



How to Clean Your Toyostove

WARNING

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TOOLS

Required

1. #2 Phillips screw driver.
2. Small adjustable wrench.

Optional

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| 1. Short screw driver. | 3. 7mm socket or nut driver. | 5. Vacuum cleaner. |
| 2. 18" long screw driver. | 4. Wire brush or round brush with electric drill. | 6. Soap. |

TAKING THE UNIT APART

1. Disconnect the power cord from the wall outlet.
2. Remove the front panel.
 - a) Remove the two screws from the lower front corners.
 - b) Pull forward and lift.
3. Remove the top cover.
 - a) A short #2 Phillips head screw driver will help.
 - b) Remove screws and put in a container for safe storage.
4. Remove the top heat shield.
5. Remove the front heat shields. (Laser 55/56 Only)
6. Remove the two-rear heat exchanger bracket screws (Laser72/73.)

7. Remove the heat exchanger/heat chamber joint screw. (Note if this screw is stripped you may need to use a pair of pliers, tack puller, or needle nosed locking pliers to remove it.)

Note: If you have a new style Laser 72 or any 73, a bracket will be present instead of the screw. Remove both long screws, one in front, one in back and proceed.

8. Remove the heat exchanger.
 - a) The O ring joints where the heat exchanger meets the blower motor assembly may be tight and difficult to loosen. If so, read on:
 - b) Disconnect the exhaust and air intake pipes that connect the heater to the flue pipe.
 - c) Remove the two blower motor base screws.
 - d) Remove the heat exchanger and the blower motor assembly at the same time.
 - e) After the units are removed, you may apply a lubricant like WD 40 to the joints and will have more leverage to separate the pieces.
9. Remove the heat chamber.
 - a) Remove the four screws that hold the radiant chamber in position.

Note: A little lubricant on these screws will help prevent stripping.

- b) Lift the radiant chamber assembly off the burner chamber. Be careful not to move the radiant chamber gasket and keep the radiant chamber straight up and down unless you plan to replace the joint packing gasket.

Note: You may re-use the radiant chamber gaskets and the joint packing gaskets if you are very careful with them. They must be kept perfectly flat and handled very gently. Slide them off the heater onto a piece of cardboard or wood and put them in a safe place until you are ready to reinstall them.

10. Remove the flame sensor rod.
11. Remove the burner ring.
 - a) Carefully turn the ring counter-clockwise to unsnap the ring from its support posts.
 - b) If the ring does not turn without using a lot of force, gently pull up slightly at several points on the burner ring. This will bend the locking clips on the underside of the burner ring and allow it to be turned.
 - c) Lift the burner ring out of the burner.
 - d) Clean and inspect the burner ring. If it is broken or warped it should be replaced.

Note: You may need to remove carbon on the upper part of the burner to remove the burner ring.

12. Remove the fuel nozzle.
 - a) Be careful not to twist the nozzle until the mount bracket clears the side of the burner. The nozzle can easily be bent or crimped and will then need to be replaced.
 - b) If you have an old-style Laser 55, the old nozzle should be replaced with a new shorter nozzle. This will help extend the life of the igniter.

CLEANING

Clean the heat exchanger using one of the following methods:

1. **Use a vacuum cleaner.** Gently tapping the heat exchanger while using the vacuum cleaner will help loosen the soot in the heat exchanger.
2. **Use pea gravel or small ball bearings.** A few small stones, bearings or clean kitty litter can be placed in the heat exchanger. Shaking the heat exchanger will loosen the soot and it can be dumped or vacuumed out.
3. **Use soap and water.** A mixture of soap and water can be poured into the heat exchanger and shaken to remove the soot. Repeat the process several times and then rinse the unit several times. Allow the heat exchanger to dry completely before using it.

Note: soot and water are an acidic mix and should be disposed of carefully. Using water may also cause a slight amount of corrosion to occur in the heat exchanger. After the unit is several years old it may need to be replaced if the corrosion eats through the stainless steel.

4. **Use compressed air.** Some people have access to compressed air. You can blow the carbon out of the heat exchanger with this method. If the carbon is heavy or wet, this method may not work. Be sure to do this outside as it may get dirty.

Clean the heat chamber. (Laser 72/73)

5. Be sure to carefully remove the 3" joint packing gasket that is on top of the chamber before you turn it over to clean it. See note above.
6. The heat chamber of the Laser 72 is hollow. If it needs cleaning, you may use brush or vacuum cleaner or scraper to remove the loose soot in the cylinder.
 - a) Clean the heat chamber. (Laser 56/55/52)
7. The heat chamber assembly on the Laser 56, 55 and Laser 52 has three pieces. Often it does not need to be cleaned but if it does, it should be carefully taken apart.
8. Remove the top cover. Be careful with the gaskets and you may be able to use them again though it is very difficult to save these gaskets.
9. Lift the cylinder off the assembly base.
10. Gently remove the split gasket from the groove on the bottom of the inner assembly.
11. With all the gaskets removed, the unit can be cleaned and reassembled.
12. Clean the burner pot.

13. If the burner mat on the bottom of the burner is okay, be very careful not to damage it. Most of the time this piece of cloth will need to be replaced.
14. Loosen the soot and carbon in the burner. If you have a vacuum cleaner, you will not need to remove the burner from the stove.
15. Be sure to check to make sure all the small air holes are clear. You may need to use a wire or small nail to clean them.

Check the air chamber under the burner.

16. Remove the black rubber elbow that connects the blower assembly to the base of the heater.
17. Inspect the chamber and soak out any fuel or liquid. If necessary, remove the burner to get better access to this chamber.

Check the blower motor assembly.

18. With the black rubber elbow removed, look inside the blower assembly from the top and side. Be sure the fans are clean and that the motor spins freely.
19. If the motor needs cleaning, ask your dealer for the flyer "Blower Assembly Servicing."

Clean and lubricate the circulating fan and motor.

20. Remove the fan with a 4 mm hex wrench.
21. Clean the fan and fan protector. Do not bend them.
22. Remove the small black rubber buttons on the front and back of the motor and use a light oil to lubricate it.

ASSEMBLY

1. Install a new burner mat.

Note: Be sure to mix burner mat adhesive first before applying to bottom of burner. Put a coating on bottom enough to cover all the area. You do not need to use all the adhesive that comes with the burner mat, only enough to cover base of burner.

2. Assemble pieces in the opposite order that they were removed.
3. Be sure to install the burner ring properly. Make sure the locking tabs will hold it in position.
4. Be sure all gaskets are in one piece if you reuse them, if broken, replace.
5. Be sure all parts are properly positioned in the heater and are properly connected. Do NOT force things together. If they don't fit easily, something is wrong.

Do not tighten the screws too tightly. They strip easily!

TESTING

- A. Start the heater and watch to make sure everything is working properly. It may smell or smoke slightly. This is normal until the unit gets hot for the first time. If it continues to smell of smoke, something is wrong. Check connections and make sure the combustion blower is working properly.
- B. If the unit is not burning properly, turn it off by pressing the “burner” button off, but DO NOT UNPLUG the heater until it has finished its purge cycle and the fans have turned completely off. If smoke remains in a hot heater, it may explode and do damage to the heater.
- C. Check all connections again. Check the blower motor. Start the heater again. If it still does not burn properly, call an AUTHORIZED TOYOSTOVE DEALER or service person.