ejectAoven
sketch model review

2.009 – Team Blue B
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the problem

• People are afraid of ovens, too.
  – They don’t like getting burned:
    “My emotional wounds continue to heal to this day.”

  – They are afraid to let children and the elderly use the oven, especially alone:
    “So I was never allowed to use the oven at home (which is mainly the only place I cook), at least not alone because my mother didn’t want me to burn myself or to catch the house on fire.”
In a survey conducted of 194 MIT students,
- 61% [or 116 people] have been burned from an oven.

![Bar chart showing percentages of burns from oven door and rack.]

- Oven door: 29.3%
- Rack: 62.9%
the models

• Our mechanisms are designed with these statistics in mind, helping customers to:

  • **eject racks**
  • **open oven doors**
rack ejектор features

“oven rack and pinion” design brings food out of oven...and to you!

– benefits:
  • eliminates the need for users to reach into the hot oven
  • ejects racks at different rates, controlled by the gear ratio:
    – bottom shelf comes out faster and further than the top shelf

– challenges:
  • jams
door opener features

clam-shell design opens both doors at once

– benefits:
  • keeps hot surfaces inside the oven and unexposed
  • makes opened oven doors ‘out of the way’
  • eliminates bending down to open/close door

– challenges:
  • opens into cooking area
other door opener ideas

• This is just one way to look at the many possible ways to actuate the system.

• Other options include the following...

COUPLED BARBECUE DOOR (ELLiptical)
ROLL- TOP DESK MECHANISM

ELEVATOR DOOR MECHANISM
HORIZONTAL BIFOLD

VERTICAL BIFOLD MECHANISM

CAMERA APERTURE MECHANISM
market and contact

• 39 million oven units sold globally per year
  ⇒ accounting for $42 billion in sales

Kenji Alt
  – Associate Editor
    *Cook’s Illustrated, America’s Test Kitchen*
  – MIT Graduate, Class of 2002