Commission Education Item –
Technical Services Department

Marshfield Utilities Home Energy Audit Program Description

Program Summary

Marshfield Utilities Energy Conservation Coordinator, Jim Benson, provides home energy audits for our residential customers. We advertise the home audit program through bill inserts on an annual basis. In addition, our office staff will refer customers with high bill complaints to Jim and his audit services.

Program Details

The home energy audit consists of a 1 -1.5 hour assessment of the customer home, both inside and outside. The property owner is encouraged to participate in the audit. We identify those opportunities that will improve the energy efficiency of the home. Based on the findings, we point out the low cost and no cost improvements the home owner can make on their own, and without naming specific contractors, point the customer in the appropriate direction for those larger home improvement projects.

Home Energy Audit Walk Through

We begin by checking the home characteristics. What is the age of the home? What is the square footage of the home? We also check the general overall condition of the home.

HEATING SYSTEM:

We check the overall condition of the heating system in the home. The average forced air heating system life is between 20 and 21 years of age. We check the furnace filter(s). Are they being changed on a regular basis? Are they put in properly? We follow up on the duct work. Is the duck work properly sealed? Should aluminum foil tape be applied to properly seal the duct work? Is the duct work properly attached to the floor/wall registers? Are the dampers in the proper position? Should the furnace be replaced, repaired, or tuned up?

Leaking duct work

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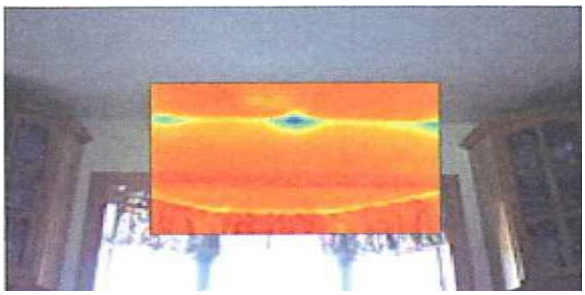
COOLING SYSTEM:
The age and overall condition is checked. Is the condenser unit properly placed to avoid heavy sun light? Are the condenser fins free of vegetation to allow the unit to properly breathe? Does the unit sit flush on the ground? If not, the fan bearings can wear causing the unit to fail. Are the A/C lines that penetrate the home properly sealed to prevent both insects and unconditioned air from entering the living space? Should the A/C unit be replaced, repaired, or tuned up?

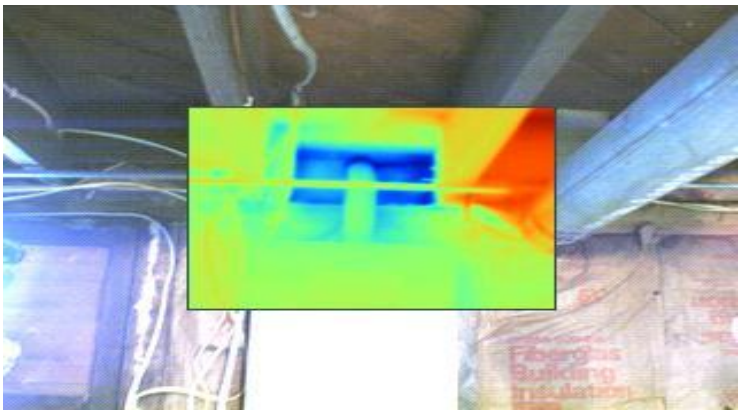
AIR LEAKS WITHIN THE HOME:
Several different tools are used to search for air leaks within the home. Areas inspected for air leakage include, drop ceilings, recessed lights, attic entrances, sill plates, water and furnace flues, door frames, chimney flashing, window frames, electrical outlets, switches, and plumbing.



Recommend gasket around can light

Some of these penetrations, especially during the winter can allow warm conditioned air to flow via wall voids, plumbing vents, etc. into the attic space. This warm air will then condense on the underside of the OSB roof sheeting causing it to rot over time. This condensation can also cause damage to the attic insulation. Once these penetrations are located, air sealing is recommended.

INSULATION:
Where accessible, wall insulation is checked. Thermal imaging can be used also to check for sagging and/or settling insulation within the wall voids of the home. We check attic insulation levels. In some cases, the home owner may want to consider adding additional insulation to achieve an adequate R-value.



Insulation missing at seal plate

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APPLIANCES:
Additionally appliances are checked for efficiency. Refrigerators that are ten years old or older are 50% less efficient than that of an Energy Star refrigerator. We check the refrigerator coils, and recommend cleaning if needed. We check the refrigerator gaskets for any rips or tears.

Attention is given to the dryer. We inspect the dryer vent hose. Is there the least amount of bends to allow for free air flow? Many bends and elbows can cause lint buildup which creates blockages that increases the amount of time it takes to dry the clothes. This can also create a fire hazard. The exterior vent is also checked.

At the conclusion of the inspection, the home owner is provided a number of free energy saving devices such as: compact florescent lights, outlet gaskets, low flow showerheads, low flow faucet aerators, air sealing materials, and energy efficient nightlight.