IMPORTANT: THESE INSTRUCTIONS ARE TO REMAIN WITH THE HOMEOWNER. SAVE THESE INSTRUCTIONS

SAFETY NOTICE

Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death.



INSTALLATION AND OPERATING INSTRUCTIONS



Contact your local building or fire officials regarding permits and any information on installation and inspection requirements in your area.

Conforms with: ASTM 1509-12, Certified to: ULC S628





PELLET MODEL: TN40 INSERT

FIREPLACE INSERT

SERIES: A

Visit www. truenorthstoves.com for the most up-to-date version of this manual

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Introduction

SAVE THIS INSTRUCTION MANUAL FOR FUTURE REFERENCE

This manual describes the installation and operation of the True North TN 40 Insert Pellet Stove.

PLEASE READ THIS ENTIRE OWNER'S MANUAL BEFORE INSTALLING OR OPERATING YOUR PELLET STOVE. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY, OR EVEN DEATH.

SAFETY NOTICE:

If this stove is not properly installed, a house fire may result. For your safety, follow the installation instructions. Contact local building or fire officials about restrictions and installation inspection requirements in you area.

Operation:

For proper and safe operation, the Door and Hopper Lid must be kept closed to prevent air leaks when the unit is in operation. The Auger will not operate when they are open. Check all gaskets on the Door and Hopper opening and replace when necessary.

Cleaning:

The unit and its venting will require routine Maintenance and Cleaning. There will be some build up of fly ash with small amounts of creosote in the exhaust. This will vary due to the ash content of the fuel used and the operation of the stove. Inspect the venting periodically during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated,(3mm or more)it should be removed to reduce the risk of a chimney fire. Venting should be cleaned annually or every two tons of pellets used.

Caution:

The appliance, flue gas passages and the chimney liner require regular cleaning. Check them for blockage prior to re-lighting after a prolonged shut down period.

Smoke and CO Detectors:

Since there are always several potential sources of fire in any home, we recommend installing smoke detectors. If your local code requires a smoke or CO detector be installed within the same room, you must follow the requirements of your local code. Check with your local building/fire department for requirements in your area.

Optional Thermostat:

This stove can be operated manually or with an optional low voltage wall thermostat (not provided).

If you have any questions with regards to your stove or any of the informatio contained in this manual, please contact your local dealer for further clarification and comments.

To prevent the possibility of a fire, have the appliance installed by a professional. Ensure that the appliance is properly installed by adhering to the installation instructions. Your dealer will be happy to assist you in obtaining information with regards to your local building codes and installation restrictions.

It is strongly recommended that the stove be serviced annually by a trained professional

Specifications

Rating Label Location:

On top of the Hopper Cover.

Safety Listing information:

Safety testing by Intertek Testing Services NA Ltd. to the following standards: ASTM 1509-12, ULC 628S.

EPA Certification:

This heater meets the 2020 U.S. Evironmental Protection agency's PM limits using Premium wood pellets.

EPA Certified Emissions:	0.69g/hr
LHV Tested Efficiency (1):	79.6%
HHV Tested Efficiency (2):	73%
EPA Tested BTU output (3)	6,000 t0 25,600 BTU/hr.

Input: Aprox. 10,000Btu to 38,000 (Depending on fuel type)

(1) Weighted Average Lower Heating Value (LHV) efficiency as tested using CSA B415 Performance testing of solid-fuel-burning heating appliances. LHV assumes the moisture is already in a vapour state so there is no loss of energy

(2) Weighted Average Higher Heating Value (HHV) efficiency as tested using CSA B415 Performance testing of solid-fuel-burning heating appliances. HHV includes the energy required to vaporize the water in the fuel

(3) The range of BTU outputs is based on efficiency using CSA B415 Performance testing of solid-fuel-burning heating appliances and burn rates from the EPA tests

This wood pellet heater has a manufacturer-set minimum low burn that must not be altered. It is against federal regulations to alter this setting or otherwise operate this heater in a manner inconsistant with operating instructions in this manual.

Electrical:

120 volts, 60 Hz.4.3 Amps - Peak2.5 Amps - Normal operating.

Warning:

This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong, 120 volt, 60 Hz receptacle. Do not cut or remove the grounding prong from this plug. Do not route power cord under or in front of appliance. The power supply cord must be routed to avoid contact with any of the hot or sharp exterior surface areas of the stove. Electrical Generator Operation:

The use of a surge protected power bar is recommended to ensure the stove's electrical components are not damaged due to a surge in the electrical supply or lighning strike.

Your True North TN40 Insert stove may be able to operate with power from a portable generator. However, the generator's electrical regulator may not be compatible with the stove's electronics. The higher the quality of the generator, (smoother the output sine wave) the greater the chance that it is compatible with the stove.



Warnings -

Caution:

Unit hot while in operation.

Parts of the appliance, especially the external radiant surfaces, will be hot to touch when in operation. Keep children, pets, clothing and furniture away. Contact may cause skin burns. Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition. Young children should be carefully supervised when they are in the same room as the Pellet stove.

Flamable Liquids:

Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in the heater. Keep all such liquids well away from the heater while it is in use.

Caution:

Do not connect to any air distribution duct or system. Do not install a flue damper in the exhaust venting system of this unit. Do not connect this unit to a chimney flue serving another appliance.

Warning:

- Never place furniture, wood, paper, drapes or other combustible materials including Pellet Fuel within 48" (122cm) of the front of the unit, 12" (30cm) from each side, and within the fireplace enclosure.
- Any grill, panel, or glass removed for service MUST be replaced prior to operating the stove. Failure to due so may allow contact with shock or fire hazards.

Chimney or Run Away Vent Fire:

Call local fire department. Extinguish the fire in the burn pot liner with a cup of water and close the door. Examine the flue liner, chimney, attic, and roof of the house, to see if any part has become hot enough to catch fire. If necessary, spray with fire extinguisher or water from the garden hose. IMPORTANT: Do not operate the stove again until you are certain the chimney and its lining have not been damaged.

Glass:

Do not abuse the glass by striking or slamming the door. Do not operate appliance with the glass front removed, cracked, or broken. The stove uses ceramic glass. Replacement of the glass should be done by a qualified service technician. Replacement glass must be purchased through a Pacific Energy Fireplace Products dealer. Do not attempt to open the door and clean the glass while the unit is in operation or if glass is hot.

Any panel or glass removed for service MUST be replaced prior to operating the stove. Failure to due so may allow contact with moving parts, shock or fire hazards.

Caution:

When operating during extreme weather, if the unit exhibits dramatic changes in combustion stop using the unit immediately.

