INTRODUCTION

This instruction shows how to replace ceramic bricks in the Solo Plus and Excel solid fuel boiler. Please read carefully before replacement. Follow the instruction point by point.

Fig 1.1

Fig 1.2

1. Start by removing the ash-pit door. Remove from frame by removing two rivet pins.
   Remove the frame by unscrewing the 4 bolts. (Fig 1.2)

Fig 1.3

2. The old air intake brick must now be removed (pull it straight out. (If necessary, use an old knife or similar tool to remove any old silicone). (Fig 1.3)

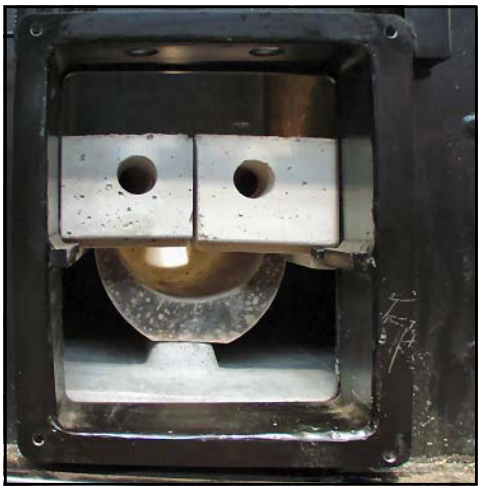

Fig 2.1

3. The fronts of the large ceramic bricks are now visible. These should normally be lifted straight up and removed through the loading door, but with use they can become stuck with ashes etc. It is therefore necessary to use a hammer and chisel to break up the front part of the brick until it can be raised and lifted out of the loading door. The other brick can then be removed through the ash-pit door. (Fig 2.1)

4. Now clean the inside of the boiler. Remove soot and ashes from the sides of the firebox so that the new bricks can be lowered from the loading door without jamming.

Fig 2.2

5. If needed, replace the bottom tile(s). The two tiles must point towards each other. (Fig 2.2)

Note: There is a 3cm layer of insulation under the bottom tiles. Be careful when cleaning (after the bottom tiles have been removed). If some of the insulation is lost when cleaning, an equivalent quantity must be added so that the top edge of the front tile is at the same height as the bottom of the door frame.

Fig 2.3

6. Insert the left brick through the ash-pit door and place it up on its rail. Insert the right brick through the loading door and place it down on its rail so that the top edge is even. Using wooden wedges, press the bricks forward towards the front edge of the boiler and fill the space left at the rear with non-flammable gasket material. (Fig 2.3)

   Be careful to install correctly. The flat side must be on top and the hole for the inlets must be visible from the front.

