

VI. Major Cleaning Procedure For Süd-Chemie's Catalytic Combustor

The catalytic activity and effectiveness of a two to three year old Süd-Chemie Catalytic Combustor can be improved by following this "MAJOR CLEANING PROCEDURE". For normal maintenance refer to your stove manufacturer's operation manual. Major cleaning should not be required more than once a year for heavy-use stoves and every two years for light-use stoves. This procedure should be followed only if the owner feels comfortable with performing this procedure. If not, a trained chimney sweep should be contacted.

Before attempting this cleaning procedure, familiarize yourself with your stove manufacturer's operation manual. Improper removal, handling, or reinstallation of the catalytic combustor can damage it or your stove.

This cleaning procedure is for the catalytic combustor only and does not reduce or eliminate the need for regular chimney inspection and cleaning.

Important Tips for Maximum Combustor Effectiveness:

1. Burn natural wood only. Do not burn trash, garbage, artificial or paper logs, gift-wrappings, coal, lighter fluids, chemical starters, treated or painted wood, driftwood, or chemical cleaners. These may contain chemicals that could deactivate the catalyst.
2. Catalytic combustor temperatures above 1800° F (1000° C) will shorten the life of a combustor. Combustor temperatures between 1400°F and 1600°F (760° C – 870° C) are common, but operating temperatures between 700° F and 1400° F (371° C – 760° C) are recommended.
3. Full catalytic operation occurs at catalytic combustor temperatures above 1000° F (371° C). Combustor

glowing only occurs at temperatures above 1000° F (538° C). With aged combustors, there will be less glowing, but as long as the combustor reaches the light-off temperature of 500° F to 700° F (260° C – 371° C) catalytic operation are very effective. THE COMBUSTOR DOES NOT HAVE TO BE GLOWING TO BE OPERATING EFFICIENTLY.

4. To prevent damage to your combustor, **do not**
 - Drop the combustor
 - Run water through the combustor
 - Remove the metal band from the combustor
 - Scrape the inside walls of the combustor
 - Use compressed air to clean the combustor

Major Cleaning Procedure

- Inspection
- Necessary Equipment
- Cleaning Steps

Inspection – Prior to Major Cleaning:

CAUTION: DO NOT REMOVE THE COMBUSTOR WHILE ANY PORTION OF THE STOVE IS HOT.

Carefully remove the combustor from the stove (see your Use & Care manual). *Do not remove the stainless steel band or manufacturer's combustor holder from around the outside of the combustor.* It is very important that the combustor be handled **CAREFULLY**. The combustor is a brittle ceramic and could break if it is handled roughly or dropped. Replace the combustor with a new part if it is damaged or worn out. Consult your Use & Care manual or Süd-Chemie Trouble Shooting Guide.

For the major cleaning to be effective, the combustor must not be coated with creosote, but should be light gray or beige in color. If the combustor

is coated with creosote (dark black or dark brown), operate the stove with the combustor in place at a higher burn rate than normal to self-clean the accumulated soot and creosote from the combustor (see Süd-Chemie Trouble Shooting Guide). **USE CAUTION**-do not over-heat the stove or chimney. Allow the stove and ashbed to cool completely before proceeding. Re-inspect the combustor. If the creosote build-up remains, repeat the procedure.

• Necessary Equipment:

- Combustor removal instructions from the Use & Care manual for your stove.
- Distilled water-2 to 3 gallons, enough to completely cover the combustor by at least 1/2", 3 separate times. Do not use tap water, it may contain minerals that will reduce the effectiveness of the cleaning.
- White vinegar-2 to 3 quarts, enough to make a 50/50 solution with the distilled water.
- A pot-large enough to preheat the cleaning solution and rinse water.
- An old pot or roasting pan-larger enough for the combustor to be covered with at least 1/2" of cleaning solution. Do not reuse the pot for cooking purposes.
- Plastic coated wire (16-gauge multi-strand)-for use as a grab handle.
- Vacuum Cleaner(one used in the home)
- Equipment for removing and reinstalling the combustor.

Cleaning Steps

STEP 1

Gently remove any loose ash from the combustor.

A home vacuum cleaner is effective. Using either suction or exhaust. Use caution – high air velocities can strip catalyst off the ceramic. (Never use a

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high-pressure air hose!) Any cells that are still plugged should be gently cleared using a cotton swab or pipe cleaner. Never scrub or abrade any part of the catalytic combustor, since this may remove the coating or damage the cells.

STEP 2 PREPARE THE CLEANING SOLUTION.

Make a 50/50 mixture of vinegar and distilled water in a large pot. Heat the mixture to a boil.

STEP 3
THREAD THE WIRE THROUGH THE COMBUSTOR TO MAKE A GRAB-HANDLE FOR LIFTING THE COMBUSTOR IN AND OUT OF THE HOT CLEANING SOLUTION. The wire will elevate the combustor off the bottom of the large pot, allowing the cleaning solution to flow freely through the cells. Be careful not to damage the cells.

STEP 4 GENTLY PLACE THE COMBUSTOR INTO THE CLEANING SOLUTION.

The cleaning solution will evaporate slightly. Keep the combustor covered with at least 1/2" of solution. Reduce the heat to just below boiling. It is not necessary to boil the cleaning solution once the combustor has been placed into the pot. Allow the combustor to remain in the hot cleaning solution for thirty (30) minutes.

NOTE: While the combustor is in the cleaning solution, heat to a boil enough distilled water for the two rinses (STEP 6 & STEP 7)

STEP 5 AFTER THIRTY MINUTES REMOVE THE COMBUSTOR FROM THE CLEANING SOLUTION

Place it on a towel. Discard the used cleaning solution and rinse the pot.

STEP 6 FILL THE POT WITH BOILING RINSE WATER AND GENTLY PLACE THE COMBUSTOR IN THE RINSE WATER.

Allow the combustor to remain in the rinse water for 15 minutes. Keep the rinse water at just below boiling. Meanwhile, preheat enough water for the second rinse cycle.

STEP 7 AFTER 15 MINUTES, REMOVE THE COMBUSTOR FROM THE RINSE WATER AND GENTLY SHAKE OUT THE EXCESS WATER.

REPEAT STEP 6.
It is unlikely that you will notice a visible difference in the combustor after this cleaning procedure.

STEP 8 REINSTALL THE COMBUSTOR.

After the cleaning procedure, follow the manufacturer's instructions for replacing the combustor and reassembling the stove.

Don't operate the stove for at least 24 hours. This will allow the combustor to dry and prevent steam from causing damage to the combustor. If the stove must be returned to operation immediately the combustor can be dried in an oven. Place the combustor in an oven at 300°F for 60 minutes. Turn off the oven and let it cool to room temperature before returning in the stove.

This procedure has been found effective for non-damaged catalytic combustor. It will not revitalize a catalytic combustor if the catalyst has been damaged and deactivated by use with improper combustibles or otherwise. Check the performance of your catalytic combustor regularly after cleaning. Reduced effectiveness as a result of age or damage may result in an increased rate of creosote accumulation in your chimney.

