



LAMPTON-LOVE, INC.

P. O. BOX 1607 • JACKSON, MISSISSIPPI 39215-1607
Mirror Lake Plaza
2829 Lakeland Drive, Suite 1505 • Jackson, Mississippi 39232
(601) 933-3400 • Fax (601) 933-3420

Date: November 7, 2012
To: All Branch Managers
From: Gene Maddox *BNL*
Subject: Branch Office Monthly Safety Meeting – November 2012

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 the Monthly Safety Meeting Minutes and Attendance Record, fill out and e-mail or fax a copy to Lynn Eldridge. 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 November 2012. You may add topics, **but please document the following topics:**

1. News Briefs!!! (Power Take-Off Safety)
2. Safety Meeting: (Incomplete Combustion)

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 the last 12 months of the Safety Meeting Minutes and Attendance Record Form!!! This material may be referred to or used to train new employees from the website. 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!!!



PROPANE
EXCEPTIONAL ENERGY

NEWS BRIEFS!!!

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

POWER TAKE-OFF SAFETY

The power take-off (PTO) system on a bobtail is perhaps the most useful, yet dangerous set of components a driver comes in contact with on a daily basis. A PTO system harnesses the power of the truck engine to drive the truck’s propane transfer pump. This is typically accomplished by a gear transfer unit attached to the side of the transmission. This transfer unit turns a shaft that “drives” the transfer pump. The rotating PTO shaft is perhaps the biggest danger to the driver or the other persons in the area. This meeting will discuss the dangers and safety measures all drivers should remember while working around this equipment.

***Case Study:** A propane transport driver in West Texas made the decision to take a closer look at an operating PTO. His light jacket became entangled and pulled him into the rotating shaft. The shaft instantaneously ripped off his left arm and part of his shoulder. His other arm received compound fractures. He lost almost half his blood volume before he was found in the early morning hours by a deputy sheriff. Miraculously, he survived!*

Notable Hazards

There are two major hazards associated with PTOs, entanglement and mechanical failure. Let’s briefly discuss both:

Entanglement occurs when a person comes in contact with a rotating PTO shaft. A typical PTO shaft rotates between 540 and 1,000 rpm and it only takes 3 seconds to wrap 20 feet of rope! If your hair or a shoe string became entangled you wouldn’t have any time to react. It only takes one loose thread or a few strands of hair to start the tragic chain reaction of ugly events to follow. Bruises, contusions, loss of skin and muscle mass, broken bones, scalping and even death can occur when entanglement occurs. PTO entanglement results in some of the most grievous injuries ever encountered in the workplace.

Mechanical failure occurs when some part of the PTO system fails (typically the drive shaft) and either causes personal injury to people in close proximity to the failure or subsequent damage to surrounding components such as the cargo tank. Mechanical failures can occur without injuries but the potential for widespread damage and injuries are magnified if the failure causes a propane leak.

Precautions. Listed below are some precautions that all drivers and propane employees should take when working around PTO assemblies:

- ◆ Keep a safe distance from the shaft when rotating. Never place any part of your body inside the frame rails of a bobtail during pumping operations.
- ◆ Frequently inspect the condition of the drive shaft’s u-joints and grease them with approved grease compounds according to manufacturer’s recommendations.

- ◆ Keep children and other unauthorized personnel away from an operating truck.
- ◆ Road debris could damage PTO components while operating on the highway. Inspect your PTO system prior to engaging it.
- ◆ Listen for odd noises coming from the PTO during operation. Peculiar noises could indicate an impending failure.
- ◆ Follow manufacturer's instructions for maintenance and adjustments.
- ◆ If your PTO shaft is enclosed inside a shielding system never remove that safety system!
- ◆ Never perform any repair operation under the vehicle while the PTO shaft is operating.
- ◆ Never over speed a PTO assembly by increasing engine speed. Over speeding a PTO is dangerous and can damage sensitive components.
- ◆ Check for loose set screws that attached u-joint yokes to the PTO shaft. Typically, these screws are held in place by safety wires but wires can fail causing the set screws to loosen.
- ◆ Do not step on or lean over a PTO shaft.
- ◆ Always closely follow the manufacturer's instructions concerning how to engage and disengage a PTO assembly. PTOs that are improperly engaged or disengaged can be damaged, thereby creating a safety hazard and reducing service life.

PTOs provide hours and hours of trouble-free operation. But it's very easy to forget just how powerful and even deadly they can become if not treated with the utmost respect. The next time you find yourself working around a PTO take that extra measure of precaution to protect yourself and others around you.

NOVEMBER 2012 SAFETY MEETING

Incomplete Combustion

Under normal conditions, combustion products of propane in air mixtures are not harmful when the appliance is achieving complete combustion. However, when combustion is incomplete, the products can be harmful to life and property.

When combustion is incomplete, harmful products can be generated. The poorer the ventilation and the more inefficient the burning, the greater the possibility that by-products of incomplete combustion will be present. These by-products include (a) carbon monoxide, (b) excessive water vapor, (c) aldehydes, and (d) soot.

(a) Carbon Monoxide – The most potentially dangerous product of incomplete burning is carbon monoxide. Carbon monoxide has no odor, color, or taste so it cannot be detected by bodily senses. It is flammable and can produce an explosion. Carbon monoxide can only enter the body through the respiratory system. Inhaled, carbon monoxide is absorbed into the blood. It combines with hemoglobin in the blood longer than oxygen. It acts to reduce the oxygen carrying function of the blood. A person exposed to carbon monoxide can die from a lack of oxygen.

Concentrations of carbon monoxide in air above 0.05 percent or 500 part per million can be dangerous. When the level is more than 1 percent, unconsciousness and death can occur without signs. Headaches, dizziness, nausea, vomiting, and cherry-red skin can occur at many concentrations, based on an individual's dose and exposure. The breathing rate or length of exposure should also be taken into account. An individual's general physical condition, age, and degree of physical activity all affect the carbon monoxide levels in the blood.

Propane employee should check for carbon monoxide if any of the following conditions exist: the house plants are dying, there is an aldehyde odor present, or excessive water vapor forms on cool surfaces in the house.

Portable carbon monoxide (CO) detectors are used for measuring the carbon monoxide levels in the air. Propane marketers that do not have detectors available should identify before the need arises which agencies could assist on the carbon monoxide calls. Certified Employee Training Program (CEPT) in "Basic Principles and Practices of Propane" covers where, how and when to check for carbon monoxide.

(b) Excessive Water Vapor – Excessive water vapor can also be produced with incomplete combustion. It may damage appliances or venting systems.

(c) Aldehydes – Aldehydes are also products of incomplete combustion. They have a sharp, penetrating odor. The odor of aldehydes differs from odorants added to propane and the two should not be confused. Aldehydes will sometimes leave a metallic taste in the mouth, along with a burning sensation in the nose and eyes. If the odor of aldehydes is present, it is very likely that carbon monoxide (CO) will also be present. However, if the odor of aldehydes is not present, CO may still be present. Aldehydes are toxic.

(d) Soot – carbon soot, may also be generated by improper combustion. It is very important that you understand your role and company policy when dealing with these calls. Employees should always treat these calls as high priority.

NOVEMBER 2012

MONTHLY SAFETY MEETING

MINUTES & ATTENDANCE RECORD

Company Name: _____

City: _____ State: _____

Date: _____ Time Started: _____ Time Finished: _____

Instructed By: _____ Number Attending: _____

Subject Covered and Comments:

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.
 Gene Maddox/Lynn Eldridge
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 Jackson, MS. 39215-1607
 Fax #: 601-933-3420