



Fuels Safety Program	Ref. No.: FS- 072- 06	Rev. No.: 5
DIRECTOR'S PUBLIC SAFETY ORDER	Date: January 13, 2006	Date: September 21, 2009

**IN THE MATTER OF:
THE TECHNICAL STANDARDS AND SAFETY ACT, 2000,
S.O. 2000, c. 16**

- and -

**ONTARIO REGULATION 212/01 made under the
Technical Standards and Safety Act, 2000
(Gaseous Fuels)**

Subject: Existing Natural Gas and Propane Fired Natural Draft Hot Water Boilers Equipped with a Draft Hood with an Input less than 300 000 BTUH installed in a Residential Building Intended for One or Two Families

Sent to: Gaseous Fuels Advisory Council, Propane Fuels Advisory Council, TSSA Fuels (Natural Gas and Propane) Registered Contractors, and TSSA G1, G2, G3 and GUT Certificate Holders

Pursuant to subsection 31.2 of the *Technical Standards and Safety Act, 2000*, the Director hereby orders the following:

- 1.(1) When a certified G1, G2, G3 or GUT gas technician enters a residential building intended for one or two single families to carry out service, maintenance and/or emergency response work within the scope of his/her certificate, the gas technician shall:

Determine if a natural draft boiler equipped with a draft hood and with an input less than 300,000 BTUH is installed in the building. Where such a boiler is installed, the gas technician shall take the following steps unless a valid boiler inspection label as identified in paragraphs (e) and (f) is affixed to the boiler.

- (a) The gas technician shall provide the homeowner/user with the Owner/User Information Sheet (Schedule "A") that outlines the technician's requirement to inspect and take corrective action where necessary and the homeowner's responsibility to properly maintain their fuel burning equipment.
- (b) The gas technician shall take a CO reading in the flue gas upstream of the draft hood (between the heat exchanger and the draft hood) with the boiler operating at steady state under normal operating conditions. If the CO reading exceeds 100 PPM*, the boiler shall be considered an immediate hazard and the gas technician shall:

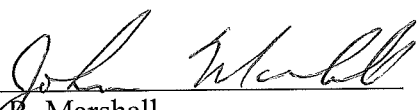
* An actual reading of 100 PPM (not air free sample) in the flue indicates that the CO level of the appliance exceeds the acceptable level.

- (i.) Take immediate corrective action to address areas of concern including, but not limited to,
- cleaning boiler flue passages and cleaning the burner. If the boiler operation cannot be corrected so that the reading is below 100 PPM, immediately shut off the fuel supply to the boiler, provide notice to the user and distributor and affix a notice to the boiler as outlined in subsection 13(2) and (3) of ONTARIO REGULATION 212/01 (Gaseous Fuels);
- (c) The gas technician shall visually inspect the boiler for safe operation.
- If there are signs of spillage (such as discolouration on the burner door or near the draft hood, or excessive moisture in the boiler room), a depressurization test as outlined in Schedule C shall be performed. If the test demonstrates that there is a depressurization issue, then take appropriate action such as adding adequate combustion and make-up air.
 - If there are signs of condensation due to excessively low return water temperatures, take appropriate action such as installing a water bypass piping system in accordance with manufacturer's requirements or recommendations.
- (d) A carbon monoxide alarm certified to CSA-6.19-01 shall be installed in accordance with the carbon monoxide alarm's installation instructions and located in the sleeping area or adjacent to each sleeping area in every suite of the home.
- (e) If the boiler operation is satisfactory and found with a CO reading below 100 PPM, and the CO alarm(s) are installed, a boiler inspection tag (Schedule "B") shall be affixed to the boiler.
- (f) The boiler inspection tag affixed to the boiler shall expire on May 1, 2010.

1.(2) This Order is effective October 15, 2009 and expires on May 1, 2010.

Dated at Toronto this 21st day of September, 2009

ORDERED BY:


John R. Marshall
Director, Gaseous Fuels Regulation,
Technical Standards and Safety Act, 2000

Schedule A – Owner/User Information Sheet - Director’s Order FS-072-06-R5



**FUELS SAFETY PROGRAM
TECHNICAL STANDARDS
& SAFETY AUTHORITY**
14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4

September 2009

Mandatory Inspection of Gas (Natural Gas and Propane) Fired Natural Draft Boilers Equipped with a Draft Hood

Attention Property Owner/User:

The Technical Standards and Safety Authority (TSSA) has the mandate to maintain and improve safety for Ontario residents in the fuels and other regulated sectors. TSSA is officially designated by Ontario’s Ministry of Consumer Services to administer and enforce the *Technical Standards and Safety Act, 2000*, which governs fuels safety in Ontario.

TSSA has determined that the use of natural gas and propane burning natural draft boilers equipped with a draft hood may result in a carbon monoxide (CO) safety hazard in the home, that may cause personal injury up to and including death.

CO is a colourless gas produced when fuels such as natural gas and propane burn incompletely. CO itself is odourless and tasteless but it may be accompanied by an abnormal odour of incomplete fuel combustion. Symptoms of CO poisoning include nausea and vomiting, dizziness, burning eyes, difficulty breathing, confusion and loss of consciousness.

