

**FOR SAFETY, SECURITY
& PEACE OF MIND**



**FROM
MITLYNG &
STRUCTURE
TECH**

DIY Electrical Inspection

Inspect your electrical in this free guide from Mitlyng & Structure Tech. If you need a hand, our technicians are **just one call away!**

**165 Division St.
Montevideo**



**320-269-2970
www.mitlyng.com**

About This Guide

Ensure your family's safety and comfort by following these simple steps to inspect your home's electrical.

PLEASE NOTE: Anything related to electricity and electrical connections can be dangerous and deadly if improperly handled or operated. All contents within this document are provided for *educational purposes only*.

Mitlyng Electric & Refrigeration assumes **no responsibility or liability** for any damages to personnel or property that may occur as a result of the instructions provided herein.

Readers are advised to exercise caution and, if ever uncertain, to immediately call a professional.

Call Mitlyng today at **320-269-2970** for any help with your heating needs.

Our expert technicians are available 24/7 to assist with your emergencies.



WHOLE HOME COMFORT PROGRAM

DETAILS

Keep your home safe and reliable year-round with our Whole Home Comfort Program. **What's included?**

- Spring A/C Tune-Up
- Fall Furnace Tune-Up
- Annual Electrical, Plumbing, Water Heater & Sewer Inspection

Don't leave your home's health to chance—call us today!

\$19.99/MO

*Terms and conditions apply. Call today to learn more.

About Mitlyng

Mitlyng Electric, HVAC, Plumbing & Refrigeration was founded in 1984 in Montevideo, MN. We primarily serve customers in West Central Minnesota, but have worked with clients as far away as Texas. We serve both individuals and commercial entities. No job is too big or small!

At Mitlyng, **your satisfaction is our top concern**. Our roots in small town Minnesota bring with them friendliness and respect that we integrate into every interaction. Whatever your problem or concern may be, we hope to address it in a professional, respectful, and cost-effective manner.



Introduction

There is a wide array of items that could be covered when it comes to the electrical in a home, and most of it is not something any non-licensed individual should handle. In this guide, we will cover the items that make the biggest impact on safety that can be done comfortably by any home owner.

Please note that this guide is not comprehensive — inspecting your electrical panel and circuit breakers for proper functioning and heat damage are an essential part of any electrical inspection, however non-licensed individuals are, by code and law (in most jurisdictions) not allowed to remove the casing of an electrical panel.

Please call a professional for a true in-depth electrical inspection. For these other items, read on to find out how you can do your part to ensure your home's electrical connections are proper and safe.

