



LAMPTON-LOVE, INC.

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**Date:** December 3, 2007  
**To:** All Branch Managers  
**From:** Gene Maddox  
**Subject:** Branch Office Monthly Safety Meeting – December 2007

Company policy requires that each branch office hold a minimum of one safety meeting each month with the documentation of the material covered and the attendance being recorded on the "Monthly Safety Meeting Minutes and Attendance Record" (see attached form). **Please detach this form, fill out and mail or fax it to Polly Cox.** Please keep the original for your records.

**Note:** ONLY the Monthly Safety Meeting Minutes and Attendance Record is to be sent in.

To assist you in complying with this requirement, the following subjects are for your Monthly Safety Meeting, for the month of December 2007. You may add topics, **but please document the following topics:**

1. Brief News Briefs!!! (2 pages)
2. Bench and Pedestal Grinders (1 page)
3. Electrical Bonding/Grounding of Tracpipe (4 pages)

It is recommended that you thoroughly read this material prior to your meeting.

**It is strongly recommended that you use the 3-ring binder to store all of your "2007 Monthly Safety Meetings"!!! This material may be referred to or used to train new employees. This manual should be kept in an area of the office that is easily accessible to all employees.**

**Be Smart.... Be Safe and Be Courteous!!!**

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**PROPANE**  
EXCEPTIONAL ENERGY

## BRIEF NEWS BRIEFS!!!

(This monthly “column” will include short newsworthy topics, which will serve as a friendly reminder to us all)

**A Bad Mix:** You know that water and electricity are a hazardous mix, so it makes sense that water-damaged electrical equipment is extremely dangerous. **If you discover electrical devices that were exposed to water, follow this advice:**

- ❖ **Don't** handle live electrical equipment in wet areas. If you're uncertain whether equipment is live, assume it is.
- ❖ **Don't** step in water when turning off electricity. Instead, use a dry wooden stick to switch off the main breaker if necessary.
- ❖ **Turn off** the power at the main breaker box or fuse box in your home as soon as it's safe to enter, even if the utility company has turned the power off in your neighborhood.
- ❖ **Don't** restart any electrical equipment before having it inspected and evaluated by a qualified electrician. Restarting it without proper inspection could result in electrical shock, fire hazard, carbon monoxide poisoning or explosion.

**Diabetes: Know the Basics:** You may have heard that type 2 diabetes is at epidemic levels, and you may wonder if you are at risk. But what is diabetes?

When you eat, your body breaks down food into glucose (sugar) for fuel. To help your body use glucose, your pancreas produces insulin. Diabetes occurs when your pancreas can't make insulin (Type 1), or your body can't use insulin properly (Type 2).

- ❖ **Type 1** (formerly called juvenile diabetes) usually begins anytime from birth to your late 30s. With Type 1 diabetes, you must take supplemental insulin.
- ❖ **Type 2** diabetes (90-95 percent of cases) usually occurs in people over age 35, but is increasingly common in children and teens. Risk factors include older age, obesity, family history of diabetes, gestational (pregnancy-related) diabetes, high blood sugar (“pre-diabetes”), smoking, high blood pressure, unhealthy cholesterol, sedentary lifestyle, certain medical conditions and certain ethnicities. Type 2 can often be managed with medication, diet, weight loss and exercise. Both types require careful monitoring to help restore normal blood glucose levels.
- ❖ **Symptoms of Diabetes** may be excessive thirst, or hunger, frequent urination, unintended weight loss, blurred vision, slow healing of infections and severe fatigue – although sometimes there are no symptoms at all.

With proper medical treatment and self-care, people with diabetes can live long and healthy lives – and current research promises to improve our understanding and treatment of this disease in the years to come. Ask your health care provider to evaluate and help you reduce your diabetes risk.

**What Causes Vehicle Fires:** Vehicle fires are generally caused by mechanical problems. Here are common mechanical problems that can lead to vehicle fires:

- ❖ **Damage or excessive wear in the exhaust system.** Exhaust gas temperatures can reach 1000 to 1200 degrees. If heat from the exhaust pipe or hot exhaust gas comes into contact with a combustible material (carpeting, rubber matting, etc.), a fire can easily occur.

