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### **STATION MANAGEMENT: PORTABLE GASOLINE POWERED EQUIPMENT PREVENTATIVE MAINTENANCE STANDARD INSTRUCTION 06, SECTION 22**

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<b>TITLE</b> OPERATIONS MANUAL	<b>STANDARD</b> INSTRUCTION 06		<b>DEPARTMENT</b> FIRE
<b>SUBJECT</b> STATION MANAGEMENT: PORTABLE GASOLINE POWERED EQUIPMENT PREVENTATIVE MAINTENANCE	<b>SECTION</b> 22	<b>PAGE</b> 1 of 2	<b>EFFECTIVE DATE</b> 10/4/2010

**I. PORTABLE GASOLINE POWERED EQUIPMENT PREVENTATIVE MAINTANANCE**

A. Purpose

The policy contained herein describes a preventative maintenance (PM) program for portable gasoline powered equipment carried on SDFD apparatus. The small equipment repair specialty station (Station 23) will administer the portable gasoline powered equipment PM program. As power equipment ages, the need for regular maintenance is imperative to ensure its reliability and to increase longevity.

The storage of gasoline powered equipment on the apparatus has inadvertently created maintenance issues. It has been determined that gravity-fed, gas-powered small engines, coupled with consistent apparatus vibration and movement, allows fuel to pass through the carburetor and into the combustion chamber when the engine is not running. The fuel then flows down through the cylinder and into the crankcase (where there should only be oil). This situation will lead to serious engine damage and potential catastrophic failure of equipment.

Additionally, gasoline produced under current California guidelines contains a higher percentage of ethanol and other additives which significantly reduces the shelf life of fuel. The use of fuel additives can extend fuel life from 30 days to nearly 9 months.

B. Scope

This policy shall apply to all SDFD Personnel.

C. Authority

The Fire Chief in coordination with the Assistant Fire Chief of Operations, Assistant Fire Chief of Support Services and the Deputy Chief of Logistics authorize the information within this policy.

D. Definitions (If needed)

1. **Ethanol** - Is ethanol (ethyl alcohol), the same type of alcohol found in alcoholic beverages.
2. **Gasoline additive** - Gasoline additives are added to fuel to accomplish many things such as: increase gasoline's octane rating, act as corrosion inhibitors, fuel stabilizers, or provide lubrication. Types of additives include metal deactivators, corrosion inhibitors, oxygenates and antioxidants.
3. **Holmatro** – A company that produces hydraulic equipment
4. **PM** – Preventative Maintenance
5. **Sea Foam** - Is used as a fuel additive in gasoline, ethanol blends, gas/oil mixes & all diesel fuels.
- 6.

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E. Policy

1. Preventative Maintenance Program
  - a. The PM program will begin with all frontline engines and trucks and specialty apparatus.
  - b. The small equipment specialty station will coordinate with the Shift Commanders and Battalion Chiefs to schedule PM for the apparatus assigned to each battalion.
  
2. Portable Gasoline Powered Equipment on the Apparatus
  - a. Effective immediately all portable gasoline powered equipment on fire apparatus shall be carried with the fuel shut-off valve turned to the "Off" or "Stop" position.
  - b. After use, the fuel shut-off valve should be closed and the engine stopped.
  - c. Premium fuels should be used
    - 1) Purchase premium fuel from a major brand for small engines on emergency apparatus
    - 2) Make purchases utilizing the miscellaneous voyager card (NOT the apparatus specific voyager card).
  
3. Gasoline Additives
  - a. Fuel additives can be used in fuel for 2-cycle, 4-cycle, or diesel engines.
  - b. Ratios should be 2 ounces to 1 gallon of fuel (for Sea Foam additive).
  - c. Other additives should be based on the manufacture's recommendations.