Step 1: Overhead Wires

Step 2: Outlets

Step 3: Cover Plates

Step 4: Extension Cords

Step 5: Wiring

Step 6: Openings in Boxes

Step 7: Openings in Panels

Step 8: Smoke Alarms

Step 9: CO Alarms



STEP 1

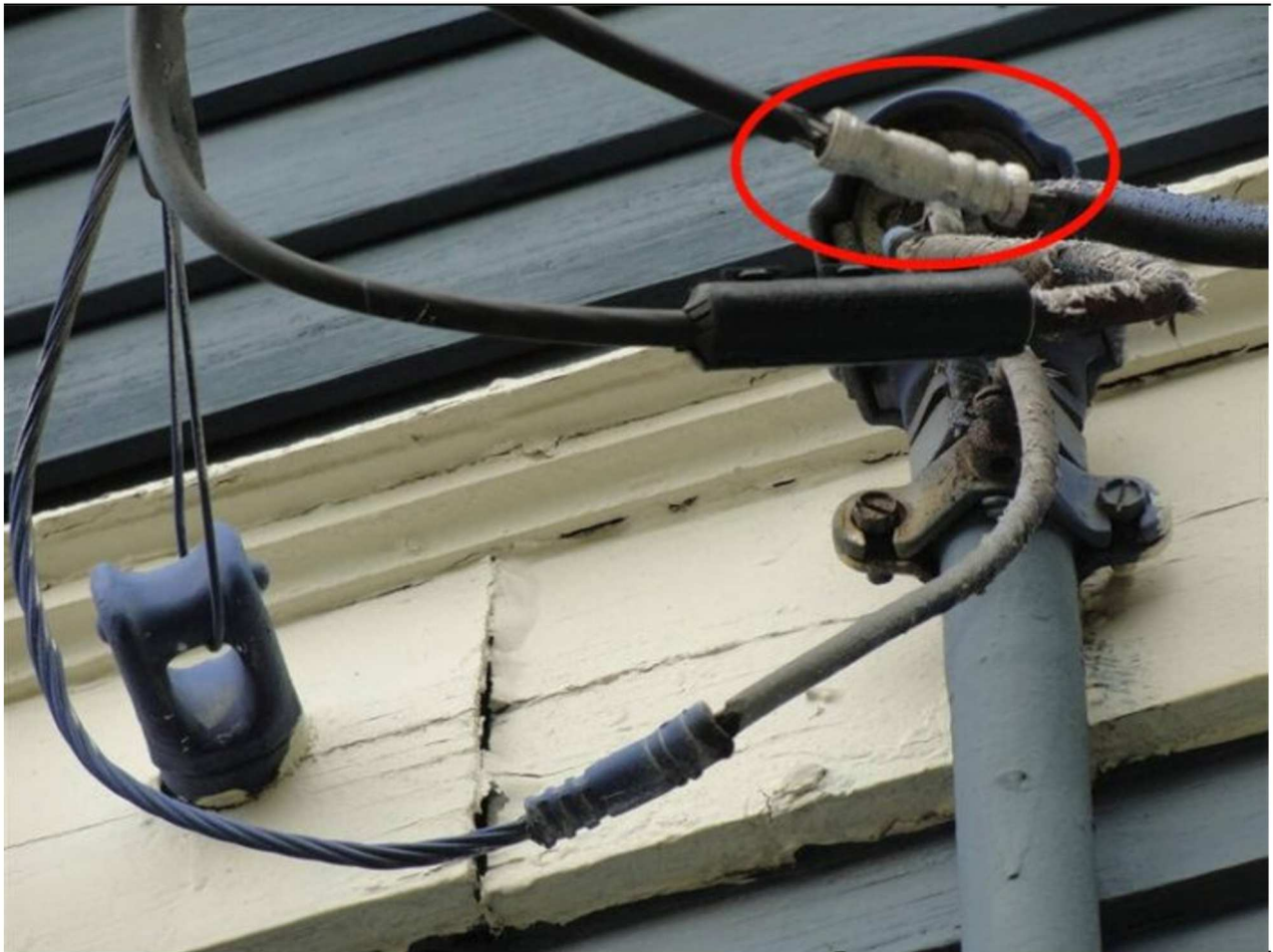
Overhead Wires

If your home has overhead wires bringing in power, check to make sure there are no tree branches rubbing on the wires.

It's the homeowner's responsibility to maintain trees on the property that may interfere with the overhead wires coming from the utility pole to the house.

Also, take a close look at the connection point between the overhead wires right before they disappear into the masthead. One wire is the neutral wire; it's normal for this wire to be exposed, but the other two wires shouldn't have any exposed contacts.

CONTINUED >>



STEP 1

Overhead Wires

If there are, these are **serious shock or electrocution hazards** that should be repaired by the utility company.

The photo above illustrates an exposed ferrule on one of the hot wires. Contact with an aluminum ladder, roof rake, or similar conductive object could result in a dangerous electrical incident.



STEP 2

Outlets

To test the outlets (a.k.a. receptacles) in your home, consider purchasing an outlet tester, available at most home improvement and hardware stores. Models with a built-in GFCI tester are slightly more expensive but allow for convenient verification that standard outlets are GFCI-protected. Note, however, that this method is not a valid way to test GFCI outlets themselves, which is discussed below.

CONTINUED >>

STEP 2

Outlets

With your tester in hand, proceed to test each outlet throughout your home. The tester's light indicators will reveal whether the outlet is correctly wired or indicate any specific issues if it is not."

Please note: While these testers are highly effective, they may not detect all potential wiring issues, such as a false ground or outlets with both reversed polarity and an open ground. However, they are capable of identifying approximately 99% of existing problems.