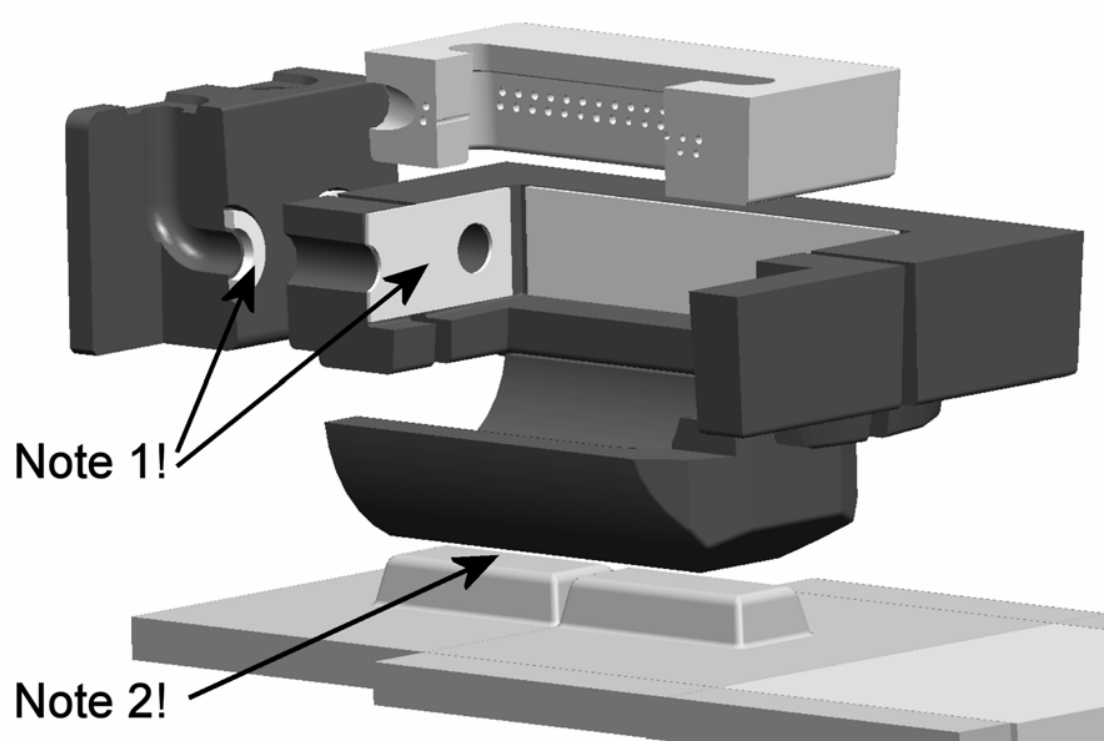

Fig 3.1 (The picture shows a cutaway model)

Fig 3.2

Fig 3.3

7. When the large ceramic bricks are in place, the air intake brick (with air channels) must now be installed. To keep the four fiber gaskets in place during installation they can be glued to the intake brick with a little silicone (Fig. 3.2). It is important that the fiber gaskets seal against the big ceramic bricks (Fig. 3.1-Note 1).

8. Push the bottom part (tunnel) into place (until it abuts against an edge). If a space remains above the bottom part, adjust the part upwards by placing one or more layers of white fiber sealing under the bottom part. (Fig. 3.1-Note 2 and Fig3.3).

9. Check that there are no unsealed areas between the intake brick and the ceramic bricks when the intake brick is in place.

   If there is a large space between the rear wall and the ceramic bricks, it must be filled with something which is not flammable (i.e. the 8mm glass rope supplied-folded up several times).

   Air must not be able to move down along the bottom edge of the ceramic bricks (small unsealed areas will be filled with ash after a short time).

Fig 4.1

10. Seal carefully around the intake brick with silicone. (Fig. 4.1)

Fig 4.2

11. Clean the ash-pit door frame with a steel brush or other tools. Hang the frame on the studs leaving a 3-4mm crack between the frame and the boiler and fill the crack with furnace cement using a putty knife. Tighten the frame firmly in place, remove excess furnace cement and reattach the ash-pit door.

Middle Brick Replacement

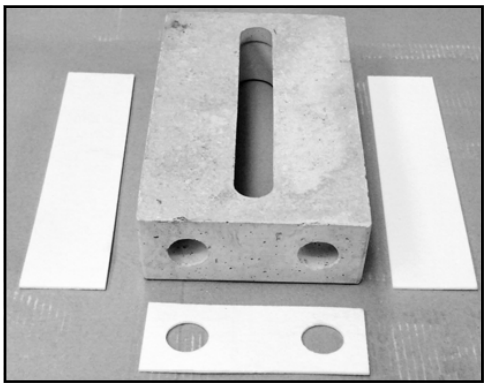

Fig 5.1

The set contains the following: (Fig5.1)

- Brick with split.
- Side strips
- Front strip
- Wooden cotters

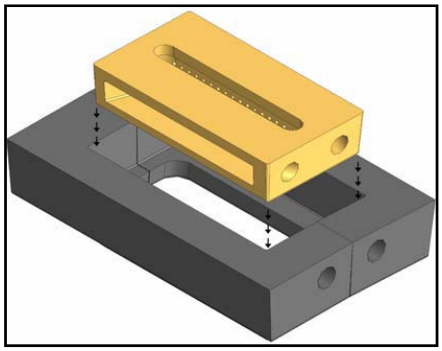

Fig 5.2

Place the brick as shown.
Remember to install insulation strips on both sides and the front. (Fig. 5.2)

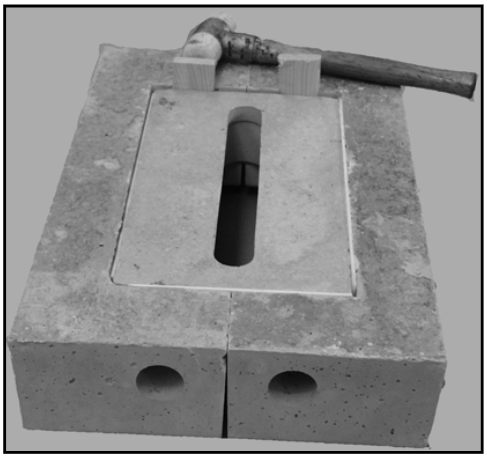

Fig 5.3

Press the brick forward by means of mounting two wooden wedges or shims. It is important to minimize the split in front of the brick. Leave the shims in place as they will burn away during operation of the boiler. (Fig. 5.3)

The replacement is now complete. Wait 8-10 hours before firing the boiler again.

