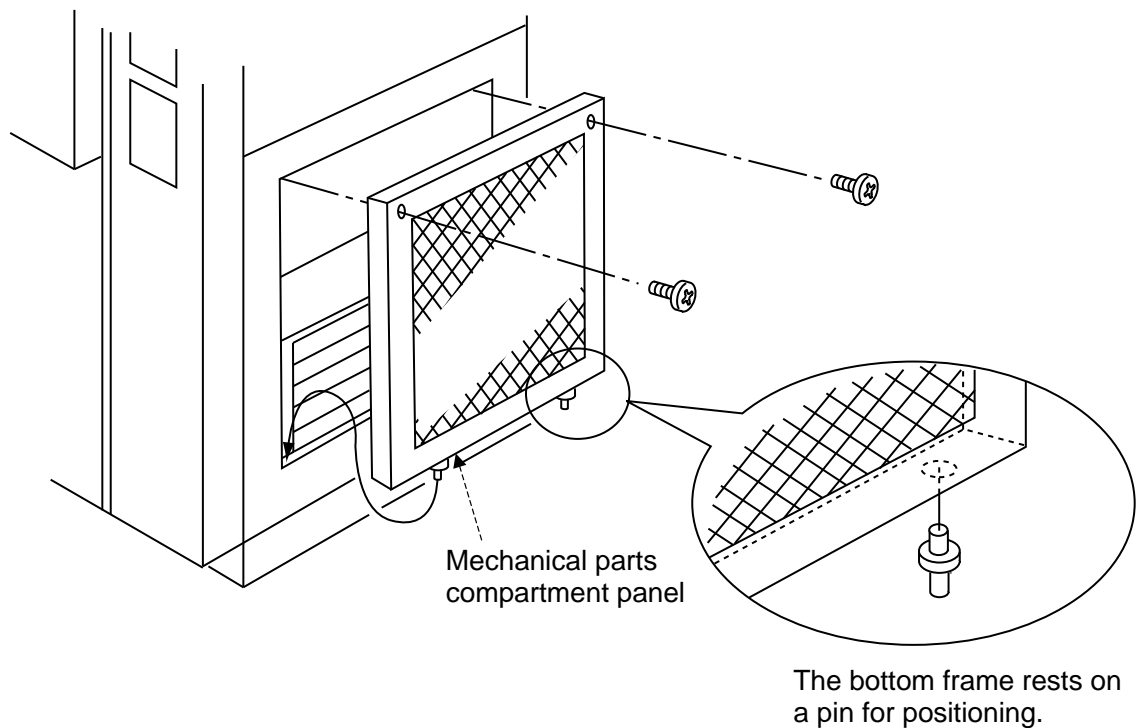


Fig. 7.2 Detaching the mechanical parts compartment panel

3. Clean the condenser of dust and dirt with a brush or vacuum cleaner.
4. Reattach the panel as before.

Test Area Cleaning

Dirt and foreign matter inside the test area can throw test results off. Before every test, wipe the test area clean with a soft cloth.

Electric Parts Compartment Cleaning

Dust buildup inside the electric parts compartment can lead to trouble. Clean inside the compartment once a year.

- Procedure**
1. Set the main power switch in the OFF position.
 2. Remove the two screws on the top of the electric parts compartment door and detach the door. This will require a Phillips screwdriver.
 3. Clean dirt from the compartment with a vacuum cleaner or by other means.
 4. Reattach the electric parts compartment door.

Take-Down Before Long Periods of Disuse

Before disuse of 3 days or more, do the following to prevent mildew or scale formation. Failure to do so can affect testing and shorten equipment service-life.

■ Drying the test area

The chamber is run to dry the test area.

Turn the refrigerator OFF and run the chamber at 70°C to 80°C for about 60 minutes. After that, crack the door slightly and run the chamber under the same conditions for about 15 minutes more.

- Procedure**
1. Check the main power switch is in the ON position.
 2. Set target temperature to 70 to 80°C from within the constant mode.
 3. Set refrigerator control to the auto mode or turn control OFF.
For an explanation on how to make the setting, see “5.4 Target Temperature Setup”.

4. Press the **OPER./START** key on the operating panel.

The chamber will start running.

Run the chamber for about 60 minutes with the door closed, then for 15 minutes with the door slightly cracked.

■ Power OFF

Set the main power switch in the OFF position, then shut OFF the primary power supply.

Warm-Up After Long Periods of Disuse

If the chamber has been in disuse for 6 months or more, before running any tests, do the following. This procedure is designed to protect the refrigerator.

- Procedure**
- Set Ref. Control on the Constant Mode Setup screen to "AUTO" and run the chamber for 30 minutes at 20°C.