Here are the potential readings that an outlet tester will give you:

- **Open Ground** – More commonly described as an ungrounded three-prong outlet. This is a condition that should be repaired by an electrician.
- **Open Neutral** – This means there is power at the outlet, but whatever is plugged into the outlet won't work. Every once in a while, this is the result of a switched neutral wire.
- **Open Hot** – There may be no 'hot' wire present at the outlet, or alternatively, a live hot wire with no neutral and no ground. Any device plugged into the outlet will not function. Occasionally, this may be due to a switched outlet where the switch is simply off, but more often, it indicates a non-functional, or 'dead,' outlet.
- **Hot/Ground Rev** – This presents an extremely hazardous condition. Plugging in a three-prong cord would immediately energize the housing, creating a serious risk of electrocution. If this issue is found at a GFCI outlet, press the 'test' button followed by the 'reset' button on the outlet, then retest. GFCI outlets may produce inaccurate results, resetting can help.

CONTINUED >>

STEP 2

Outlets

- **Hot/Neutral Rev** – More commonly described as reversed polarity. This is a shock hazard that should be repaired by an electrician.

Occasionally, an outlet tester may show an unusual reading, such as all three lights illuminated, or a bright middle light with dim lights on the left and right. These readings suggest potential issues that warrant further examination by a licensed electrician.

For loose outlets, the solution is often straightforward: remove the cover plate and tighten the screws securing the outlet in place.

Regularly test all GFCI devices in your home to ensure they are functioning properly, replacing any that are not. GFCI devices are recommended to be tested monthly—a practice many overlook.

Additionally, ensure that GFCI protection is installed in areas prone to moisture exposure, such as bathrooms, garages, unfinished basements, outdoor areas, and other locations where the risk of electric shock is higher.

If pressing the test button on a GFCI outlet results in a buzzing noise, this indicates that the outlet is defective and needs replacement.

CONTINUED >>



STEP 3

Cover Plates

Not only do cover plates help to prevent accidental shocks, but they help to contain any arcing or sparking that might take place within an electrical box, thus potentially preventing a fire.

Go through your home and make sure there are cover plates installed for all of the outlets, switches, and junction boxes.

A few of the more common places for missing cover plates are in unfinished basement areas, behind refrigerators, inside kitchen cabinets, and on garage ceilings.