Investigated CO incidents have shown that key contributing causes of the incidents are that:

- many boilers are not being maintained in accordance with the boiler manufacturer’s instructions. It is imperative that boilers are cleaned properly on a regular basis to reduce the likelihood of CO production.
- chimneys intended to evacuate CO and smoke from the boilers to the outdoors, are not properly operating due to other exhaust systems (such as wood fireplaces, dryer exhausts, new kitchen exhausts, etc.) and the installation of new, more energy efficient windows and doors. These systems and home upgrades limit the outside air infiltration into the home and cause the house to depressurize.

To address this situation, TSSA is legally requiring that all heating contractors perform a CO safety check when a technician enters a home with a boiler. The technician is obligated to take action when an unsafe condition is identified. These checks will be required when a technician enters a home with this type of boiler regardless of whether the homeowner/user has requested service on that boiler. This check is only required once during the heating season. The gas technician is also required to visually examine the boiler and if there are signs of poor operation, additional steps may be required including a home depressurization test or non-compliances corrected by adding combustion air, make-up air, installing a water bypass, etc.. TSSA is requiring that CO alarm(s) be located in the vicinity or within the sleeping quarters of the home. The technician is required to ensure that the alarm(s) is/are present. If alarms are missing, the technician is required to issue written notification that the alarms must to be installed. If the alarms are not installed within the notification time limit, the fuel supply to your home will be shut off.

As an equipment owner/user, TSSA and industry remind you of your responsibility to properly maintain and operate your boiler and all other fuels burning equipment. Annual maintenance, as a minimum, by a qualified contractor is the best method to fulfil this requirement.

If there are safety issues identified during this mandatory inspection, the boiler will need to be serviced and depending on what type of service is necessary, the cost will vary. To best ensure the continued safety of you and your family, we ask that you allow the technician’s inspection/evaluation, and that you have your boiler maintained on a regular basis.

If you do not allow the inspection or non-compliances are identified such as no CO alarm(s) present, your boiler will be identified as requiring compliance within a specified time. If that time lapses and the inspection is not completed or non-compliances are not corrected, the fuel supply to your boiler or home will be shut-off. If there is an immediate hazard identified during the inspection that cannot be corrected, the fuel supply to the boiler will be immediately terminated.

TSSA and the associated industries thank you in advance for your co-operation in this regard. If you require further clarification or have questions, please ask the gas technician performing the inspection, your fuel supplier or TSSA at 1-877-682-8772 Web site:

www.tssa.org.




Technical
Standards and
Safety Authority

Web site: www.tssa.org

Schedule B
Director's Order FS-072-06-R5
Gas Fired Residential Natural Draft Boilers
Equipped with a Draft Hood

**Please note that this Label shall be of similar
construction as a Pressure Test Tag.**


GAS FIRED RESIDENTIAL NATURAL DRAFT BOILERS EQUIPPED WITH A DRAFT HOOD TSSA Director's Orders FS-072-06-R5
ADDRESS OF INSTALLATION <hr/>
CONTRACTOR'S NAME <hr/>
CONTRACTOR'S PHONE # <hr/>
REGISTRATION # <hr/>
BOILER INSPECTION INFORMATION Expires May 1, 2010
BOILER MANUFACTURER <hr/>
MODEL # <hr/>
SERIAL # <hr/>
DATE OF INSPECTION <hr/>
CARBON MONOXIDE (CO) ALARM(S) INSTALLED <input type="checkbox"/>
CARBON MONOXIDE (CO) IN FLUE AS FOUND <hr/>
CARBON MONOXIDE (CO) IN FLUE AS LEFT <hr/>
THE PROVISIONS IN DIRECTOR'S ORDER FS-072-06-R5 HAVE BEEN SATISFIED <input type="checkbox"/> GAS TECHNICIAN NAME <hr/>
CERTIFICATE NUMBER AND CLASSIFICATION <hr/>
DO NOT REMOVE Attach this label to gas supply piping as close as possible to boiler.

Schedule C – Depressurization Test - Director's Order FS-072-06-R5



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The following steps shall be followed:

- i. with the boiler and other appliances connected to the same common vent not in operation,
 - Seal any unused openings in the common venting system;
 - Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition;
 - Insofar as is practical, close all building doors and windows and all doors between the space in which the appliances remaining connected to the common venting system are located and other spaces of the building. Turn on clothes dryers and any appliance, including gas fireplaces, not connected to the common venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they will operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers for solid fuel fireplaces.
- ii. Allow the exhaust equipment to operate for five minutes.
- iii. Place in operation the boiler being inspected. Follow the lighting instructions. Adjust thermostat so the boiler will operate continuously.
- iv. Test for spillage at the draft hood relief opening after 5 minutes of main burner operation.
- v. After it has been determined that each appliance remaining connected to the common venting system properly vents when tested as outlined above, return doors, windows, exhaust fans, fireplace dampers and any other gas burning appliance to their previous condition of use.
- vi. Any improper operation of the common venting system shall be corrected in a permanent manner.