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Pump Performance Test by Weis Fire & Safety as Per NFPA 1911-2012 and ISO Standards Recommended On Rated and Non-Rated Fire Apparatus Service Performed With A Draft Commander 3000® Using Clean Clear Water

1911-86 INSPECTION, MAINTENANCE, TESTING, AND RETIREMENT OF IN-SERVICE AUTOMOTIVE FIRE APPARATUS

PUMP PERFORMANCE TEST

Date of Last Pump Test: APRIL 2013 Current Date of Pump Test: 6/13/14

Name of Fire Department: YORK FIRE DEPT Truck #: LADDER

Year Apparatus Mfg.: 1987 Manufacturer of Apparatus: SIMON-DUPLEX Truck Mileage: 10901

Gas Engine: Yes: No: X Diesel Engine: Yes: X No:

Pump Make: WATEROUS Pump Model #: CMU Pump Serial #: 15415W

Pump Rated Capacity: 1500 (GPM) (L/min) at 150 (PSI) (kPa) Single Stage: Two Stage: X

Test Site Location: YORK NE

Suction Hose Size: 6 (in.) (mm) Length: 17 (ft) (m)

Tests Performed from Draft

	At Start of Tests	At End of Tests
Atmospheric Pressure	29.98	29.96
Air Temperature	70	74
Water Temperature	65	80
Elevation of Test Site	1610	1610
Lift	3'	3'

Apparatus Pump Engine No Load Pump Gov Test with pump not in gear 2100 Actual maximum engine speed when tested 2100

NFPA Recommended Vacuum Attained is 22" up to 2000ft. (Altitude)

Actual Vacuum Attained: -22 = To a Drafting Lift of 11' (See Vacuum Notes on page 6 for detailed explanation)

Vacuum drop in 5 minutes: -10 Time to prime pump: 10 sec

Pressure Control Device Test:

Rise while pumping capacity at 150 PSI: 10

Rise while pumping capacity at 90 PSI: 10

Rise while pumping 50 percent capacity at 250 PSI: 10

Tank to pump water flow test NA (GPM) (L/min)

Pump Test Results

	Capacity Test	Overload Test	200 PSI Test	250 PSI Test
Test Duration in Minutes	20	5	10	10
Average Nozzle Pressure	66	66	78	68
Corrected Pressure	N/A	N/A	N/A	N/A
Gallons Per Minute	1510	1510	1050	750
Average Pump Pressure	150	165	200	250
RPM – Engine	1750	1800	1900	1700
RPM - Pump	1750	1850	1925	1700

Comments: See 63 Point Preventative Maintenance Checklist

20-MINUTE CAPACITY TEST 150 PSI GPM PUMP RATED AT: <u>1500</u>												
Hose Layout <u>2-3"-50</u>			Nozzle Size <u>2 1/2</u>				Position of Transfer Valve <u>VOLUME</u>					
Time	Rpm Tach Cab	Rpm Tach Pump Panel	Engine Temp	Oil Pressure	Voltage /Amps	Auto Trans Temp.	Apparatus Gauge Vac	Test Gauge Vac	Apparatus Gauge Pressure	Test Gauge Pressure	Pitot/ Flow	Actual GPM Flowed
1020	1750	1750	175	55	OK	150	-10	-10	150	150	66	1510
1025	1750	1750	175	55	OK	150	-10	-10	150	150	66	1510
1030	1750	1750	180	45	OK	160	-10	-10	150	150	66	1510
1035	1750	1750	180	40	OK	165	-10	-10	150	150	66	1510
1040	1750	1750	180	40	OK	180	-10	-10	150	150	66	1510

5-MINUTE OVERLOAD TEST 165 PSI GPM PUMP RATED AT: <u>1500</u>												
Hose Layout <u>2-3"-50</u>			Nozzle Size <u>2 1/2</u>				Position of Transfer Valve <u>VOLUME</u>					
Time	Rpm Tach Cab	Rpm Tach Pump Panel	Engine Temp	Oil Pressure	Voltage /Amps	Auto Trans Temp.	Apparatus Gauge Vac	Test Gauge Vac	Apparatus Gauge Pressure	Test Gauge Pressure	Pitot/ Flow	Actual GPM Flowed
1040	1800	1850	190	40	OK	195	-10	-10	165	165	66	1510
1045	1800	1850	195	40	OK	195	-10	-10	165	165	66	1510