DO NOT OVERFIRE this appliance or attempt to operate it in a manner that it was not designed for. Operating this way may become a fire risk, cause damage to the unit and will void the warranty.

Do not burn with insufficient combustion air, creosote may form in the unit and venting. This is a fire risk.



Negative Pressure Warning

This appliance has not been designed to be operated in a negatively pressurized room. Provide adequate air for combustion.

The stove's combustion system works with negative combustion chamber pressure and a slightly positive chimney pressure. It is very important to ensure that the exhaust system be sealed and airtight. The viewing door and Hopper Lid must be closed securely for proper and safe operation of the pellet stove

Do not burn with insufficient combustion air. Creosote may be created on deposited inside your stove and chimney liner. A periodic check is recommended to ensure proper combustion air is admitted to the combustion chamber. Setting the proper combustion air (with the stove's damper) is required after installation. Minor adjustments can also be made on the controls.

The combustion air inlet for this stove is drawn through a pipe inside the rear of the stove. Air can be provided by the room the stove is installed in or by connection to outside of the house.

- Room air: The room must be well ventilated In well insulated/air tight homes, a lack of air for combustion can be easily be caused by many common household appliances which exhaust air from the home (such as a furnace, heat pump, air conditioner, clothes dryer, exhaust fans, fireplaces, and other fuel burning appliances).
- Outside air: A 2"(51mm) id. non-combustible flexible or rigid pipe can be attached between the stove's air intake and the outside through the fireplace's ash dump. This will greatly reduce the risk, but may not eliminate the problem if the home has a problem with extreme negative pressure.

Pacific Energy Fireplace Products Ltd. accepts no liability for damages resulting from negative pressures described here.

Paint Curing

This stove has been painted with a high-temperature metallic paint. It is dry to the touch, but completes the curing process during the first few times the stove is burned on high. Also, some parts of the appliance may be lightly coated with machining oil. During the first firings, the paint and oil may give off unpleasant odors. Open the windows to ventilate the room.

Pellet Fuel Specifications

This stove is designed and EPA certified to burn Premium wood pellet fuel only. Burning any other fuel that is not approved for use with this appliance will void the appliance warranty.

Caution:

It is important to select and use only fuel that is free of dirt or other impurities such as chemical binders or high salt content. "Dirty" fuel will adversely affect the operation and performance of the unit and will void the warranty. We recommend the use of pellets that meet or exceed the PFI standards. Ask your dealer for a recommended pellet type.

Store fuels at least 48" (1.2 m) away from the pellet stove and in a cool dry location.

In The U.S.

• Burn only pellets that have been graded by an EPA approved organization. Pellet Fuels Institute, ENplus or CANplus are approved orgizations.

Minimum Fuel Specifications; DENSITY: > 38lbs/cuft. DIMENSIONS: < 1.5 in. with a diameter of .230 to .285 INORGANIC FINES (Ash Content): <1% CHLORIDES: <300ppm by weight. ASH CONTENT: < 2% TRACE METALS: < 100mg/kg Contains no construction or demolition waste.

In Canada,

• Use premium grade pellets.

Max. feed rate is approx. 4.5 lbs/hour. ** Feed Rates can vary greatly depending on fuel type and quality ** Due to this, the stove may require adjustment to the damper and or the feed rate trim to achieve a satisfactory burn on low.

Ash:

The ash content of the fuel and operation of your stove will directly determine the frequency of cleaning. The use of high ash fuels may result in the stove needing to be cleaned daily. Pellets made from hardwoods generally produce more ash than those made from softwoods.

Clinkering:

[clinkers are minerals, silica (sand) or other impurities in the fuel that will form a hard mass during the burning process]. If the Burn Pot Liner holes do become blocked, remove the liner (when the unit is cold) and clean/scrape the clinkers out. Clean the holes with a small pointed object if required

BTU Content:

BTU (heat value) content may range from just under 7,000 to almost 9,000 Btu/lb., depending upon species and region of the country and other variables.

The use of Cordwood is Prohibited. Do not burn garbage, rubber, plastics or flammable fluids such as gasoline, naphtha or engine oil.

Controls

Control Panel:

The following is a list of features on the control panel:

- 1. POWER light Is red during start-up, switching to green when the stove is at operating temperature. The light will change to orange during shutdown.
- 2. ON/OFF Button Is pushed to start the stove, and to turn the auger off and start the shut down sequence.
- 3. HEAT LEVEL Buttons LOW is pushed to reduce the heat output. It is also used to reduce the values of the "trim" settings. HIGH is pushed to increase the heat output setting. It is also used to increase the values of the "trim" settings.
- 4. AUGER The Auger will operate continuously while this buttom is pressed. It is also used with the Heat level buttons to trim the auger ON time pulses when the pellet quality/size requires more or less fuel to burn properly.
- MAN-HI/LO-AUTO Thermostat mode selector switch. The slide switch is used to select the desired thermostat mode. (See "Thermostat Operation:" on page 11)
- 6.
- HEAT LEVEL INDICATORS Show what heat output setting the unit is on. Low or #1 (bottom) and High or #5 (top). Also used to show fault codes and trim settings.
- 8. COMBUSTION TRIM This button is hidden to prevent mistaken use of the feature. It is used with the Heat level buttons to trim the Combustion Blower voltage when the pellet quality/size requires more or less air to burn correctly. This feature should be used only after the firebox vacuum has been set.

Fault Codes:

If the stove stuts down unexpectedly, the following Heat Level indicator may be flashing.

- Fault code, #3 light flashing: Stove did not light / Fire went out / Stove went cold while in operation.
- Fault code, #4 light flashing: Hi limit switch is open / Stove over heated.

See trouble shooting section for causes and solutions.

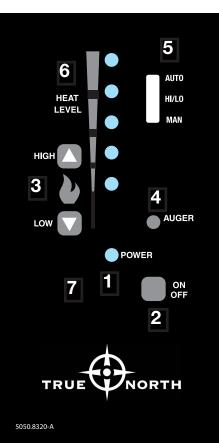


Figure 1: TN40 INSERT Control Panel

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Operation

Note: when the stove is plugged into power for the first time the combustion blower will come on and run for 8-10 minutes, this is the same function as after a power failure.

Filling the Hopper:

The hopper can be accessed by sliding the the stove top toward you. The hopper will hold up to 65 pounds (29 Kg) of pellets. Check for any foreign objects in the hopper before filling with pellets. To completely fill the hopper, pellets will need to be pushed to the back during filling. The Hopper Lid is connected to a switch and must be completely closed before the Auger will operate.

Opening the Door.