- ❖ **Wiring short circuits in a location not protected by a circuit breaker or fuse.** An example would be battery cables. If they rub against the metal of the vehicle and wear through, there is no breaker or fuse to stop the electrical current, and the short will generate a large amount of heat, igniting any combustibles in the area.
- ❖ **Tires that are run when low on air pressure, come into contact with a vehicle component,** or in the case of duals, come into contact each other (this includes having something wedged between duals). The friction of a low tire or tires in contact with each other or a vehicle component can create enough heat to start a tire on fire.
- ❖ **Fuel leakage.** Anytime a vehicle is leaking fuel it is one heat source away from a fire.
- ❖ **Accumulations of leaking grease or oil.** These can be ignited by any high temperature heat source.
- ❖ **Excessive hub heat generated by bad bearings, a leaky hub seal, or a dragging brake.** This is what is blamed for starting the bus fire in Texas that killed 23 people on board during the Hurricane Rita evacuation.

Drivers are also a possible ignition source of a vehicle fire. Careless use of smoking materials can easily start a vehicle fire. Drivers that smoke must be disciplined when disposing of their smoking materials improperly. Sleeper berths, floor coverings, seats, and stored equipment can all be ignited by sloppy disposal of cigar or cigarette butts.

The use of lighters, hand torches, or flares to free frozen components by the driver can also start the vehicle on fire.

As you can see, most of these hazards can be eliminated if the driver performs a thorough pre-trip and post-trip inspection, and is careful with heat sources. However, if prevention does fail it is important that drivers understand how to use their fire extinguisher.

**Extinguisher Use:** To correctly use the extinguisher the driver simply needs to remember the acronym PASS, or the chant Pull, Aim, Squeeze, Sweep. To correctly use a fire extinguisher the driver will need to:

- ❖ **Pull** the safety pin out.
- ❖ **Aim** the extinguisher nozzle at the base of the flames (what is burning) rather than at the actual flames.
- ❖ **Squeeze** the handles together to activate the extinguisher.
- ❖ **Sweep** the extinguishing agent across the area that is burning.

**Other Tips to Share with Drivers about Fire Extinguishers are:**

- ❖ Extinguishers are short lived. They will run out of extinguishing agent fairly quickly, so being as accurate as possible is important. Also, the driver will need to be in a position to get to a safe area quickly, and save as much of the vehicle as possible, if the extinguisher does not put out the fire.
- ❖ Fires put out with extinguishers are prone to reignite. This is especially true if the fire involved liquid or gaseous fuels. Never turn your back on a fire that was put out with an extinguisher.
- ❖ The extinguisher can only work if it has extinguishing agent in it. Be sure it is checked as part of the pre-trip!!

## **BENCH and PEDESTAL GRINDERS**

Almost every maintenance shop has a bench or pedestal grinder. They are most commonly used to shape or sharpen the cutting edges of tools such as chisels or lawn mower blades. These are powerful, useful tools, but they are also potentially dangerous, because users take them for granted. Serious injury and even death can result from improper handling, installation or use of abrasive wheels. Cracked or defective grinding wheels can “explode” when in use.

Secure both pedestal and bench style grinders securely to the floor or work bench to prevent movement during usage. Store grinding wheels carefully on racks in dry places, and visually inspect them for warping, chips, cracks or other damage before installation. **Discard used wheels once they are approximately 2/3 worn.**

Proper guarding is one of the most important safety requirements. Missing or improperly adjusted guards are common and frequent safety violations. Check the following **before** using your grinder.

- ✓ The wheel guard enclosure should cover most of the wheel, the spindle, and the wheel mounting hardware. Some of the wheel must be exposed to allow grinding access, but the maximum access space between the horizontal work rest and the top of the **wheel guard opening should be no more than 65 degrees of the wheel.**
- ✓ The horizontal **work rest should be adjusted to within 1/8-inch of the wheel.** This reduces the risk of wheel breakage caused by an item being jammed between the work rest and the wheel.
- ✓ The tongue guard is an adjustable safety plate that is attached at the top of the wheel guard enclosure and can be moved closer to the wheel as its diameter decreases from wear. The distance between **the tongue guard and the wheel must not exceed 1/4-inch** in order to minimize exposure to flying fragments in the event of wheel disintegration.
- ✓ A transparent hinge-mounted face guard should be attached over the exposed wheel surface area to provide additional protection from particles thrown off the rapidly spinning disk.
- ✓ Personal protective equipment including **safety glasses and a face shield** – your face as well as your eyes need protection.

