# Lean Mean Rating Machine

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## Ratings in a Production Setting

- Preliminary ratings
- Administrative support
- Organization
- Inspections
  - General

**Conservation Services Group** 

Focus on duct leakage testing

## **Preliminary Ratings**

- Qualifying customers (builders)
- Streamlining plans analysis
  - Tools for takeoffs
  - Reasonable level of detail
  - Error checking
- Margin of error for specifications



## Administrative support

- Assign tasks to admin staff when possible
- Streamline paperwork flow
- Organization
- Paperwork
- Electronic files



## Inspections

- Develop consistent approach
- Streamlined data collection forms
- Coordinate travel
- Duct leakage tests



## **Duct Leakage Testing**

### • Blower door subtraction

- Inaccurate
- Sensitive to wind
- Blower door / duct blaster
  - Time-consuming (esp. multiple systems)
  - Inconsistent results
    - Reference probe placement
    - Duct /space air handler location



## Balanced Blower Door / Flow Hood Test

- Set up house for blower door test
- Seal approximately half the registers
- Balance register selection
  - Adequate flow through open registers for accurate measurement
    - Minimum of 30 CFM at each open register (priority)
  - Low pressure drops across taped registers
    - 5 Pa or less with house at 50 Pa



## Test (continued)

- Sum flows at each open register hood, measured with flow hood
- Results in CFM@50 leakage to outside



## Advantages

- Faster set up—especially in multi-duct system homes
- More repeatable
- Required equipment is more flexible



## Drawbacks

- Less accurate at very low leakage levels
- Can't measure total leakage
- Doesn't account for pressurization through large leaks "to inside"



#### **Duct Blaster / Balanced Flow Hood Comparison**



Scatter comparison



Ratio of Test results to Duct Blaster test		
Balanced flow hood	1-point flow hood	BD Subtraction
78%	62%	<b>42%</b>