Rotate the door handle clockwise to the horizontal position and slowly pull open. This will help prevent large amounts of ash from being sucked out as you open the door. To close the Door, revearse the steps.

Before Lighting your stove.

Check the holes in the Burn Pot Liner to make sure they are clear. Remove any ash/clinkers if needed. (See "Burn-Pot and Liner Cleaning:" on page 13). Check to see that the BurnPot Liner is seated correctly and pressed back against the Ignitor Tube for proper ignition and operation.

Lighting your Stove:

Note: If this is the first time the stove has been started or the stove has run out of pellets, the auger will be empty and the Burn-Pot liner will need to be primed. To prime, place a handful of pellets into the middle of the liner. Or hold down the Auger button, this will cause the auger to run continuosly while the button is held.

On the control board, push the ON/OFF button. This will turn the POWER indicator light red and will begin a 15 minute lighting sequence. During the lighting sequence, the auger will pre-load the Burn-Pot liner with pellets, the igniter will light the pellets and once lit, the auger will resume feeding pellets. Some smoke inside the firebox can be expected during light up. Once the ignition cycle is finished and the stove is lit, the POWER light will turn green. The stove will continue to burn at the desired level indicated by the HEAT LEVEL display.

Caution: Do not attempt to re-start the lighting sequence before it has run its course as the Burn-Pot will overload with pellets. If after 15 minutes the stove is not lit, the middle light of the HEAT LEVEL display will flash red. When cooled, safely empty the burn pot liner of any unburned pellets and re-start the stove.

WARNING: Never empty unburned pellets from the Burn-Pot into the pellet hopper. Pellets that appear to be cool may retain enough heat to ignite other pellets resulting in smoke or fire damage.

General Operation:

Use the HEAT LEVEL LOW and HIGH buttons to adjust the heat level to the desired setting.

Avoid over firing the stove - do not hand feed pellets to the appliance during operation.

Due to different sizes and quality of the fuel, the stove may require adjustment to the damper and or the feed rate trim to achieve a satisfactory burn on low.

Turning the Unit OFF:

Normal - To turn the stove off, press the ON/OFF button. The control panel lights will go out. The Auger will stop but the fans will continue to operate until the exhaust temperature drops and the control board completes the shut down cycle.

TN40 INS

Operating Instructions

Convection Blower Operation:

Your True North TN40 stove comes equipped with two convection blowers that extract heat from the stove. After the stove warms up, the fans will turn on. The speed of the fans varies with the burn rate of the stove. The fans will continue to extract heat after the stove shuts off and until it has cooled down.

Fuel Feed Trim:

The controls allow you to adjust the Fuel Feed Trim slightly. [Factory setting is number 3]

- For low quality pellets where the unit goes out during long periods on the Low Heat setting you can increase the amount of pellet feed across the whole heat range. Hold down the Auger button and the display will change to four lights on and one off, press the UP arrow for the Heat Output to increase the auger on time.

WARNING THIS WILL INCREASE THE FEED RATE FOR THE COMPLETE RANGE - BE CAUTIOUS - DO NOT OVER FIRE THE UNIT

- To decrease the Auger feed on High energy pellets, (if the low heat is still to warm) decrease the fuel feed by holding down the Auger button and the display will change to four lights on and one off, then press the Down arrow for the Heat Output to reduce the auger on time across the complete heat range

Combustion Blower Trim.

WARNING: THIS SHOULD ONLY BE USED AFTER THE DAMPER HAS BEEN ADJUSTED AS PER THIS MANUAL AND AS A LAST RESORT. This feature should only be used if the unit is getting too much or too little combustion air when on lowest heat settings due to a sudden change in pellet uality. By adjusting the Combustion Blower Voltage you will effect the lowest four heat output combustion blower setings. To adjust, hold down the hidden button across from the ON/OFF button and under the Heat Level buttons. Use the Heat Level buttons to adjust up or down the same way as the Auger Feed Trim. The factory setting is position number 3.

Normal Operating Sounds:

As the True North TN40 stove is burning, a number of normal operational sounds may be heard. When the blowers come on, the sound of rushing air can be heard as well as some small creaks. The lower the burn rate the slower the fan operates. Pellets can be heard dropping into the Burn-Pot. Also, the motor turning the auger may be heard as it pulses on and off. Occasionally a cracking noise might be heard as the auger cuts a pellet in half.

Power Outage:

If the stove loses electrical power and it is still hot when power returns, the stove will go into a start-up sequence and will continue to operate. If the power loss is long enough for the stove to cool, the exhaustblower will run for 10 minutes to purge any smoke. If the stove is connected to a thermostat in the "Auto mode", the stove will not start the ignition sequence until the thermostat calls for heat again.

Thermostat Operation:

Once installed, the thermostat can control the operation of the stove. Use a low voltage/millivolt thermostat. (See "Optional Thermostat installation" on page 22) for installation instructions.

Important: When connected to a thermostat, it is necessary to push the ON/OFF button for the initial burn, when the electrical flow to the stove is interrupted, or if the stove runs out of pellets and therefore shuts off with a fault code.

Manual Mode:

After the stove is burning (See "Opening the Door." on page 9), the heat level setting controls the pellet feed rate and the stove's heat output. Once set, the stove will continue to burn at this rate until the heat level is changed or the stove is shut off.

• HI/LO Mode:

After the initial ignition sequence, when the thermostat calls for heat (the room temperature is less than the temperature set on the thermostat), the stove will burn at the heat level setting. The higher the setting, the quicker the room will heat up. Once the thermostat no longer calls for heat (the room is up to the desired temperature), the stove will drop down to burn at the lowest HEAT LEVEL setting. This cycle will continue until the stove is turned off or runs out of fuel.

• AUTO Mode:

When the thermostat calls for heat (the room temperature is less than the temperature set on the thermostat), the stove will burn at the heat level setting. The higher the setting, the quicker the room will heat up. Once the thermostat no longer calls for heat (the room is up to the desired temperature), the stove will drop down to burn at the lowest HEAT LEVEL setting. The stove will continue to burn for 45 minutes at the lowest setting. If the thermostat does not call for heat again during that time, the stove will shut off. It will relight when the thermostat calls for heat. If, during that 45 min., the thermostat calls for heat again, the stove will again burn at the HEAT LEVEL setting until the thermostat no longer calls for heat.

Damper Adjustment

The Damper is used along with the Combustion Blower control to regulate air flow through the stove.

THE DAMPER MUST BE SET AFTER INSTALLATION, DURING THE FIRST FIRING. This procedure should be done by a Qualified Installer or Service Technician. (See "Setting the damper" on page 23)

Because of the differences in pellet quality, the Damper may need to be adjusted from time to time. If the stove goes out continually on low, the unit may need to have the damper closed slightly for reduced airflow at the lower heat settings. If the stove continually buids up with ash/clinkers in the liner the damper may need to be opened slightly for more airflow through the liner.

