City of Poquoson
Fire and Rescue

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EQUIPMENT AND APPARATUS

SOP#: EA 4.00

Title: Apparatus Inspection and Maintenance

Effective Date: 01/01/2009

Revised Date: 01/01/2009

Fire Chief's Signature

City Manager's Signature

APPARATUS INSPECTION AND MAINTENANCE

I. PURPOSE

To establish policies and procedures for inspection and maintenance of the Fire Department's emergency response apparatus.

This SOP is not all-inclusive and cannot encompass all situations that may be encountered.

II. POLICY

It is the responsibility of all Department personnel to ensure that all emergency response equipment is operable and at all times.

III. RESPONSIBILITIES

Deputy Chief shall have overall responsibility for apparatus maintenance. Deputy Chief shall serve as liaison between station personnel and the Fire Department Maintenance Facility.

EMS Officer shall be responsible for ensuring that apparatus under his/her command are maintained according to this SOP.

Operations Officer and Battalion Chiefs shall ensure that all supervisors comply with and enforce this directive.

Station Supervisors shall ensure that Driver/Operators inspect and maintain their assigned apparatus.

Driver/Operators are responsible for inspection and maintenance of their assigned apparatus as required by this SOP. Any report of damage or required repair/maintenance of apparatus shall be forwarded to the Driver/Operator's immediate supervisor.

Public Works Vehicle Maintenance Facility shall provide maintenance and repair to all department vehicles, except as provided by this SOP.

IV. PROCEDURES

DAILY CHECKS –BEGINNING OF EACH SHIFT

All apparatus

- At the beginning of each shift, Driver/Operators shall relay information related to any problems with equipment and apparatus to the on coming shift.
- Driver/Operators shall review the Firehouse Journal Log and review any specific problems and/or missing equipment.
- As early as possible during each work shift, Driver/Operators shall inspect their assigned apparatus utilizing the Apparatus Checklist.

NOTE: Daily checks of apparatus that require the cab to be tilted/raised such as battery, belts and the engine compartment observation shall be deferred to once a week on Mondays.

Aerial apparatus

- Start motor and engage power take off (PTO) and pump gear.
- Operate stabilizers to ensure that the hydraulics are working properly. Visually check for leaks.
- If apparatus has a pinned waterway, ensure ladder is set in Rescue Mode.

Pumper apparatus

- Place in pump gear. Open tank valve and check master discharge pressure gauge at 100 PSI. Check for water leaks. Don't exceed 100 PSI unless a booster line is open to relieve the excess pressure buildup in the pump. Do not exceed 30 seconds.
- Throttle back down and take pump out of gear.
- Driver Operators shall operate all drain valves and master drain valves.

Medic Units

- Check the high idle for proper operation.
- Check serpentine belt for lightness, cracks, and loose strands.

Brakes

- Air Brakes
  - Air pressure should remain steady at a maximum (120 PSI). If air pressure drops below (90 PSI), notify the Operations Officer or Deputy Chief of a possible leak.

- Hydraulic Brakes
  - Start engine and check brake pedal reserve.
  - Check master cylinder for proper fluid level. Contact the Public Works Maintenance Facility if fluid is needed
  - Check for fluid leaks around wheels.

- Parking Brake: Check and set for proper operation.

Generators/Power Equipment:

Keep fuel levels full. If 2 cycle engine ensure proper fuel mixture. Maintain oil levels within proper levels.

Adding fluid to apparatus:

- Engine Oil
  - Engine oil is available at the Public Works Maintenance Facility.
  - Engine oil is stored at both stations for use on weekends, nights and holidays.

- Transmission fluid is available from the Public Works Maintenance Facility. Consult with the shop prior to adding transmission fluid to ensure that the proper type of fluid is added.

- Hydraulic fluid: Only the Public Works Maintenance Facility shall add Hydraulic fluid.

- Refueling
    - Apparatus fuel levels shall be kept above ¾ and are to be refueled at the Public Works Maintenance Facility.
- Lights and bulbs: Stocks of common replacement bulbs may be kept at the fire stations. Station personnel may replace light bulbs. Public Works Maintenance Facility will order and will also replace bulbs.

EVERY MONDAY

Fire suppression apparatus

- Every Monday, the Driver Operator should completely check apparatus as per the Apparatus Checklist and this SOP and shall check equipment utilizing inventory list.