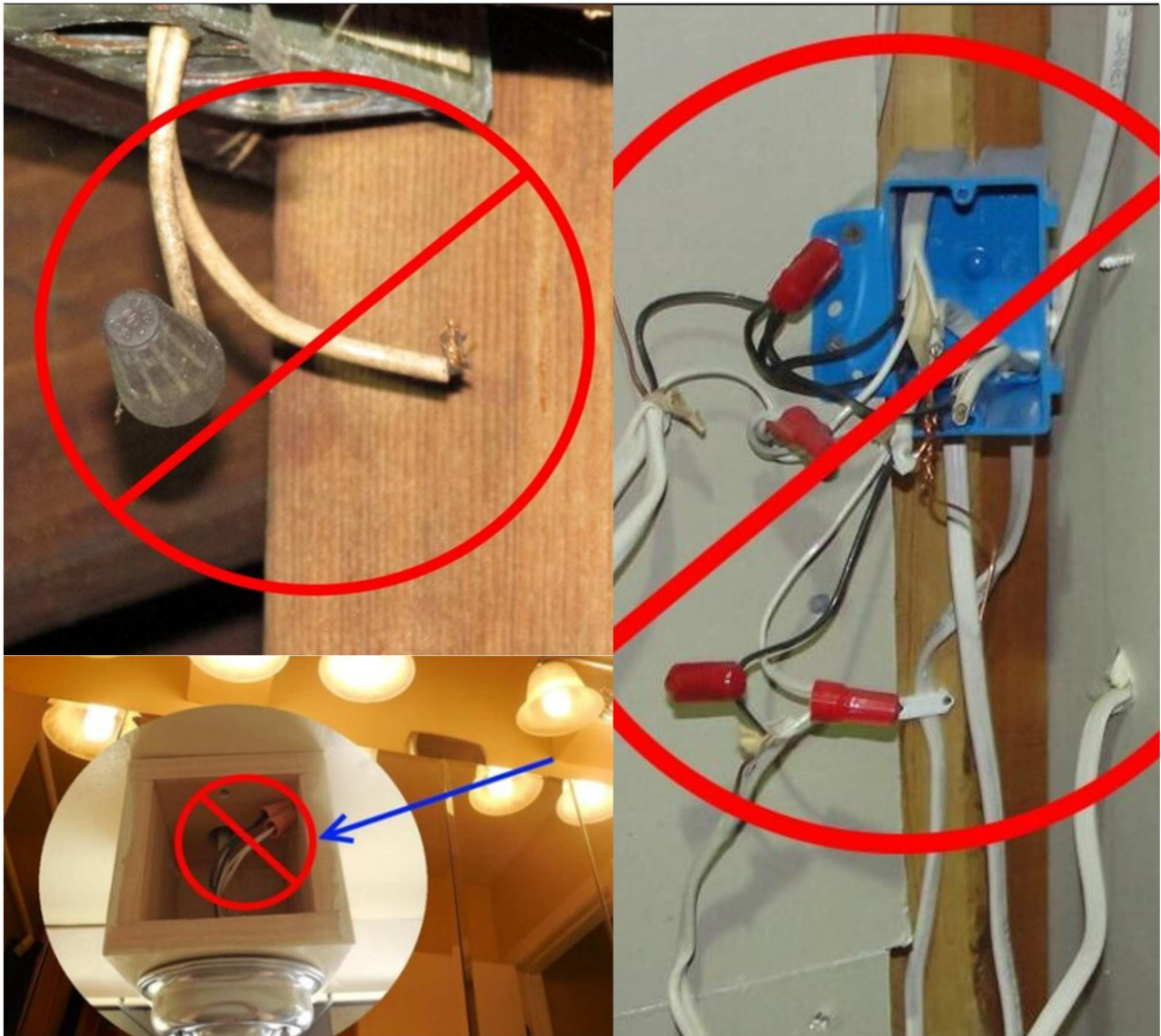


STEP 4

Extension Cords

Permanently installed appliances should be plugged directly into their own outlets, not extension cords. Using extension cords increases the potential for a fire.

A few of the more common places to find extension cords used in lieu of permanent wiring are garage door openers, water softeners, and basement lights.