**Do not stand directly in front of the grinder during start up,** in case the wheel disintegrates as it reaches full speed. Allow the grinder to reach operating speed and then bring the item to be honed slowly and smoothly into contact with the wheel. Gradual application gives the wheel an opportunity to warm up and lessens the chance of breakage due to thermal stress.

Most grinding wheels are designed for face use only. The side of the wheel should not be used for grinding unless it is designed for that purpose.

Wheel disintegration can cause **very serious injury** due to the high speed of flying particles. Be sure your shop grinder is equipped with the proper safety features.

## **ELECTRICAL BONDING / GROUNDING OF TRACPIPE**

There have been a lot of questions about the grounding of tracpipe used in gas piping systems. Does the piping system have to be grounded? Can the corrugated stainless steel portion of tracpipe be used as an attachment point for grounding? Where do we run the ground wire after it is attached to the piping system? Should we use a solid wire as a ground wire or should a braid or stranded wire be used?

The answers to all these questions plus others needed information is in the attached, Electrical Bonding / Grounding Instructions from the Tracpipe Manufacture. Also review Section 7.13 Electrical Bonding and Grounding from NFPA 54, 2006 Edition.

## SECTION 4.10 — ELECTRICAL BONDING/GROUNDING

1. The piping system is not to be used as a grounding conductor or electrode for an electrical system. In accordance with The National Fuel Gas Code NFPA 54/ANSI Z223, "each above ground portion of a gas piping system upstream from the equipment shutoff valve shall be electrically continuous and bonded to any grounding electrode, as defined by the *National Electrical Code*, ANSI/NFPA 70 1999 Edition."
2. For bonding of the *TracPipe* system, a bonding clamp must be attached to the brass AutoFlare fitting adapter (adjacent to the pipe thread area — see Figure 4-21) or to a black pipe component connected to an AutoFlare fitting. The corrugated stainless steel portion of the gas piping system SHALL NOT be used as the bonding attachment point under any circumstances. Bonding electrode conductor sizing shall be in accordance with Article 250 (Table 250-66) of ANSI/NFPA 70 1999 Edition. The bonding is a requirement of the National Electrical Code.