TN40 INS



Routine Checks and Maintenance

Inspection /cleaning	weekly	monthly	yearly	
Burn-Pot	X			or Every 5 bags of fuel burned
Burn-Pot Liner	X			Daily - depending on fuel quality
Blower - Convection			Х	or more frequently if pets present
Blower - Exhaust			X	or more frequently depending on fuel quality
Firebox	X	Х		or more frequently depending on fuel quality
Venting system			Х	more frequently depending on fuel quality
Glass	Х			or if viewing area becomes completely obstructed
Door Seals/Gaskets		Х		Replace if damaged

CAUTION: INSTALLATION AND REPAIR SHOULD ONLY BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN. DO NOT ATTEMPT TO SERVICE THE APPLIANCE YOURSELF.

IMPORTANT CAUTIONS: SHUT DOWN THE STOVE, UNPLUG THE POWER CORD AND ENSURE THE APPLIANCE IS COLD BEFORE PERFORMING ANY MAINTENANCE WORK.

- Some brands of pellets produce more ash and clinkers than others. Therefore the frequency of performing the following cleaning procedures depends to a great degree on the type of pellets burned.
- Not cleaning this unit will cause it to burn poorly and may void your warranty.
- A cleaning brush can be used to loosen any ash build-up before vacuuming.

CAUTION: ***DO NOT USE A STANDARD HOUSEHOLD VACUUM, USE AN ASH OR SHOP VACUUM. A FINE DUST FILTER MUST BE INSTALLED IN THE SHOP VACUUM, AS THE STANDARD FILTERS WILL LEAK THE FINE PARTICLES OF ASH INTO THE HOME. DEPENDING ON THE SYSTEM, USE CAUTION AS SOME DUST MAY STILL PASS THROUGH THE VACUUM.*** ***DO NOT VACUUM HOT ASH!***

• Using a drop cloth is recommended as some ash may spill onto the floor during the cleaning process.

Warning: Soot/Creosote:

Operation of the stove with insufficient combustion air will result in the formation of soot and/or creosote which will collect on the glass, the firebox, the exhaust vent system, and may stain the outside of the house. This can lead to a fire and damage to the unit and its venting as well as your home. Frequently check your stove and adjust the combustion air as needed to ensure proper combustion (See "Setting the damper" on page 23).

Cleaning Glass:

CAUTION: Do not clean glass when hot. Do not open the front door when the stove is hot.

Open the door and clean the glass using a soft cloth or paper towel and household glass cleaner or wood stove window cleaner. **DO NOT use abrasive cleaners**



Burn-Pot and Liner Cleaning:

The Burn-Pot Liner has a number of holes in the bottom and sides that provide combustion air to the pellets. The extreme temperatures in the Burn-Pot can cause the impurities in the pellets to form ash and clinkers. The liner should be inspected dailly to ensure the holes are clear.

The Burn Pot should be checked/cleaned out after burning about 5 - 10 bags of pellets.

When the stove is cool, open the door then lift up on the Burn Pot Liner to remove. Using a suitable vacuum clean out the Burn Pot. Or remove the Burn Pot by loosening the nuts on the bottom corners of the Burn Pot and sliding the Pot towards the back. Lift up at the front of the pot pull it towards the front of the firebox to remove it from the tubes. Empty the ash from the Burn-Pot and Liner. Scrape the bottom of the pot with a scraper to remove all ash and clinkers from these surfaces if needed.

Make sure all the holes in the Burn Pot Liner are open. Clean/scrape any hard clinkers out. Clean the holes with a small pointed object if required

Reinstall the Burn-Pot into the stove by reversing the removal proceedure. , then place the Burn-Pot Liner back into the Burn-Pot, ensuring that the Ignitor hole is towards the back of the stove. Push the Burn Pot Liner back in the Burn Pot against the ignitor tube to create a seal for the ignitor. Tighten Burn Pot mounting screws.

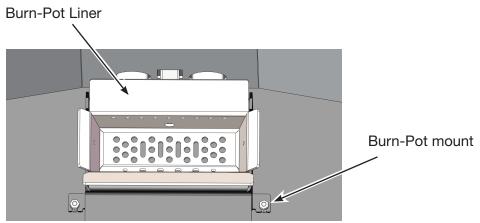


Figure 2: TN40 INSA Burn Pot Mount.

Ash Removal and Cleaning:

CAUTION: Do not remove ashes when the stove is operating or hot.

Gently brush ashes into the bottom of the firebox. Remove the ashes with an ash or shop vacuum.

DO NOT USE A STANDARD HOUSEHOLD VACUUM, use an Ash or shop style vacuum with a fine dust filter installed.

CAUTION: Disposal of Ashes - Ashes should be placed in a metal container with a tight fitting lid. The closed container should be placed on a non-combustible surface – well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have been thoroughly cooled.

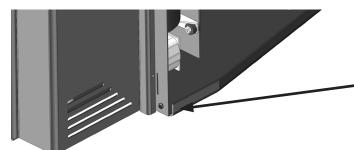
Inspect Gaskets:

Inspect the condition of the rope gasket around the door, window and ash pan, periodically. If the gasket becomes loose or falls off, is excessively frayed or has a gap in it, replace as necessary. Inspect the die-cut gaskets on the blowers when cleaning and replace if they become torn or damaged.



Operating Instructions Surround and Cabinet Side Removal

- Un-plug the stove.
- Lift the complete surround up slightly to disengage the mounting tabs and carefully pull towards you about 3"(76mm).
- Disconnect the ribbon cable from the back of the control panel. Remove the surround and place out of the way.



• Remove the two screws holding the back of the Cabinet Side to the chassis. Pull the panel torwards you to disengage the screws at the front. Installation is the reverse.

Figure 3: TN40.INSA side mounts.

Cleaning the Flue Gas Passages

Cleaning the flue gas passages should be done at least once a year or every one to two tons of pellets used.(50-100 bags) Burning high ash pellets may require this cleaning to be done more often. Clean this passage only when the stove and ash are cold.

Remove the Burn-Pot and Liner as per previous cleaning section, and use an ash or shop vacuum to remove the loose ash from the firebox.

Remove the Upper Firebox Liner Panel by lifting and pulling it forward. Swing the back edge down once it clears the Firebox Liner. Continue down until the Top Panel has dis-engaged from the front mounting pins. It will then come down and can be pulled through the door opening.