STEP 5

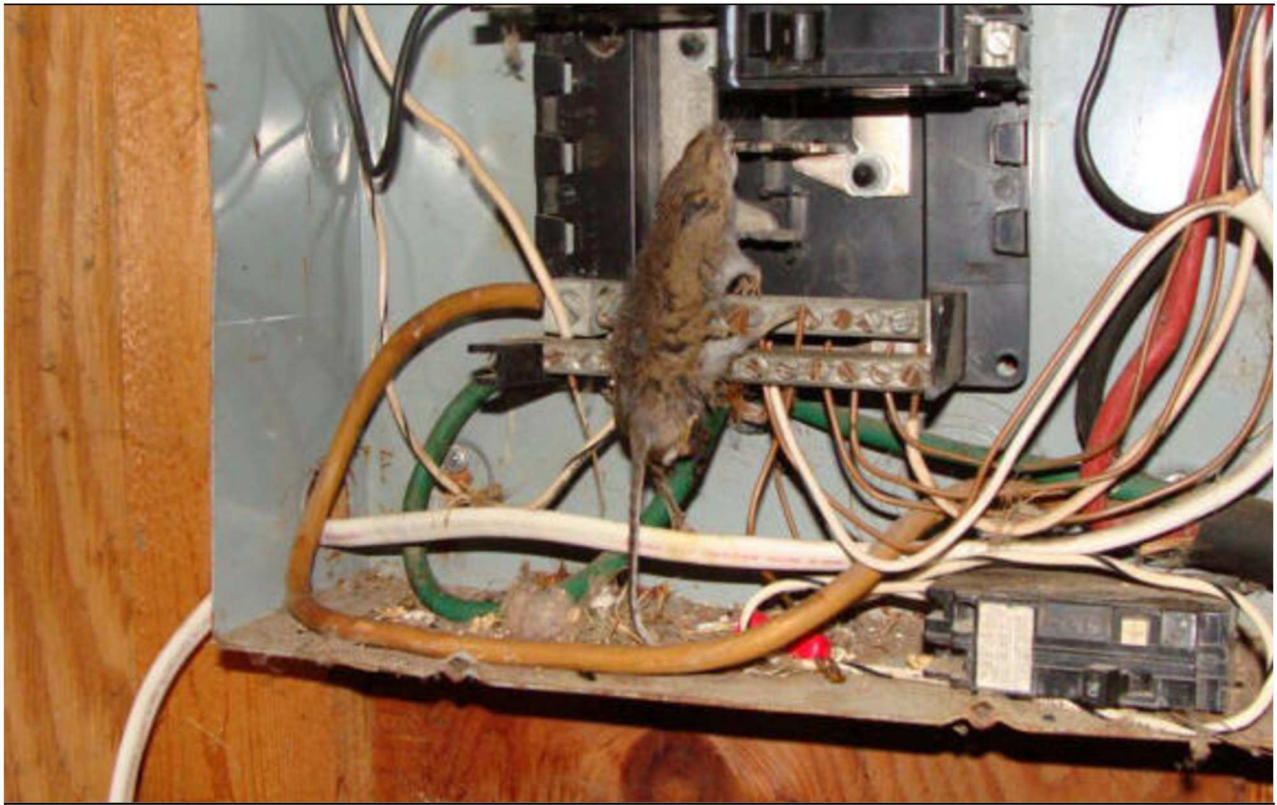
Wiring

Uncapped or improperly terminated wires present an immediate shock and electrocution hazard and should be addressed without delay. Always assume these wires are live.

Open splices in wiring also pose a significant fire hazard.

Wooden boxes are not acceptable for housing wire splices; all connections should be contained within approved electrical boxes.

Wiring defects are best repaired by a licensed electrician to ensure safety and compliance with electrical codes.



