

Revised (Feb. 2006) Instructions for Billowy Sourdough Loaves ©

(For Kitchen Aid K-45 Stand Mixer with dough hook)

(Times are typical, but may be expected to vary.)

Operation	hrs	time	Details	Comments
Refresh starter		0	~1/6 oz. ¹ to 2 fl. oz. water, 3 fl. oz. flour	Use Bottled or <i>stood</i> ² water, in covered transparent ~40 oz. cylindrical container. Disperse starter first in water, then mix in flour & stir with a chopstick. Suggested flour: GM All Trumps 50111
Incubate @ ~ 85°F.	9		Until tripled in volume, maybe 10 hrs.	
Feed starter	--	9	Add 4 fl. oz. water, 6 fl. oz. flour	
Incubate @ ~ 85°F.	4		Until tripled in volume, maybe 4 hrs.	
Deflate/erise starter	--	13	Stir it down with chopstick	
Incubate @ ~ 85°F.	2		Until tripled in volume, perhaps 2 hrs.	
Make dough (~5 min)	--	15	Active starter, 2 cups water, ~6 cups ³ flour. ~2/3 oz. salt	In mixer bowl, disperse starter in water, add flour & salt, mix with wood spoon
Knead ⁴ (10 min)	--		5 min. KA speed #2, 5 min. speed #1	Add flour to keep ball on hook
Rest @ ~ 70°	~2		Until ~ doubled, 1 - 2 hrs.	On counter, covered with large bowl
Split, knead, & form	--	17	This knead = flatten & fold several times	May spritz & apply seeds before cutting
Rise @ ~ 85°	6		Cut tops to start. Up to 5 volumes.	In pans, or on parchment-lined tray ⁵
Bake	3/4	23	425°F. 45 min., start cold	No "steam" used in this process

¹A jellybean size lump, ~5 grams, ~1 teaspoon full, of [storage culture](#). ²*Stood* water is tap water that has been allowed to stand in an open jug (e.g. 1-gallon plastic) for several weeks before capping. In communities where chloramine is used for chlorination, bottled or boiled water is recommended. ³Somewhat more or less flour may be required – enough to keep the dough on the hook and to keep it from sticking to fingers. ⁴For kneading, the head is unlocked and allowed to float, greatly reducing the stress on the mixer's motor and gears, and increasing the limit on the amount of dough that can be processed. ⁵Dough must be enclosed during rest and rise, to prevent drying (for instance, see the slide show: www.prettypcolors.com/bread_culture/album1.html).

Times are estimated, approximate. The time required to raise the dough is very dependent on the technique of building the starter to the dough stage, and upon the temperature. The rise may be done at room temperature, but will take longer to achieve and equivalent volume.

Success is very dependent on building the fermentational activity in a well-timed manner, very similar to building a campfire from tinder. Feeding (adding water and/or flour) is to be done before each preferment quits expanding. The use of stout preferments, as specified, is helpful towards this, since batters tend to foam rather than expand, so progress cannot be estimated by volume or height. Preferment is another word for each stage of starter refreshment.

By this method, the dough will have a *hydration* of about 60%, more or less, and it will rise quite vertically, but will not have the huge holes that some folks expect with sourdough bread. (*Baker's hydration* is the ratio of liquid weight to flour weight). It is very useful to keep track of the times and temperatures for each of the incubational steps, namely:

- 1st starter build
- 2nd starter build
- 1st rise
- 2nd rise

Also, it is suggested to make a record of the final height or approximate volume at the end of each of these steps.

Very close to 22 fluid ounces ~ 22 ounces of water is used. Weigh the final dough to determine the hydration. It is (22 oz.) / (Dough weight – salt weight (~1/2 oz.) – 22 oz.). Writer's experience is that the dough will weigh ~2 oz. less than four pounds, thus that the hydration will come to ~22 / (62 – 22 – .5) ≅ 56%. Such bread will rise quite vertically even if it is not constrained in forms (e.g., bread pans). Using less flour will produce bread with more open crumb texture, but which will spread while rising, and, for free-form loaves, may be improved by the technique of couching, flopping, and shoving onto a hot masonry surface in a hot, very humid oven atmosphere. The procedure will yield 2 loaves of ~ 1-3/4 lbs. each. It's about the most that can be made in a K45 mixer.

Reasoning similar to that above indicates that the flour in the above example weighed about 5-1/2 ounces per 8 fluid ounce cup. For convenience, a 28 fluid ounce can may be used to fetch 3-1/2 cups of flour. Flour varies in density and in moisture content so adjustment may be in order.

These instructions are an extension and improvement of the method at <http://mysite.verizon.net/dickya/EZSDLoaves/> and constitute a major revision of <http://carlsfriends.net/dickpics/Instructions.doc>, which was used for the breads shown in some of the web photos.