 We recommended you use a little penetrating oil on the screws to ease in removal

Using a ratchet with a 5/16" socket, remove the 5 screws securing the Firebox Liner to the firebox. (Figure #5)

Remove the firebox liner.

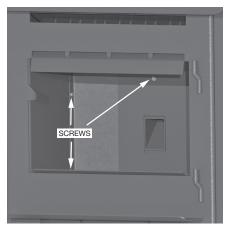
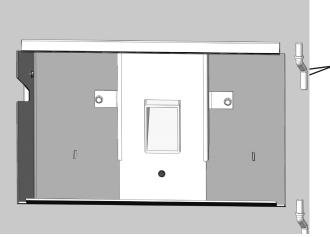


Figure 4: Firebox Liner removal.



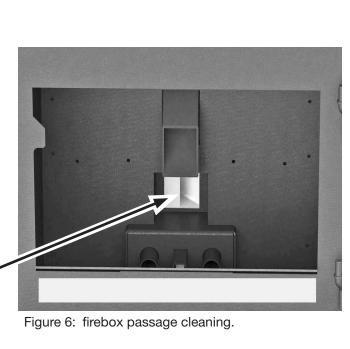


With a 3/8" socket, remove the two screws securing the Drop Tube Shield section and remove it from the firebox.(See Figure 6)

Figure 5: TN40.INSA Drop tube shield screws.

Using an ash or shop vacuum, clean out all the ash in the exhaust passages. (See figure 7) Don't forget to clean up around the heat exchanger by using the vacumn on the openings above the door opening. Once the flue passage is clear of ash build-

up, reinstall the Firebox Liner.



Firebox Passage - Clean through here

Cleaning the Exhaust/Combustion Blower:

To clean the combustion blower, unplug the stove, remove the surround and the left cabinet side. Remove the four screws (Figure 7) with a Philips screwdriver. The motor can now be pulled from the fan housing.

The blower cooling fan and main blade can be vacuumed once the motor is removed. Before reinstalling, vacuum out the blower housing and the flue gas passages leading to and from the combustion blower.

Clean the inner surface of the Proof of Fire Switch located on the combustion air channel. When reinstalling the motor, check the gasket between the motor and the fan housing, a new gasket may need to be installed if damaged. Place the motor back on the fan housing (motor down) and rotate clockwise to lock the flange, tighten the four screws with a Philips screwdriver. screws x 4

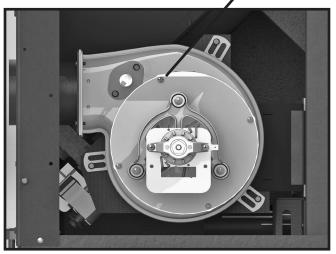


Figure 7: Combustion blower cleaning.



Operating Instructions Cleaning the Vent Pipe:

The products of combustion will contain small particles of flyash and/or soot. The Flyash and/or soot will collect in the exhaust venting system and restrict the flow of the flue gases. The exhaust venting system should be inspected at least twice every year to determine if cleaning is necessary. Sweep the liner as needed. The insert is equiped with clean-out tee in the exhaust system at the transition from horizontal to vertical making cleaning easier.

Pacific Energy Fireplace Products recommends having your stove inspected and cleaned by a trained professional.

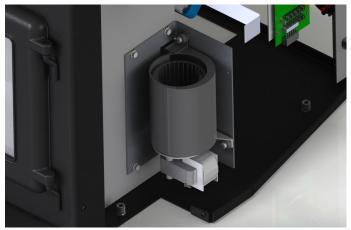


Figure 8: Blower cleaning.

Cleaning the Convection Blowers

Disconnect power to the stove. Remove the Surround Panel and Cabinet Sides. (See "Surround and Cabinet Side Removal" on page 14). There is one blower on each side of the firebox.

• A vacuum can be used to remove any dust accumulation on the blower's blades or inside the blower ducts. Caution should be used not to damage the blower's blades during cleaning. Vacuum around the motor.

Reverse the removal process to reinstall the Cabinet Sides and Suround Panel set.

DOOR GLASS - Replacement

If the glass gets cracked or broken, it must be replaced before using the stove. Replacement glass can be obtained from your dealer. Use 9-1/4"(235mm) x 13-1/4"(337mm) x 5 mm. Ceramic glass only. Do not substitute with any other type.

-To remove broken glass, undo the four retaining screws and remove clamps, noting position for re-assembly. Remove all particles of glass. Be careful as they are very sharp. Install new glass complete with glass gasket. Replace clamps and screws.

CAUTION:

- do not overtighten, tighten screws very carefully



Stove Dimensions

Weight - 300 pounds (140 Kg.)

Hopper Capacity - up to 60pounds (28 Kg.) Results will vary based on fuel density.

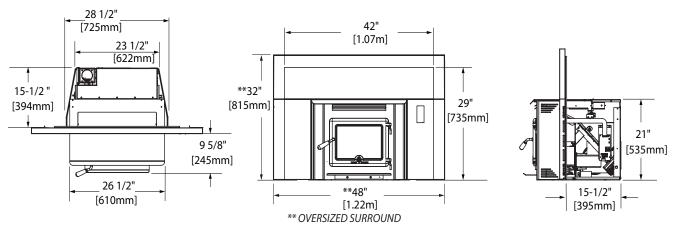


Figure 9: TN40.INSA DIMS.

Installation Options

- Solid Fuel burning fireplace
- Certified Wood Burning, Factory Built Fireplace
- Thermostat or manual operation
- Outside Air Compatible

Selecting a Location:

This appliance must be installed in a wood burning fireplace with an adequate load bearing capacity, if existing construction doesn't meet load capacity, suitable measures (e.g. load distributing plate) must be taken to achieve it.

Due to high temperatures, the stove should be located away from furniture and draperies.

The layout of your house and the location of the Pellet Stove will determine how effective it is at heating the intended area. Pellet Stoves use mainly air circulation to disperse their heat, therefore a central location with good airflow will work the best. Try to locate the heater in the area you want heated.

Caution:

DO NOT CONNECT TO OR USE IN CONJUNCTION WITH ANY AIR DISTRIBUTION DUCT WORK. THIS UNIT IS NOT APPROVED FOR SUCH INSTALLATIONS.

Fireplace Dimensions

[] Dimensions are in mm

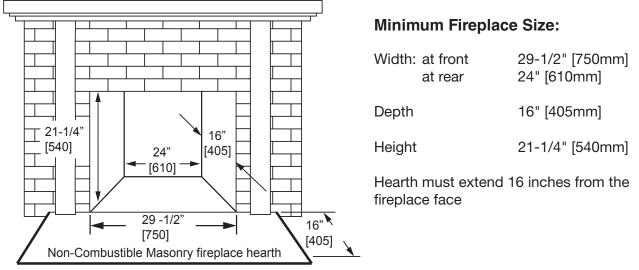


Figure 10: TN40 INSA Fireplace opening specs.