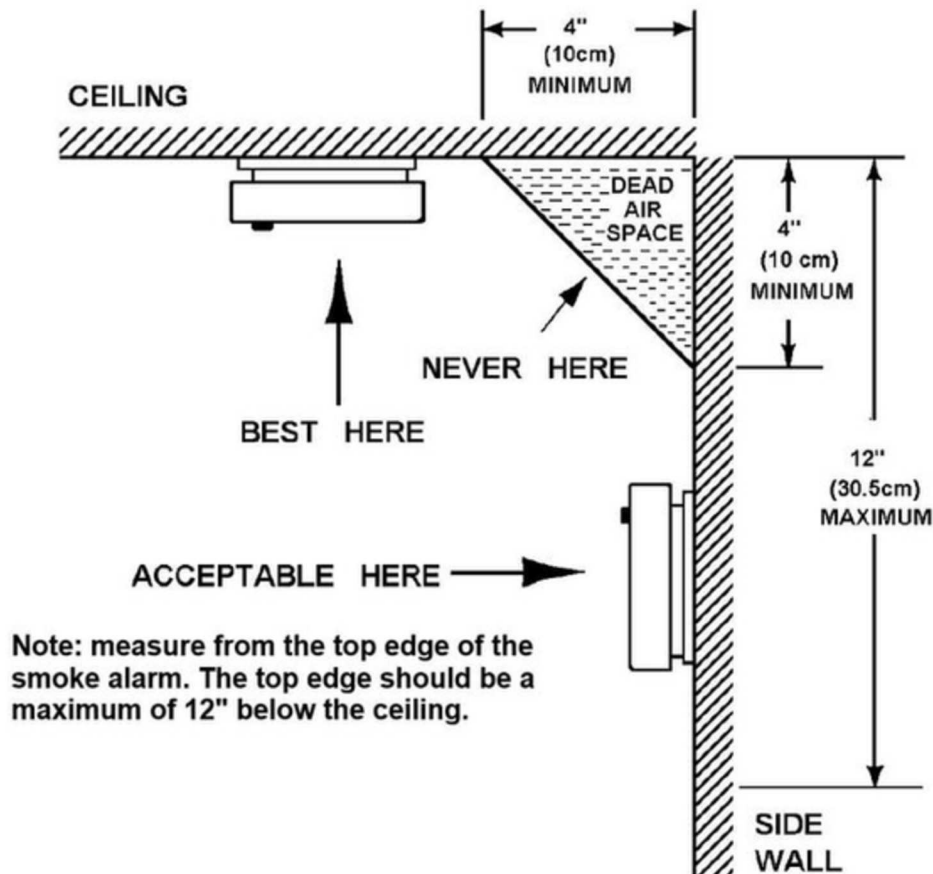
STEP 6 & 7

Openings in Boxes & Electric Panels

All unused openings in electrical boxes and panels should be securely covered. These openings not only create potential shock hazards but also prevent containment of internal electrical fires, which could allow flames or heat to escape and spread.

Additionally, uncovered openings can allow small animals, such as mice, to enter, potentially leading to chewed wiring and other damage that can increase the risk of electrical issues or fires. Properly covering these openings helps maintain the safety and functionality of your electrical system and keeps it compliant with electrical code requirements.

For peace of mind, **a licensed electrician can ensure that all electrical boxes and panels are safely secured** and free of hazards.



STEP 8

Smoke Alarms

Ensure that smoke alarms are installed inside each bedroom, in common areas on every level of your home, and positioned according to recommended locations as shown in the diagram above, which details appropriate wall and ceiling placements.

Test smoke alarms monthly, and replace their batteries once a year. Additionally, **replace any smoke alarms that are more than 10 years old.**

To verify the age of a smoke alarm, remove it from the wall or ceiling and check the date printed on the back. If no date is visible, assume the alarm is over 10 years old and replace it.



STEP 9

Carbon Monoxide Alarms

The current safety standard is to have carbon monoxide (CO) alarms installed within 10 feet of every sleeping area in your home. This ensures that if CO levels become dangerous while you're sleeping, you'll be alerted in time.

While CO alarms used to have a lifespan of 5 to 7 years, advancements have led to 10-year models, such as those from Kidde, offering longer-lasting protection.

However, if your CO alarms are over 10 years old, they should be **replaced immediately**, as the sensors degrade over time, reducing their effectiveness. Regularly testing alarms and replacing batteries, even in newer models, is crucial to maintaining home safety and ensuring reliable detection of CO hazards.



OUR SUGGESTION

When to Call a Professional

If you encounter unusual issues during your inspection, it's important to know when to call a licensed electrician. These include:

- **Frequent Circuit Breaker Trips:** Could signal overloaded circuits, loose wires, or a deeper issue. This requires professional attention to prevent fire risks.
- **Sparking or Buzzing Sounds:** Often indicates a wiring problem or overload, both of which are dangerous and need expert handling.
- **Flickering or Dimming Lights:** May point to poor connections or an overloaded circuit, especially across multiple rooms.
- **Warm or Hot Switches/Outlets:** Suggests faulty wiring or overloads, posing a fire hazard.
- **Burning Smell or Scorch Marks:** Likely a wiring issue that requires immediate professional intervention.

A licensed electrician can address these hazards, protect your property, and ensure your system complies with safety codes.

Conclusion

There you have it — Your DIY electrical inspection is done. We hope you found this guide useful, and we extend our sincere thanks to Structure Tech for their partnership.

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- ✓ Licensed & insured technicians
- ✓ 0% interest financing available
- ✓ FREE estimates & 2nd opinions

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Over \$5,000 of savings · Expires 12/15/24

COLD WEATHER FURNACE TUNE-UP

DETAILS

Tune-up your furnace for the winter!
Our technicians will perform:

- Carbon monoxide (CO) testing
- Filter replacement (if available)
- Thermostat calibration
- Gas line check
- Burner & flue inspection
- Blower inspection
- Safety controls check
- Combustion analysis
- ... and more!

