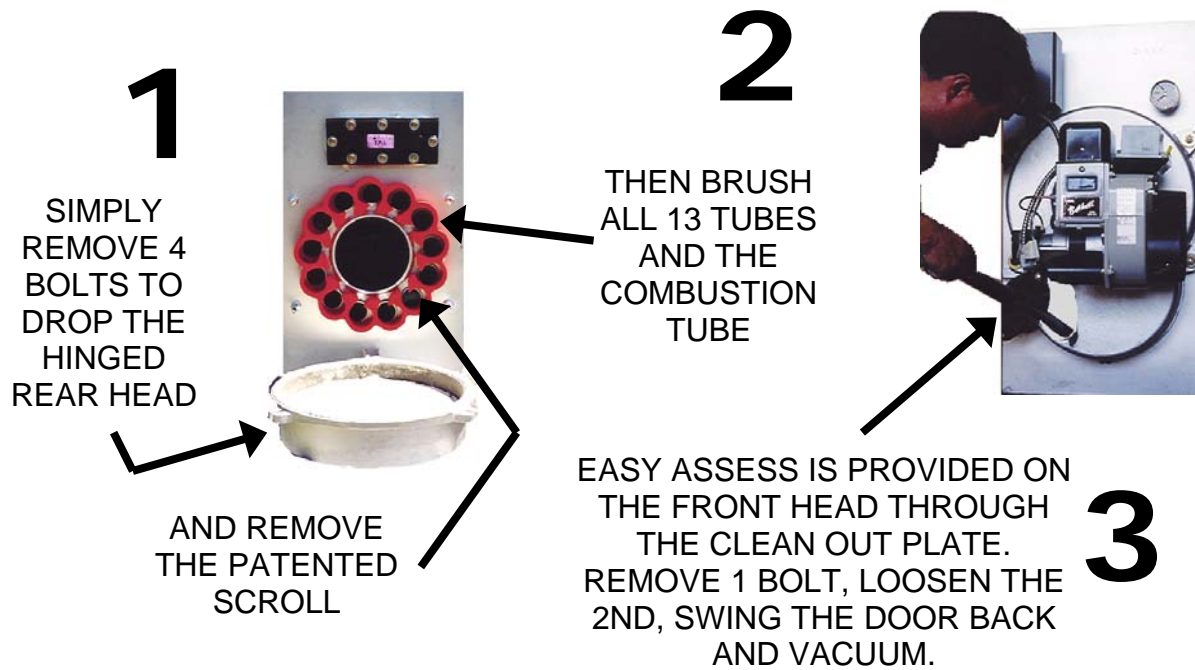


**DYNATHERM**  
**BOILERS**  
*American efficiency since 1937*

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# DYNATHERM

## MAINTENANCE IS AS EASY AS



OPTIONAL:



DYNATHERM'S EXCLUSIVE FLUE CAP (LOCATED ON THE OPPOSITE SIDE OF THE PLUMBED FLUE) OFFERS AN OPTIONAL CLEANING SITE.

**DYNATHERM** Boiler Manufacturing

43 E. Cherry Rd., Quakertown, PA 18951

(215) 536-4078 Fax: (215) 536-8960

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# CLEANING PROCEDURE *DYNATHERM* FP & RB SERIES

1. Remove four (4) brass nuts at **end head** and drop down to expose tubes and **scroll** (p/n 210.000).

3. Check coil studs for corrosion. Replace with **Brass bolts** (p/n 355.901) if necessary.

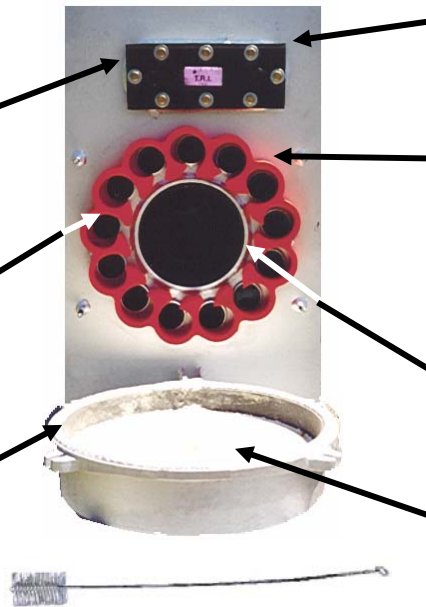
5. Clean **small tubes** with a vacuum cleaner or **tube brush** (p/n 999.048).

7. Replace **end head** rope gasket (p/n 100.301).

9. Check 3" **sight glass** for cracks. Clean or replace as needed. (glass kit – p/n 98083)

11. Remove **cleanout cover** at burner end and clean 2nd and 3rd pass (belly pan) thoroughly with vacuum. Check gasket – replace as needed (p/n 100.003)

NOTE: Specific settings for each boiler may be found in your installation manual.