The appliance must be installed on a non-combustible Masonry hearth extending the full width and depth under the heater (including the vent pipe), and must extend an additional 16" (152mm) beyond the front of the fireplace opening. Additional Ember Protection if required must extend 6" (150mm) in front of and beyond each side of the Firebox Viewing Door.

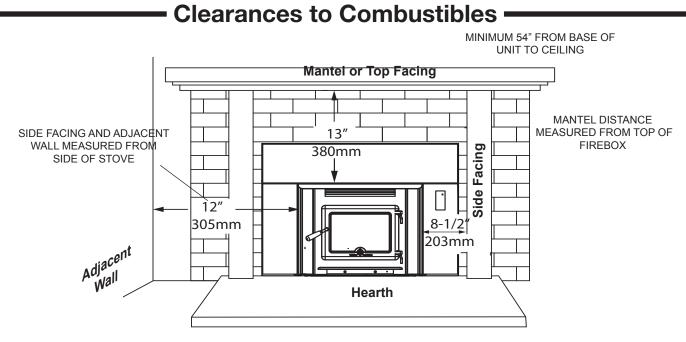


Figure 11: TN 40 INSERT CLEARANCES.

Minimum Clearance to Combustibles:

Side of Top to Sidewall Side of Top to 3-1/2" [89mm] Max. deep Mantle Side Facing Top of stove to Mantle or Mantle Facing Height of Ceiling above Stove's Base In Front of unit

12" [305mm] 8 -1/2" [216mm] 13" [330mm] 54" [1.37m] 36" [915mm]

Installation

Before you begin:

Please read and carefully follow all of the installation and operating instructions found in this manual. Please pay special attention to the safety instructions provided in this manual.

The services of a competent installer, certified by the Wood Energy Technical program (WETT) - in Canada, Hearth Education Foundation (HEARTH) - in U.S.A. (or equivalent) are strongly recommended.

Contact your local building or fire official to obtain a permit and any information on installation restrictions and inspection requirements for your area. Check all local building and safety codes before installation. The installation instructions and appropriate code requirements must be followed exactly and without compromise. Familiarity with these requirements before installation is essential.

Failure to follow these instructions will void the manufacturers warranty. Alterations to the stove are not allowed.

Your Insert is approved to be installed into an approved masonry or factory built zero-clearance fireplace.

The masonry fireplace must be built according to the requirements of the **Standard of Chimneys**, **Fireplaces, Vents and Solid Fuel Burning appliances**, N.F.P.A. 211 (Latest Edition) or applicable National, Provincial, State or local codes. The installation shall conform to **CAN/CSA-B365**, Installation Code for Solid-Fuel-Burning Appliances and Equipment.

The factory built zero-clearance fireplace and its chimney must be listed per **UL 127 or ULC S610** standards.

Warning: Under no circumstances is this heater to be installed in a makeshift or "temporary" manner.

- Venting

This heater is approved for venting with any UL 1777/ULC S635 or ULC S640 conforming 3"(76mm) or 4"(102mm) stainless steel chimney liner inside a masonry or approved wood burning chimney system. **The stove's flue collar is 3" in diameter and will require an increaser to use 4" liner.**

Note: When installing this stove at altitudes over 4000 feet, we suggest the use of 4"(102mm) pellet vent.

The stove's combustion blower pressurizes and pushes flue gases out the vent pipe. The vent pipe should be siliconed and fastened with three screws to the stove's starter pipe. If the liner does not have a locking system then all joints should be screwed together with three screws. If required, seal all joints with high temperature silicone or aluminium tape.

DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS UNIT. DO NOT CONNECT THIS UNIT TO A CHIMNEY OR FLUE SERVING ANOTHER APPLIANCE.



Installer Information Installing into a Masonry Fireplace

Inspect your fireplace for cracks, loose mortar or other physical defects. If repairs are required, they should be completed before installing your insert.

The fireplace chimney must be suitable for wood burning use. Check for creosote build up or other obstructions, especially if it has not been in use for some time.

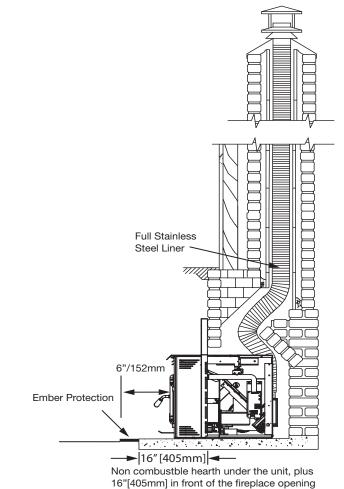
The existing fireplace damper is to be locked open or removed completely. Have the chimney cleaned to prevent odours and possible fires.

A full Flue Liner is recommended for best performance.

WARNING: Do not remove bricks or mortar from your existing fireplace.

Exception: Masonry or steel, including the damper plate, may be removed from the smoke shelf and adjacent damper frame if necessary to accommodate a chimney liner, provided that their removal will not weaken the structure of the fireplace and chimney, and will not reduce protection for combustible materials to less than that required by the National Building Code. The Insert must be installed in accordance with local and or national building codes. The two methods of flue connection that are acceptable in most areas are shown on page 20 and 21.

A metal tag is provided and is to be fastened to the back wall of the fireplace if the fireplace has been modified to accommodate the insert.



Full Flue Liner - (Required in Canada)

A 3"(76mm) or 4"(102mm) chimney liner that conforms to CAN/ULC-B365, Standard for Lining Systems for Existing Masonry or Factory-Built Chimneys and Vents, or CAN/ULC-S640, Standard for Lining Systems for New Masonry Chimneys. must be used and extend all the way from the insert flue to the top of the chimney. Use a sealing plate at the top of the chimney and a rain cap on the liner.

- 1) Measure the chimney height from the top of the existing flue to the floor of the hearth. This will allow extra length of liner for flashing and rain cap.
- 2) Feed the stainless steel liner from top of the chimney, through the damper area and into the fireplace cavity.
- 3) Push the Insert inside the fireplace and attach the flex liner to the stove's Ash Cleanout box adapter and secure with screws. Push the unit close to its final position and use the rear adjusting legs to level the Insert.
- 4) Measure, trim and shape a top flashing to fit the existing chimney flue. Plan for a 1" to 1-1/2" overlap on each side. Place flashing over top of the liner and seat firmly against the tile. Screw flashing collar to liner. Caulk gap around flashing with RTV silicone.
- 5) Attach a rain cap to the end of the liner. A storm collar should be used.

