

ENERGY SOLUTIONS FOR THE KELLEY FAMILY

LA VERNE, CA



Project Costs: \$15,847
Rebates: \$6,000
Total Costs: \$9,847



Ph: 909-902-6090 Fax: 909-902-9553
www.socalremodeling.com CA license # 842115

Property Information

Your Home

Built:	1977
Size:	1761
# of floors:	1
# of occupants	2
Front door orientation:	North
Exterior type/Condition:	Stucco-Good
Roof type/Condition:	Comp. Shingle/Good
Wall construction:	Drywall
Ceiling construction:	Drywall
Windows:	Vinyl,dual pane,lowe
Patio Doors:	Vinyl,dual pane,lowe
Furnace:	75K btu in/59K out-Poor
A/C unit:	3.5 ton, poor
Water heater:	Craftmaster,40g Poor

Homeowner Concerns:

- High utility cost for only 2 occupants. Replaced pool equipment and reduced usage to try and reduce electric bills but didn't make much of an impact.
- Improved indoor air quality
- Increased comfort.

Envelope Performance

Building Shell Leakage- Blower Door Test

A blower door is a diagnostic device used to measure the air tightness of buildings and to help locate areas of leakage. The air tightness of buildings is useful when trying to conserve energy, decrease air infiltration, and control building pressures. Leakage area estimates are a useful way to visualize the cumulative size of all the holes in the home. Controlling leakage reduces the cost of heating or cooling unintended or unconditioned spaces.



Blower Door Test Results for Your Home:

Measured: 2279 CFM50

cubic feet/minute of air exchanged

Target: 1954 CFM50

*Based on sq. footage of home, # of occupants and geographical zone

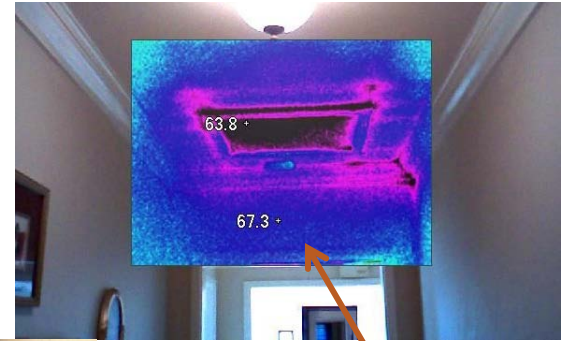
Insulation Performance

Attic Insulation- BPI and Department of Energy standards recommend a R-value of R-38 for attic floors and R-19 for attic knee walls. Pictures show your homes' current insulation levels and areas of concern:



Attic insulation is currently fiberglass batts performing at a R-9. There is no air sealing around penetrations. Large gaps and voids at framing.

Target Insulation level : R-38



Insulate attic access that is allowing heat and cold to bypass insulation



Duct/Distribution Performance

Properly installed air ducts are one of several factors necessary for an efficient heating and cooling system. Un-insulated, poorly insulated, or poorly sealed ducts can lose 10-30% of the energy used to heat and cool your home. The heating and cooling equipment has to run more often to compensate for lost air which raises your energy bills.



Current duct insulation: R 4.2

Duct Leakage: 235 CFM

Measured leakage using BPI standard duct blaster test

Target duct insulation is: R-8

Need to be buried in insulation. Ducts are not sealed properly allowing unconditioned air to be drawn into home. Black shows air filtering through duct insulation.

Additional Photos



Recently remodeled pool/spa with new pump.



Dust/debris pulled through trim rings of most recessed lights. During blower door test.

Proposed Energy Solutions for Kelley Family-La Verne,CA



Attic-

Air seal all attic top plates and penetrations. Install eve vent chutes. Build dam around attic access, weather-strip opening and cover lid with 3.5" foam board.

Add 8-9" of cellulose insulation to make R-38.

Spray radiant barrier on underside of roof sheathing.

HVAC-

Demo entire 1998 hvac system and replace with new heating/cooling system and new R-8 ducts. Correctly size and balance system specific to home.

Water heater-

Replace existing 13 year old water heater with a new, efficient unit. Wrap with R-11 blanket to reduce standby loss.

Insulate pipes from water heater to attic.

Ventilation-

Install Energy Star ceiling exhaust fans in 2) bathrooms.

Lighting -

Replace 10) existing 6" recessed lights with new ICAT units.