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ENERGY STAR Qualified Heating Equipment

Enhances Comfort and Improves Durability

During the winter, homeowners expect their heating systems to keep them warm without breaking the bank. ENERGY STAR qualified heating equipment can be up to 15 percent more efficient than standard models. ENERGY STAR qualified homes built in the North typically include right-sized ENERGY STAR qualified heating equipment.

BENEFITS OF ENERGY STAR QUALIFIED HEATING SYSTEMS

- **Lower Utility Bills.** ENERGY STAR qualified heating systems are designed to use less energy than standard systems. When properly installed, these heating systems can save money on utility bills.

- **Less Risk of Air Quality Problems.** ENERGY STAR qualified gas-fired boilers and furnaces are designed to reduce the risk of backdrafting dangerous carbon monoxide exhaust into the home.

- **Increased Durability.** Most ENERGY STAR qualified boilers, furnaces, and heat pumps employ advanced technologies and high quality components, often resulting in longer equipment life and longer warranties compared to standard models.

HOW BOILERS, FURNACES, AND HEAT PUMPS WORK

Builders of ENERGY STAR qualified homes choose energy-efficient heating systems based on available fuel choices and regional preferences. Common heating systems include boilers, furnaces, and heat pumps. Here's how they work:

- **Boilers** heat water that is distributed in pipes throughout the home to radiators, fan coil units, baseboard convection units, or radiant loops. ENERGY STAR qualified boilers use about 5 percent less energy than standard boilers.

- **Furnaces** heat air and distribute it throughout the home in a duct system. ENERGY STAR qualified oil and gas furnaces have annual fuel utilization efficiency (AFUE) ratings of 83 percent or higher, making them up to 15 percent more efficient than standard models.

- **Heat Pumps** use a refrigeration cycle to both heat and cool the home. In the summer, a heat pump functions exactly like an air conditioner—heat is extracted from inside the home and transferred to the outside. The resulting cooled and dehumidified air is distributed throughout the home in a duct system. In the winter, heat pumps operate in

reverse—by extracting heat from the air, the ground, or a source of water outdoors and transferring it to the indoor air, which is distributed throughout the home in a duct system.

ASK ABOUT INSTALLATION

Proper installation of heating equipment can have a big impact on performance. Look for heating equipment to be installed according to best practices, including:

- **Proper System Sizing.** Load calculations (from Manual J and Manual S of the Air Conditioning Contractors of America [ACCA]) should be used to determine heating requirements. These calculations are more accurate than rule-of-thumb estimating (for example, square footage ratios). In addition, ACCA Manual D should be used to properly size the duct system.

- **Proper Equipment Placement.** The best location for air-handling equipment and ducts is inside the conditioned space of the home (as opposed to an unconditioned garage or attic) to minimize exposure to harsh conditions (e.g., hot, humid, dusty attics in summer). Outdoor compressors should be positioned to minimize direct sun exposure while allowing plenty of room for air to flow around the units.

- **Correct Airflow.** The airflow and duct leakage should be tested and airflow adjusted as necessary to improve operating efficiency, comfort, and indoor air quality.

A BETTER FUTURE

ENERGY STAR is a voluntary partnership between the government and more than 9,000 organizations, including more than 3,500 of the nation's home builders. Together with home buyers and their families, we are working to achieve a common goal—protecting the environment for future generations by changing to more energy-efficient practices and products today.

ENERGY STAR is the government-backed symbol for energy efficiency. It identifies new homes, buildings, and more than 50 types of products that are energy efficient and offer the features, quality, and performance that today's consumers expect. Products that can earn the ENERGY STAR include windows, heating and cooling equipment, lighting, and appliances. To learn more about ENERGY STAR, visit www.energystar.gov.