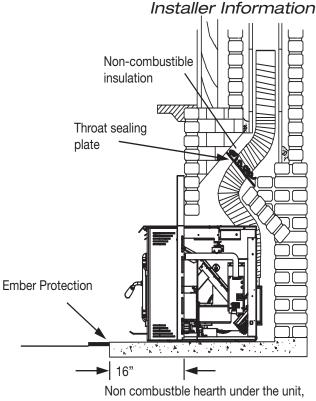
Figure 12: CAN full liner TN 40 insert.

Direct Flue Connection - (USA only)

- Measure from the first chimney flue liner to the top of the Insert. Allow 12inches extra length of liner to insert into flue tile.
- Feed the stainless steel liner through the damper area and into the first chimney flue tile. Seal around pipe to the chimney.

Note: A clean-out door may be required under local codes, when a direct flue connection is used. Consult local codes.

3) Push the Insert inside the fireplace and attach the flex liner to the stove's Ash Cleanout box adapter and secure with screws. Push the unit close to its final position and use the rear adjusting legs to level the Insert.



plus 16" from the fireplace opening

Figure 13: US Sealed Flue TN 40 insert.

Into a Factory Built Fireplace

Your Insert may be installed into a factory built fireplace (size permitting) with the following requirements:

- 1) Inspect your fireplace for damage or other physical defects. The fireplace must be in good working condition. If in doubt about its condition, seek professional advice. Check for creosote build up or other obstructions inside the chimney, especially if it has not been in use for some time. Before installing, clean your chimney system thoroughly.
- 2) A full stainless steel rigid or flexible flue liner meeting UL1777 (U.S.) or ULC S635 (Canada) must be used for both safety and performance. The liner must be securely attached to the Insert flue collar and the chimney top.
- 3) The surround must be sealed to the fireplace front or the damper area around the chimney liner must be sealed to prevent room air entering the chimney cavity of the fireplace.
- 4) The air flow within and around the fireplace must not be altered by the installation of the Insert (i.e. no blockage of louvers or cooling air inlet or outlet ports). This includes the circulating air chambers in a steel fireplace or metal heat circulator.
- 5) Alteration of the fireplace in any manner is not permitted with the following exceptions:
 - a: external trim pieces which do not affect the operation of the fireplace may be removed and stored on or within the fireplace for re-assembly if the Insert is removed.

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b: the chimney damper may be removed to install the liner.

TN40 INS



Outside Air •

Connecting the True North TN40 stove to outside combustion air is optional, but recommended except when required by local building codes. The stove's air intake will accept 2"(51mm) ID non combustible pipe to accommodate outside air installations. The air intake on the exterior of the home should always be located substantially below the flue termination and terminate with a screen cover to keep out weather and pests.

Outside air can be provided several ways.

- thru an ash clean out with a vented grill in place of the clean out external cover.
- A hole thru the back of the firepace.
- Running a 2" flex liner up the chimney system past the throat seal plate or the chinmey top seal .

Optional Thermostat installation

Your Pellet Stove can be operated manually or by a thermostat. The stove comes from the factory in the manual mode. To operate in the two "Thermostat" modes, a low voltage thermostat must be installed.

To install the thermostat:

- 1. Unplug the stove from the electrical outlet. Remove the Surround and right side Cabinet Side (See "Surround and Cabinet Side Removal" on page 14) and remove the 2 screws holding the main board to the side of the hopper.
- 2. Locate the double screw terminal wiring block at the top of the board (See Figure 15), loosen the two screws on the block. Insert one of the wires from the thermostat into one of the slots and tighten the screw. Repeat this process for the other thermostat wire.

(See "Thermostat Operation:" on page 19) for thermostat operation modes.

IMPORTANT NOTE: Follow the Thermostat manufacturers installation and set-up instructions. Failure to follow manufacturers instructions could result in a malfunction. Pay special attention to the thermostat location requirements. If the location requirements are not followed, the appliance may operate erratically or failure may occur.

Do not mount the thermostat where it may be affected by:

- Radiant heat from the stove, sun or other heat sources.
- Drafts or dead spots behind doors or in corners.
- Hot or cold air from ducts.

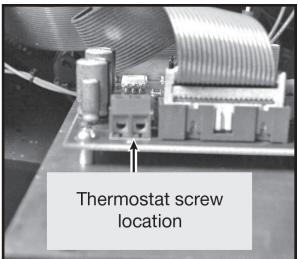


Figure 14: Thermostat screw location.

Setting the damper

The stove's damper will need to be set after installation, during the intial burn in. This will optimize the stoves performance and reduce emissions based on the installation. This should be done with a low pressure digital vacuum gauge or magnehelic.

Install the gauge using a sealed 1/8" metal probe into the port located below the ash lip.

Remove the surround panel and left side panel. Find the draft slider damper, located against the back of the Air Jacket. loosen the locking screw with a T20 screwdriver.

After the unit has been running on high for 15-20 min. adjust the damper slider to achieve a reading of 0.11-0.12in.w.c. To increase the draft, pull the damper slider out toward the outside of the stove

Tighten the locking screw and reinstall the left side shield and surround panel set as per instructions.

Leveling Legs

The leveling legs provided can be used to stabilize the front or back of the unit on uneven or dropped surfaces. Thread the legs in from underneath the unit and adjust as needed when the unit is installed.

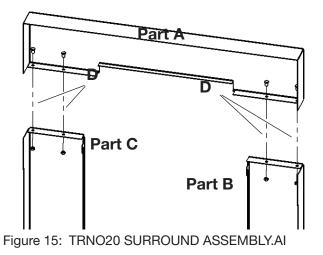
• Install the bolts into the threaded inserts provided as needed.

Surround Assembly and Installation

Un-package the top panel and lay parts A, B and C face down on a flat, non-marring surface. Fasten together with 1/4" x 1/2" bolts and nuts provided through holes at points "D" (Fig. #17).

Lift the surround assembly to the upright position and make sure the front face is flat and even at the joints.

Move the assembled surround around the stove. Lower the surround carefully to avoid scratching the paint. Attach the ribbon cable to the Main circuit board.



- 1. Locate and engage the panels hooks into the slots located on the surround brackets. Push down to lock.
- 2. Push the entire appliance back until the surround assembly is in contact with the fireplace structure.