TARM BIOMASS
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Instructions

Tunnel Stone Installation for the Solo Plus, Excel, 2000 Series, and Solo Innova

Introduction:

This instruction sheet explains how to replace the bottom tunnel stone with part numbers **09.0496** and **09.0717**. The tunnel stone is the bowl or "U" shaped stone at the base of the boiler's combustion chamber. The stone is subjected to high temperatures, acidic byproducts of combustion and abrasive ash. The tunnel stone is a normal wear part and will need occasional replacement.

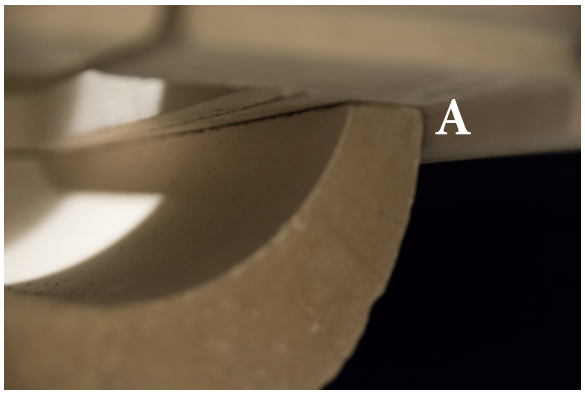
Tunnel Stone
Solo Plus 30, 40, Excel 2000, and 2200

Tunnel Stone
Solo Plus 60, Solo Innova 30, and 50

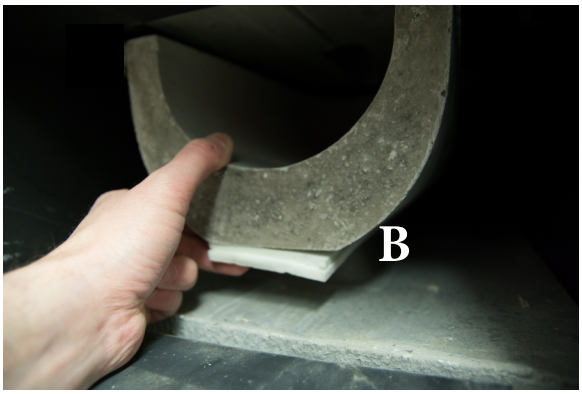
Instructions:

To replace the tunnel stone, the old stone must first be removed. The stones can be removed through the ash door by sliding them toward the door like a drawer. There is no mechanical connection or adhesive bond between a tunnel stone and the stones around it. However, there are occasional reports of stones that are stuck or which seem "locked in place". Ash, heat, and rough surfaces may make high friction between adjoining stone surfaces so that additional leverage may be needed. Resist the temptation to break an old stone out with a hammer so that you don't damage the other sones by an inadvertent strike. It may help to place a rope or strap around the back of the tunnel and use that to get your body in a stronger pulling position. Light to moderate tapping on the tunnel stone may help free it.

When the old stone is removed, the new stone can be placed in the boiler by sliding it inward. The back of the tunnel stone must seat fully into the matching castings on the stones above it. Light weight high density ceramic felt provided with the tunnel stone is used to shim the stone upward so that it makes gentle contact with the stones above it (**A**). Place the shim material on the floor or with the base of the tunnel stone and slide the tunnel stone inward, making sure the shim material tracks with the base of the tunnel stone (**B**).



Stone should touch stones above it



Installing stone with shim material

Once installed, we recommend breaking-in the new stone by starting a low temperature fire. After starting the kindling fire with the bypass damper open, use large wood and/or try placing the first piece of wood in the boiler diagonally followed by 2-4 more pieces on top. Reduce gasification as much aspossible for the first fire. We have no proof that a break in fire will help, but it may and there is little harm in giving it a try.