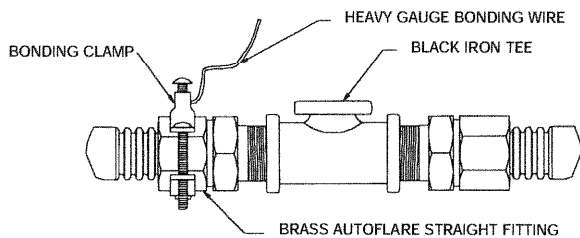


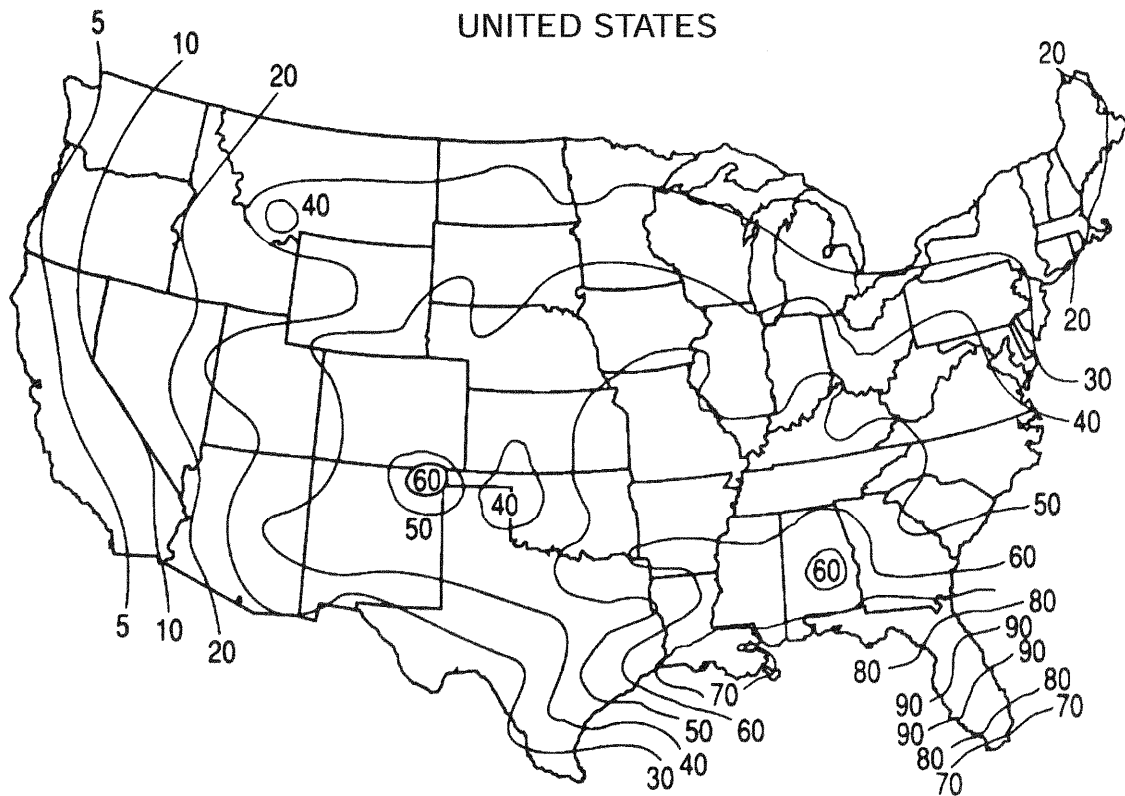
Figure 4-21

BRASS BONDING CLAMPS

| <i>TracPipe</i> AutoFlare<br>FITTING SIZE RANGE | BONDING CLAMP<br>SIZE | PART NO. OR EQUAL<br>(Bridge Port) |
|-------------------------------------------------|-----------------------|------------------------------------|
| 3/8" & 1/2" & 3/4"                              | 1/2" & 3/4"           | 1309-B                             |
| 1"                                              | 1-1/4"                | 1313-B                             |
| 1-1/4"                                          | 2"                    | 1314-B                             |
| 1-1/2"                                          | 2-1/2"                | 1314-B                             |
| 2"                                              | 3"                    | 1315-B                             |

### 3. Definitions:

- a. Grounding: The process of making an electrical connection to the general mass of the earth. This is most often accomplished with ground rods, ground mats or some other grounding system. Low resistance grounding is critical to the operation of lightning protection techniques.
  - b. Bonding: The process of making an electrical connection between the grounding electrode and any equipment, appliance, or metal conductor: pipes, plumbing, flues, etc. Equipment bonding serves to protect people and equipment in the event of an electrical fault.
  - c. Equipotential Bonding: The process of making an electrical connection between the grounding electrode and any metal conductor: pipes, plumbing, flues, etc., which may be exposed to a lightning strike and can be a conductive path for lightning energy towards or away from the grounding electrode.
4. Lightning strike density varies considerably around the United States. The highest density is experienced in the Gulf Coast and Florida. The lowest lightning strike density is the Pacific Coast states. See map of the United States (Figure 4.22) for the average number of thunderstorm days per year for a specific region or state.



Average Number of Thunderstorm Days per Year

Figure 4-22

## Section 4.10A — CounterStrike® Installation Instructions

1. Equipotential Bonding of the gas piping system is recommended using shortest distance possible.
2. An equipotential bonding/grounding connection shall be made between the fuel gas piping system and the electrical service grounding electrode. The bonding jumper should be sized in accordance with NEC Table 250.66 (based on the main service conductor size), or in accordance with NFPA 780 Paragraphs 4.14.1.2 thru 4.14.1.4 (main-size lightning conductors) Tables 4.1.1.1(A) and (B): Class I and Class II wire size. Bonding and grounding connections are to be made by a qualified technician.

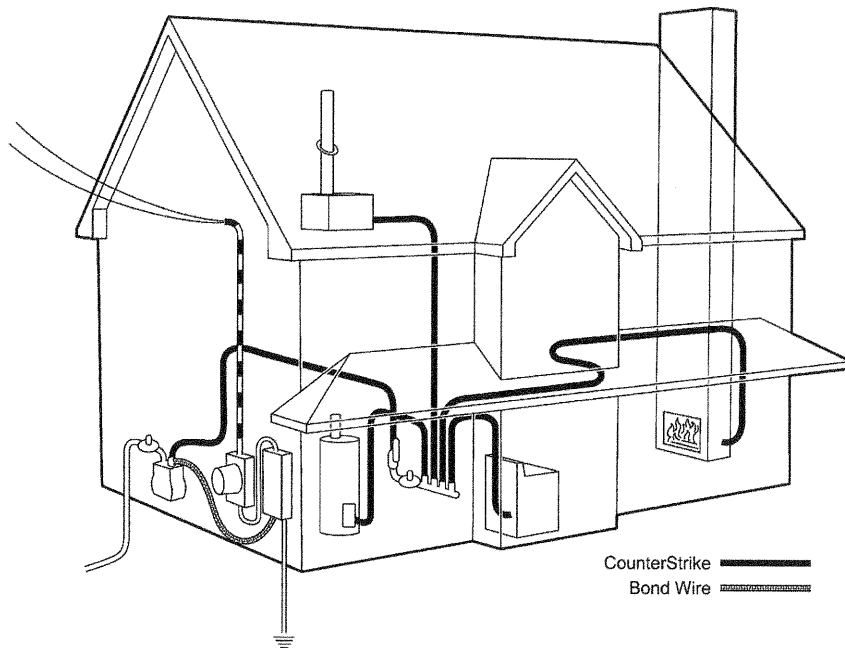
If the building to be piped is in a high lightning flash density area or a region with a high number of thunderstorm days per year, consideration should be given to uti-