Aerial apparatus

- Start motor. Engage PTO and pump gear. Chock rear wheels on both sides and place stabilizers in down position.
- Raise aerial ladder/tower from bed and extend to maximum reach.
- Rotate aerial ladder/tower 360 degrees in each direction. Operate from turntable and bucket.
- Check electrical or mechanical nozzle operation.
- If apparatus has a pinned waterway, **ensure ladder is set in Rescue Mode**
- Observe hydraulic operating pressure during checks.

- Check for any substantial or recurrent hydraulic fluid leaks.
- Check each level/switch/valve for proper operation.

Pumper apparatus

- Pump Operation
  - Place in "pump" gear. Open tank valve and check master discharge pressure gauge at 100 PSI. Check for leaks. Do not exceed 100 PSI without opening a booster line to relieve the pressure buildup in the pump.
  - Open and close all non-preconnected discharges and intakes completely, one at a time. Check for correct pressure gauge operation.
  - Reduce engine RPM to idle speed. Open each bleeder valve and relieve pressure. DO NOT operate bleeder valves or master drain valves while pump is under pressure.
  - If apparatus is equipped with a relief valve, ensure it is operating properly.
  - If apparatus is equipped with a governor valve, ensure it is operating properly.
  - If applicable, check the transfer/change-over valve operation from pressure to capacity. The transfer/change-over valve activates at 90 PSI.

Generators/Power equipment

- Check fluid levels, start and allow to run until normal operating temperature is reached.

- Check operation of gauges and control devices.
- Plug in electrical equipment to every outlet of the generator to ensure proper operation.
- Ensure auxiliary fuel cans are full. If 2 cycle engine ensure proper fuel mixture.
- If applicable, check apparatus inverter and plug in electric equipment to every outlet of the inverter system.

Battery Powered Equipment

- Turn on and check operational readiness of all battery powered equipment to include Carbon Monoxide Monitors, Gamma Rae II Personal Radiation Monitors, Gas Monitors, Glucometers, Lifepak Monitors and suction units. AEDs do not have to be turned on but the operational readiness should be checked.

FIRST DAY OF EVERY FIVE DAY CYCLE

Medic Units

- The Attendant-in-Charge should completely check apparatus as per the Apparatus Checklist and this SOP and shall check equipment utilizing inventory list.

MONTHLY MAINTENANCE (FIRST MONDAY OF EACH MONTH)

Monthly maintenance is to be completed pursuant to the Apparatus Maintenance Checklist.

Nozzle Maintenance

- Place nozzle in a bucket of warm soapy water and agitate, working all moving pieces while submerged.
- Remove nozzle from soapy water and flush with clean water inside and out until surfaces are soap-free.
- Shake off all excess water. Lubricate with a silicon-based lubricant. Lubricate internally and externally as indicated in the maintenance literature supplied by the manufacturer. DO NOT USE LUBRICANTS such as WD-40.

QUARTERLY MAINTENANCE

Quarterly maintenance is to be completed pursuant to the annual shift duty assignments.

Aerial devices shall be taken to the Public Works Maintenance Facility for determination by the mechanic as to the necessity for degreasing and lubrication or thorough cleaning. Additionally, the motor and undercarriage shall be cleaned.

All other assigned apparatus shall be taken to the Public Works Maintenance Facility quarterly to have the motor and undercarriage cleaned.

Disconnect all preconnected hose lines and add 32 ounces of dishwashing detergent to booster tank, circulate, open and close all valves.

All apparatus shall be waxed pursuant to the annual shift duty assignments

ANNUAL MAINTENANCE

Pumps on apparatus shall be tested pursuant to the annual shift duty assignments.

REPORTING NEEDED MAINTENANCE OR REPAIR

An apparatus or emergency vehicle Driver/Operator shall report any deficiencies regarding an assigned apparatus immediately to the immediate supervisor.

Noted defects shall be reported to the Operations Officer or Battalion Chief.

MINOR MECHANICAL MAINTENANCE

Minor mechanical maintenance may be performed by station personnel such as replacing apparatus light bulbs (not to include LED and strobe warning lights) and adding specific fluids to apparatus.

- Minor mechanical maintenance may include tightening loose bolts, nuts, and screws, and other tasks as authorized by the Operations Officer.

If station personnel have any doubt as to their ability or responsibility for performing any apparatus maintenance or repair task, advice and/or permission should be sought through the Operations Officer or Battalion Chief.

KEEPING APPARATUS CLEAN

All vehicles should be inspected each morning for cleanliness and washed and dried as required.

When raining/snowing, vehicles shall be rinsed off immediately upon returning to quarters.