

Inspection, Testing and Maintenance of Fire Pumps

Service Company	Date of Service		Time	Last Service Date
	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>	Quarterly <input type="checkbox"/>
	Semiannual <input type="checkbox"/>	Annual <input type="checkbox"/>	Third Year <input type="checkbox"/>	Fifth Year <input type="checkbox"/>
	Manufacturer:			Model #
Building Name:	Contact Person:		Phone:	Fax:
Address:	Owner:		Phone:	Fax:
City:	Postal Code:		Phone:	Fax:

Note: The components described shall be inspected and tested as specified and in accordance with the manufacturer's instructions and applicable codes. This form does not include **Steam Driven Turbines**

“√“ **Yes - Satisfactory** “X” - **NO Unsatisfactory (No answers explain in comments)**“NA” - **Not applicable Inspections - Weekly**

Pump House Conditions

- Heat adequate, not less than 4C/40deg?
- Suction and discharge pressure gauges free from damage?
- Ventilating louvers free to operate?

Pump System Conditions.

- Pump suction and discharge and bypass valves fully open?
- Inspect for piping leaks?
- Suction line pressure gauge reading normal _____ kpa/psi?
- System line pressure gauge reading normal _____ kpa/psi?
- Suction reservoir full?
- Wet pit suction screens are unobstructed and in place?

Diesel Engine System Conditions

- Fuel tank is 2/3rds full
- Controller selector is in “auto” position
- Batteries (2) voltage readings are normal
- Batteries (2) charging current is normal
- Batteries (2) pilot lights are on or battery failure pilot lights are off
- All alarm pilot lights are off?
- Engine running time meter is reading _____ ?
- Oil level in right angle gear drive is normal?
- Crankcase oil level is normal?
- Cooling water is normal?
- Electrolyte level in batteries is normal?

- Battery terminals clean, tight and free from corrosion?
- Water-jacket heater is operating.

Exhaust system

- Leakage?
- Drain condensation trap?

Electrical System Conditions

- Controller power light on?
- Transfer switch normal, pilot light illuminated?
- Isolating switch closed - standby (emergency) source?
- Reverse phase alarm pilot light off or normal phase rotation pilot light on?
- Oil level in vertical motor sight glass normal?

Annual Inspection Items

- Check pump shaft end play?
- Check accuracy of pressure gauges and sensors?
- Check pump coupling alignment?
- Inspect emergency manual starting means (without power)?
- Tighten electrical connection as required?
- Inspect mechanical moving parts for lubrication, exclude starters/relays?
- Inspect calibrated pressure switch settings?
- Inspect duct work for combustion air?
- Inspect exhaust hangers and supports?

Tests

Weekly

Pump System Procedure

- Operate the fire pump without flowing water (10)min.
- Check packing gland tightness (slight leak at noflow)?
- Record suction pressure from gauge _____ kpa/psi?
- Record discharge pressure from gauge _____ kpa/psi?
- Adjust gland nuts if necessary?
- No unusual noise or vibration?
- Check packing boxes, bearings or pump casing for overheating?
- Record pump starting pressure _____ kpa/psi?

Electrical System Procedure

- Pump to run for 10min?
- Observe time for motor to accelerate to full speed _____ sec?

Electrical system procedure con't

- For reduced voltage or reduced current starting, record time controller is on first step _____ sec?
- Record time pump runs after starting (auto stop) _____ min?

Diesel Engine System Procedure

- Pump to run for 30min?
- Record time for diesel engine to crank _____ ?
- Record time for diesel engine to reach running speed _____ ?
- Check oil pressure gauge, speed indicator, water and oil temp while engine is running?
- Check heat exchanger for cooling water flow?

Date:	Building Address
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Monthly testing

- Exercise isolating switch & circuit breaker for proper operation?
- Test circuit breakers and fuses for proper operation?
- Test batteries for specific gravity and state of charge?

Steam Systems Procedure

- Record steam pressure gauge reading
- Observe time for turbine to reach running speed _____?

Semiannual

- Operate manual starting means (electrical)
- Operation of safety devices and alarms?
- Check antifreeze protection level?

Annual

- Operate emergency starting means (without power)
- Trip circuit breaker if provided?
- Diesel tanks and overflow piping unobstructed?
- Test exhaust for excessive back pressure?

Testing

Pump	Make/model	Rated GPM/LPM			Rated Head PSI/KPA 100% 150%		Jockey pump	
Driver	Make/model	Horse power	Volts	Amps	Type		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Controller	Make	Start _____ psi/kpa			Stop _____ psi/kpa		ON _____ psi/kpa	
	Model	<input type="checkbox"/> Manual		<input type="checkbox"/> Press drop		<input type="checkbox"/> Red Volt		Off _____ psi/kpa
	Approved <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Auto		<input type="checkbox"/> Water flow		<input type="checkbox"/> Across line		

Test table

Type of test	Static or suction KPA/PSI	Residual Discharge KPA/PSI	Net Pump Pressure KPA/PSI	Pump Speed RPM/AMP	Pitot Pressure 1	Pitot Pressure 2	Pitot Pressure 3	Pitot Pressure 4	Pitot Pressure 5	Pitot Pressure 6

Tests Continued

% of Rated Capacity	Nozzle Diameter	Opening coefficient C=_____	Actual flow LPM/GPM	VOLTS			AMPS		
				AB	AC	BC	L1	L2	L3

Nozzle #	1	2	3	4	5	6
Coefficient						

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“√” Yes - Satisfactory “X” - NO Unsatisfactory (No answers explain in comments) “NA” - Not applicable

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- Are the values in the above table acceptable?
- No-flow (churn) test run for 30 min?
- Circulation relief & pressure relief valve operated properly?
- No alarm indicators or other abnormalities observed during
- Suction screens cleaned after flow?

Low Suction Throttling Device Test

- Low suction pressure simulated?
- Free from abnormalities in throttling action?
- Free from abnormalities in return to full flow?

Automatic Transfer Switch

- Power failure simulated during peak flow?
- Connection made to the alternate power source?
- After termination of simulated power failure did motor reconnect to normal power source?

Alarm Conditions

- All alarm condition simulated?
- All alarms operated?

Emergency Power Supply

- Pump tested on emergency power?

Maintenance

Quarterly Maintenance

- Clean strainer in diesel fuel system?
- Clean filter in diesel fuel system?
- Clean dirt leg in diesel fuel system?
- Clean crankcase breather?
- Clean water strainer of cooling system?

Semi-annual

- Boxes, panels and cabinet on electrical systems cleaned?

Annually

- Lubricate pump bearings?
- Lubricate couplings?
- Shaft end play acceptable?
- Lubricate right angle gear drive?
- Circuit breakers passed test?

Annually con't

- Pressure switch settings calibrated?
- Grease motor bearings?
- Replace flexible hoses and connectors?
- Check Antifreeze?
- Heat exchanger cleaned?
- Oil replaced at 50hrs or annually?
- Oil filter replaced at 50hrs or annually?
- Clean pump room louvres?
- Replace circuit breakers or fuses every 2 years or as needed?
- Remove water and foreign material from fuel tank?
- Rod out the heat exchanger or cooling system?
- Exhaust hangers and supports acceptable?
- Control and power wiring tight?

Comments:

I state that the information on this form is correct at the time and place of my inspection, and that all equipment was tested in conformance with applicable codes and the Manufacturers requirements and at this time was left in operational condition upon completion of this inspection except as noted in comments.			
Technician Stamp	Date	Time	Owner or Authorized Agent