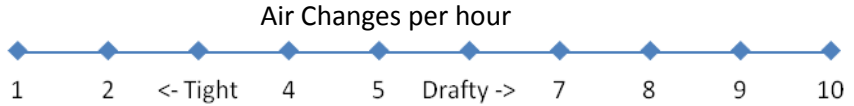


Name Doe, John Date 3/2/09
 Address 555 1st Avenue Co-Pay HEC \$40
 City Northfield State MN Zip 55057
 Phone 507-555-5555 E-mail _____
 Year Build 1963 Occupants own/3 Foundation Sq. Ft. _____ Total Sq. Ft. _____

Blower Door Diagnostic

CFM@ 50 Pascals 1250
 Air changes per hour 3



Furnace Test

Carbon Monoxide 10 CO ppm **LOW** Measured Efficiency 94 %
 Stack Temperature 95 Degrees Rated Efficiency 92 %

	Electric		Fuel	
Annual	33,500	kwh \$ 3,000	500	gal. \$1000
	Monthly \$	Annual \$	Monthly \$	Annual \$
Heating		300		1000
Cooling/Dehumidification		100		
Base	220	2,640		
Domestic Hot Water	30; 15	540		
Dryer	15	180		
Furnace Fan	50	300		
Refrigerator/ freezer(s)	30	360		
Lighting	15	180		
Misc	90	1080		

Notes: Also, has shop to run.



Energy Efficiency Consulting Services and Solutions

204 W 7th Street PMB 202 • Northfield, MN 55057 • 800/376-0517 • Fax 507/663-7858

gaernst@q.com (800) 376-0517 www.ga-ernst.com

"I agree to hold harmless Freeborn Mower Cooperative Services and its agents, employees, officers and directors from any and all liability, claims, loss of damage, including reasonable attorneys' fees and costs arising out of or relating to this inspection, and installation, use and maintenance of the equipment/upgrades recommended."

Customer Signature

Observations and Recommendations

	OK	Sub-Standard	Existing	Proposed	Payback	Savings	Notes
Attic Ventilation		X					Add vent chutes when insulating.
Attic Air Bypasses		X					
Attic Insulation		X	r-15	r-50	6 years	\$150 per year	Seal Attic access hole airtight. Remove stairway ladder system or build an airtight cover. Add r-35 cellulose. Total insulation depth 15 inches.
Side Attic Insulation/ Sloped Ceiling Insulation							
Sidewall Insulation		X	r-7	r-13		\$140 per year	Cellulose pack exterior walls using drill and plug method. 2 or 3 holes for each 2 x 4 stud cavity.
Foundation Insulation	X						
Windows/Doors		X					Repair broken window.

	OK	Sub-Standard	Existing	Proposed	Payback	Savings	Notes
Furnace	X						Furnace is fine, but install more efficient fan motor – induction on both furnace and firewood burner units. Discuss installing dual fuel electric resistance heaters in shop and home.
Air conditioning	X						
Heat Pump							
Water Heater	X				1 year	\$60 per year	Insulate shop electric hot water heater and turn heat down to 120 degrees.
Washer	X						
Dryer	X						
Refrigerator(s) Freezer(s)	X X	X			5 years	\$84 per year	Replace 1 old refrigerator with “energy star” appliance.
Lighting		X				\$180 per year	Retro-fit (8 fixtures) with T-8 lamps and ballast. Based on 8 hour daily operation. Rebates available. Saves \$2 per month per light.
Dehumidification	X						
Misc.							

Summary

#1 Issue: Insulate attic to r-50 and seal foundation rim joists.

Attic:

- Remove all contents.
- Install vent chutes between each truss.
- Add 10 inches cellulose to r-35.
- Redo attic access hole cover. Install 2' x 2' cover, seal airtight and insulate.
- Remove drop down ladder system.

Foundation:

- Caulk exterior foundation where block meets plywood. Seal top edge of cement block wall.
- Stuff block covers with fiberglass.
- Attach and glue 1 inch of Styrofoam to top of block wall.

#2 Issue: Insulate the shops electric hot water heater.

#3 Issue: Turn off expensive electric heaters.

#4 Issue: Install high efficiency induction fan motors in shop, home, and wood burner.

Miscellaneous:

Discuss installing dual fuel plenum heater in furnace unit above a/c coil. The same could be done with the propane heater in the shop. Discuss switches, manual or automatic. Note \$.05 dual fuel electricity per KWH = propane at 120 gallon high efficiency furnace.

Miscellaneous Costs:

Shop Electric heater - \$95

Blower Fan motor – 5 amps – 1 for furnace and 1 for wood burner - \$44

Water heater - \$30 per month for 3 people

2 Freezers - \$15

1 Electric Dryer - \$16

Well Pump - \$24

Old Refrigerator - \$15 per month - \$23

Continuous duct fan - \$2

Space heater 1100 watts = \$45