Installer	Information
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Basic Troubleshooting -

PROBLEM	CAUSE	SOLUTION	
Stove won't turn ON (No lights or fan noise after 30sec.)	No Power to stove	Check power cord is plugged in. Check household Circuit Breaker	
	High Limit switch faulty or tripped	Contact dealer/Service	
Pellets won't drop in to	Hopper Empty	Check Hopper fuel level	
Burn Pot Liner	Hopper lid open	Close lid	
	Sawdust/pellets plugging auger	Remove sawdust/pellets from Auger system.	
	Hopper lid switch damaged	Contact Dealer/Service	
	Vacuum switch/lines plugged or damaged	Check switch and vacuum hose for damage or kinks.	
	Compution Playarblocked or domaged	Check/Clean venting system.	
_	Combustion Blower blocked or damaged Auger Motor fuse blown	Check motor for visible signs of a short , if OK, replace fuse (See wiring diagram)	
Pellets won't light after 8-10 min.	Burn Pot/Burn Pot Liner not installed correctly	Ensure Burn Pot and Liner is installed properly. See, "Burn Pot and Liner Cleaning" section	
	Igniter hole in Burn Pot Liner restricted or plugged	Clean Liner holes and igniter tube.	
	Igniter fuse blown	Check Igniter Fuse –if blown, check igniter for	
	Igniter faulty	visible damage (See wiring diagram. page 25)	
	igniter iduity	Contact Dealer/Service	
Stove turns off while operating	Fire went out or fire too cold	See "Stove won't turn ON, Pellets won't drop" Low grade fuel - Trim auger feed to get more heat. Seel, "Control Board" section.	
		Check firebox vacuum levels. Adjust if needed.	
		See"Pellets won't drop in to Burn Pot Liner" Check venting for ash build-up. Clean venting as required.	

Stove won't turn off after Exhaust Temp. Switch dirty or damaged Contact Dealer/Service

Shutdown period

(unit may take up to 20 min to cool, depending on operating temp. at time of shutdown.)

- Wiring Diagram

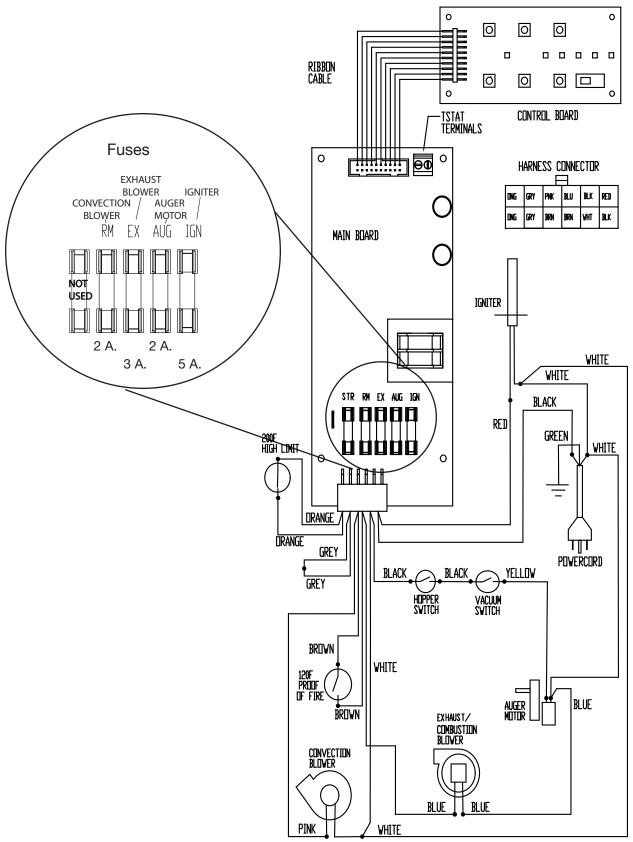


Figure 16: TN40 Wiring Diagram.ai

Components List

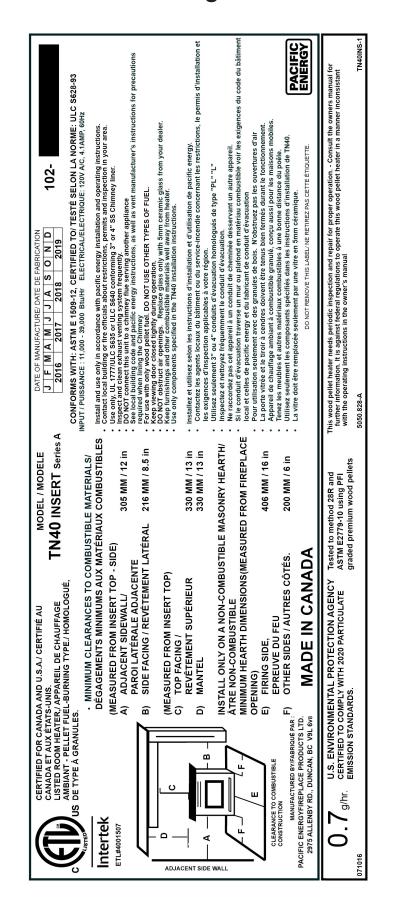
QTY. PART NUMBER

DESCRIPTION

1	TN40.BRKADOO	В
1	TN40.RP753055BUR	
1	TN40.RP752525BUR	
1	TN40.RP753034INSE	-
1	TN40.RP753054INSE	
1	TN40.RP5027171120 F	
1	TN40.RP5024503COM	
1	TN40.RP20951/8"	
1	TN40.RP753040INSE	
1	TN40.RP753033INSE	RT CONTROL PANEL -
1	TN40.RP752544KEYF	PAD DAUGHTER CARD
1	TN40.RP752524AUG	ER BASE PLATE AND BUSHING
1	TN40.RP5001001AUG	ER ASSEMBLY
1	TN40.RP752549INLE	T AIR ASSEMBLY
1	TN40.RP5001004	/ IGNITOR
1	TN40.RP5027173PELL	ET VACUUM SWITCH
1	TN40.RP50010031 RP	M AUGER MOTOR
1	PERP.5028 POW	ER CORD
1	TN40.RP752552FIRE	BOX LINER REAR
1	TN40.RP752548UPPI	ER FIREBOX LINER
1	TN40.RP5027172200 F	F - N/C MANUAL RESET, HI Limit
1	TN40.RP5027175HOP	PER SWITCH
1	TN40.RP7609DOO	R ROPE GASKET KIT
1	TN40.RP502453INSE	RT - RIGHT CIRCULATION BLOWER
1	TN40.RP502454INSE	RT - LEFT CIRCULATION BLOWER
1	8000.1401 STAN	IDARD 29" X 42" SURROUNDI

Option:

1	3312.0001	OVERSIZED 32 X 48" SUBBOUND
1	0012.0001	. OVENSIZED 52 X 40 501110010D



TN40 INS

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