2. Check **coil gasket** (p/n 100.001) for leaks. Replace if necessary.

4. Inspect **scroll** for cracks and other damage; replace, if necessary (scroll package – p/n 98082).

6. Check for carbon in **combustion tube**, clean out.

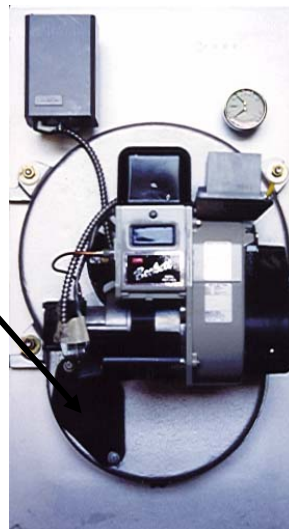
8. Inspect **end head refractory insert** (p/n 921.000).



10. Reassemble **end head** and stack connections. Make sure all vent connections are taped and secured with screws. Test gaskets for leaks. **Scroll** is important to proper efficient operation.

**DO NOT OMIT THIS PART.**

12. Replace **nozzle**; (p/n 511.000); check all burner settings; fire boiler, check again for leaks in gaskets, stack joints. Make sure CO<sub>2</sub>, air control setting and smoke test are as they should be.



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## **DYNATHERM Cleaning tip #1:**

**The Scroll:** The scroll serves two very important efficiency functions for the boiler. 1<sup>st</sup>, it compresses the gasses in the rear head target chamber slowing their speed 1 1/2 to 3 times that of straight or turbulated flow through the tubes. 2<sup>nd</sup>, the scroll is designed to send the gasses swirling through the 13 tubes in what is called “scrubbing” which greatly enhances the efficiency of the heat transfer of the gasses through the fire tube walls.

After laying back the hinged rear target head, make sure you mark the top of the scroll. This will assure a proper fit after your cleaning. Also, after you remove the marked scroll, lay it back in the rear head. This will help it retain heat, which will also help in the ease of reinstallation.

Note: I recommend that while the head is down that you inspect and clean the mounting studs and always coat them with anti-seize.

## **DYNATHERM Cleaning tip #2:**

**The Peephole Glass:** Dynatherm’s unique peephole allows a full “head on” view of the performance of the flame in the combustion chamber. The so-called glass is actually a quality high temperature clear borosilic ceramic compound.

**Required Maintenance:** The glass has lost its visibility and/or is cracked and needs to be replaced.

**Problem:** One or more of the three (3) mounting screws are seized!

**Solution:** Simply grind off all three mounting screws at the cast head. Remove and save the frame, discarding the old glass and gaskets. Now use the frame for your new drilling pattern, turning it 180 degrees from the original drill pattern, drill three (3) new holes using a #26 drill bit, then use a 10-24 tap. Next, coat the mounting screws with anti-seize, take the frame and start two screws establishing a base. Insert the new glass and gaskets, then put in the third mounting screw.

**Time:** Figure approx. “45 minutes”, add an additional 30 minutes when completely removing and the reinstalling the rear head.

**Note:** Always disconnect the burner control before removing or replacing parts on the rear head.

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### **DYNATHERM Cleaning tip #3:**

**ROPE CUTTING:** DYNATHERM'S EXCLUSIVE ROPE IS DESIGNED WITH A HARD CENTER TO TIGHTLY SEAL THE BOILER. WHEN CUTTING THIS ROPE, BUT SURE TO USE A VERY SHARP CUTTER, WITH A VERY SLOW CUT TO PREVENT THE UPPER LAYER FROM SEPARATING FROM THE CORE.

BE SURE THE GROOVES ARE CLEAN AND FREE OF ANY EXISTING CARBON OR ROPE PRIOR TO INSTALLING THE NEW ROPE GASKETING.

WHEN INSTALLING, 3M SPRAY GLUE (P/N 999.901) IS RECOMMENDED TO SIMPLIFY INSTALLATION.

MINIMUM LENGTHS REQUIRED:

<u>PART #</u>	<u>DESCRIPTION</u>	<u>DIA.</u>	<u>LENGTH</u>
100.301	END HEAD	1/2"	54"
100.302	COMBUSTION HEAD	3/8"	30"
100.303	FRONT HEAD	3/8"	64"
100.304	COMBUSTION TUBE	3/8"	24"

### **DYNATHERM Tip #4:**

**The End Head Insert Refractory:** After laying back the hinged rear target head, make sure you mark the top of the scroll. This will assure a proper fit after your cleaning. Also, after you remove the marked scroll, lay it back in the rear head. This will help it retain heat, which will also help in the ease of reinstallation.

Remove the old refractory, making sure all old refractory has been removed. The new refractory must sit flat and even inside the rear head. After placement has been leveled, use boiler putty to seal the edges. At this time it is recommended that the rope gasket be inspected and replaced.

Note: This would be a good time to inspect the operation of the shutter and the sight glass and gaskets. I also recommend that while the head is down that you inspect and clean the mounting studs and always coat them with anti-seize.

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