lizing the Lightning Risk Assessment method given in Annex L of NFPA 780 for a determination of the need for a lightning protection system.

### Notes:

- a. If possible, avoid running the bonding jumper a long distance through the building. The connection should be as short as possible. Gas meter should be near the electrical service if possible. If not, the bond can be connected at any point in the system per (Figure 4-21).
- b. Lightning induced voltages seeking ground are subject to impedance; utilize a braided or stranded bonding jumper for greater surface area, rather than solid wire.
- c. Upon completion of the *TracPipe* CounterStrike Gas Piping System installation and prior to gas service initiation, check to see if the bonding has been completed.

3. Routing of gas piping should be as low in the structure as reasonably possible for best performance.
4. *TracPipe* CSST runs, including CounterStrike, should be installed with a bend radius of 8 inches or more whenever possible; this will reduce the possibility that energy will jump from the piping to other conductive surfaces.
5. For CounterStrike with BLACK outer jacket installations, the installer shall meet local building codes with respect to flame spread and smoke density regulations for non-metallic materials. If run through return air plenums, black jacket shall be removed.
6. For through penetration fire stop systems per UL classification requirements, remove the BLACK outer jacket when passing through a fire stop.
7. The instructions for cutting the tubing and for making fitting connections to CounterStrike are identical to those for the standard yellow-jacketed *TracPipe*.
8. The use of *TracPipe PS-II* should be considered for use as the trunk line under the building slab from the meter set to the manifold station. This practice routes the elevated pressure portion of a 2 PSI system completely away from any potential contact with other building metallic systems which can become energized in the event of a nearby lightning strike.
9. Optional: Install GasBreaker excess flow devices at the meter and appliance locations. See *TracPipe* design and Installation Guide Section 3.3. (Mandatory where required by code.)



Note: Illustration may not represent actual installation and is for reference only.

**DECEMBER 2007**  
**MONTHLY SAFETY MEETING**  
**MINUTES & ATTENDANCE RECORD**

**Company Name:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Time Started:** \_\_\_\_\_ **Time Finished:** \_\_\_\_\_

**Instructed By:** \_\_\_\_\_ **Number Attending:** \_\_\_\_\_

**Subject Covered and Comments:**

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By my signature below, I certify that I attended and participated in this Safety Meeting and I understand the material presented.

| Employee Name (Please print) | Employee Signature | License Expires* | Endorsements ** | DOT Physical Expires *** |
|------------------------------|--------------------|------------------|-----------------|--------------------------|
| 1.                           |                    |                  |                 |                          |
| 2.                           |                    |                  |                 |                          |
| 3.                           |                    |                  |                 |                          |
| 4.                           |                    |                  |                 |                          |
| 5.                           |                    |                  |                 |                          |
| 6.                           |                    |                  |                 |                          |
| 7.                           |                    |                  |                 |                          |
| 8.                           |                    |                  |                 |                          |
| 9.                           |                    |                  |                 |                          |
| 10.                          |                    |                  |                 |                          |
| 11.                          |                    |                  |                 |                          |

\* List driver's license expiration date in this column.

\*\* Check licenses for proper endorsements and re-testing. (For example: "HazMat") List endorsements in this column.

\*\*\* List DOT physical expiration date in this column.

By my signature below, I hereby certify that the employees listed above have been trained in accordance with the applicable regulations and curriculum for this monthly safety meeting.

**Instructor's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Mail or fax this sheet only to:** Lampton-Love Inc.  
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