\$79

\$129 Value
Save \$50!
QUALIFIES FOR
UTILITY REBATE*

*Terms and conditions apply. Call today to ask about rebates.

FLATE-RATE FURNACE REPLACEMENT

DETAILS

Don't risk an old furnace leaving you
in the cold! Stay safe, warm and save
with a new energy-efficient furnace.

New furnaces qualify for up to
\$3000 in rebates & tax credits, and
can save up to 30% on utility bills.

Call us today and see how you can
replace your system for **\$0 down, 0%
interest for 18 months***.

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\$7000 Value
Save \$2000!
UP TO \$0 DOWN,
0% INTEREST*

*Financing subject to credit qualifications. Flat rate up to 80K BTU furnace.

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SEASONAL BOILER TUNE-UP

DETAILS

Tune-up your boiler for the winter!

Our technicians will perform:

- Carbon monoxide testing
- Thermostat calibration
- Gas line inspection
- Burner & flue inspection
- Pressure & safety valve check
- Heat exchanger examination
- Expansion tank inspection
- Combustion analysis
- ... and more!

\$99

\$179 Value
Save \$80!
QUALIFIES FOR
UTILITY REBATE*

*Terms and conditions apply. Call today to ask about rebates.

WHOLE HOME DUCTWORK CLEANING

DETAILS

Get winter-ready with whole-home duct cleaning from Mitylyng!

As your heating system works harder, clean ducts mean **fresher, healthier air circulating through your home.**

Clear out dust and allergens before they settle in for the season—call us today for your winter discount!

\$779

\$1279 Value
Save \$500!
ONE YEAR
WARRANTY*

*Terms and conditions apply. Call today to ask about our warranty.

FLUSH & FILL WATER HEATER

DETAILS

Give your water heater a longer life and prevent break downs with a flush & fill this winter!

Our technicians will perform:

- Power flush to remove sediment
- Anode rod analysis for corrosion
- Temp. & pressure relief valve test
- Heating element/burner check
- Tank refill + temperature setting
- ... and more!

\$99

\$179 Value
Save \$80!
PROLONG THE LIFE
OF YOUR HEATER*

*Terms and conditions apply. Call today to learn more.

MAIN SEWER LINE CLEARING & INSPECTION

DETAILS

Keep your drains flowing with a main sewer line inspection and clearing.

Our technicians will perform:

- High-res. camera inspection
- Real-time video review
- Root & debris removal
- High-pressure jetting
- Offer tips for prevention
- Discuss repair options
- ... and more!

\$129

\$258 Value
Save 50%!
IF WE CAN'T FIX
IT, NO CHARGE*

*Charge only applies if flow is restored. Terms apply. Call today.

ANY INTERIOR DRAIN CLEARING

DETAILS

Clogged drain? Not for long. Call us today and keep your pipes flowing.

Our technicians will perform:

- High-res. camera inspection
- Real-time video review
- Hair & debris removal
- Plunging, jetting, or snaking
- Preventative maintenance
- Discuss repair options
- ... and more!

\$79

\$179 Value
Save \$100!
IF WE CAN'T FIX
IT, NO CHARGE*

*Charge only applies if flow is restored. Terms apply. Call today.

INSTALLATION OF STANDBY GENERATOR

DETAILS

Stay warm and worry-free this winter with a standby generator!

A standby generator powers your home during outages, running your heating, lights & essential appliances when you need them most.

Prepare for winter's worst—call us to schedule your standby generator installation today!

15% OFF
ANY INSTALLATION*

*Up to \$500 off any installation. Call for more information.

ADD / UPGRADE ELECTRICAL PANEL

DETAILS

Upgrade & add to your home's safety and power capacity with an electrical panel installation or replacement!

As your needs grow, an old panel can lead to frequent breaker trips, safety concerns and fire hazards.

Don't let your panel hold you back—upgrade or add one today for a safer, more efficient home!

\$500 OFF
ANY INSTALLATION*

*Discount up to \$500 on any installation. Call for more information.

\$50 OFF ANY CALL

DETAILS

Save \$50 on any service call for your electrical, heating, cooling, or plumbing needs!

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