10-MINUTE 200 PSI 70% Test GPM PUMP RATED AT: <u>1050</u>												
Hose Layout <u>2-3"-50</u>			Nozzle Size <u>2</u>				Position of Transfer Valve <u>VOLUME</u>					
Time	Rpm Tach Cab	Rpm Tach Pump Panel	Engine Temp	Oil Pressure	Voltage /Amps	Auto Trans Temp.	Apparatus Gauge Vac	Test Gauge Vac	Apparatus Gauge Pressure	Test Gauge Pressure	Pitot/ Flow	Actual GPM Flowed
1046	1900	1925	180	45	OK	198	-1	-1	200	200	78	1050
1051	1900	1925	190	40	OK	200	-1	-1	200	200	78	1050
1056	1900	1925	190	40	OK	200	-1	-1	200	200	78	1050

10-MINUTE 250 PSI 50% TEST GPM PUMP RATED AT: <u>750</u>												
Hose Layout <u>2-3"-50</u>			Nozzle Size <u>1 3/4</u>				Position of Transfer Valve <u>PRESSURE</u>					
Time	Rpm Tach Cab	Rpm Tach Pump Panel	Engine Temp	Oil Pressure	Voltage	Auto Trans Temp.	Apparatus Gauge Vac	Test Gauge Vac	Apparatus Gauge Pressure	Test Gauge Pressure	Pitot/ Flow	Actual GPM Flowed
1057	1700	1700	180	45	OK	205	-5	-5	250	250	68	750
1102	1700	1700	180	45	OK	205	-5	-5	250	250	68	750
1107	1700	1700	185	40	OK	205	-5	-5	250	250	68	750

See above final recommended Fire Apparatus Pump Performance Test results and refer to pages 3-5 for the recommended repairs needed on the 63 Point Preventative Maintenance Checklist.

No Repairs Needed: X Repairs Needed: _____ Repairs Made on Site: _____

Service Company: <u>WFE</u>
Service Technician Name: <u>KH</u>
Service Technician Signature: <u>KH</u> Date: <u>6/13/14</u>
Witnessed By Printed Name: _____
Witnessed By Signature: _____ Date: _____
Fire Department Name: <u>YORK FIRE DEPT</u> Authorized By: <u>KEVIN</u>



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Draft Commander 1911-3000 Fire Pump Test Performance Checklist Before and During ISO Pump Test

63 POINT PREVENTATIVE MAINTENANCE CHECKLIST

Please mark appropriate box				Please mark appropriate box			
	Yes X	No		Full X	3/4	1/2	1/4
1. Emergency Brake set during Pump Test No Load Test of Apparatus Engine with Pump out of gear before starting Pump Test	X		2. Fuel gauge of Apparatus <u>before</u> Pump Test Fuel gauge of Apparatus <u>after</u> Pump Test	X			
3. Electric Primer X Check Oil in Reservoir X Oilless Primer _____ Vacuum Primer _____ Explain:	Repairs Needed	OK	4. Primer <u>Not</u> Equipped: _____ Wet Primed: _____ Primer Equipped but <u>Not</u> Functioning: _____ Wet Primed: _____ Primer Needs Repaired: _____ Explain:		Repairs Needed	OK	Repaired on Site
5. Drain Fire Pump before checking Primer for Vacuum Test Explain:	Repairs Needed	OK	6. Primer Max Vacuum Attained -22 Pass X Fail _____ Explain:		Repairs Needed	OK	Repaired on Site
7. Apparatus engine radiator liquid level Explain:	Repairs Needed	OK	8. Separate Engine Radiator liquid level Explain:		Repairs Needed	OK	Repaired on Site
9. Separate engine that powers Fire Pump Engine oil level Explain:	Repairs Needed	OK	10. Fire Apparatus engine oil level Explain:		Repairs Needed	OK	Repaired on Site
11. Separate Engine Fire Pump Gear Box oil level Oil/Lub. Color Normal _____ Color of Oil/Lub. Milky _____ Oil Level Ok _____ Explain:	Repairs Needed	OK	12. Fire Apparatus Fire Pump Gear Box oil level Oil/Lub. Color Normal X Color of Oil/Lub. Milky _____ Oil Level Ok X Explain:		Repairs Needed	OK	Repaired on Site
13. Separate Engine Fire Pump Air Cleaner Explain:	Repairs Needed	OK	14. Air Cleaner Apparatus Engine Explain:		Repairs Needed	OK	Repaired on Site
15. Checked all Suction and Discharge Plugs and Caps. Gaskets in good shape. Explain:	Repairs Needed	OK	16. All Emergency Lights turned on during Pump Test Explain:		Repairs Needed	OK	Repaired on Site
17. All Discharge 2½", 1½", 1" checked for leaks when Pump Testing unit from Draft Commander by removing caps Explain:	Repairs Needed	OK	18. Check all Pump Panels 2½" x 1½" Individual Discharge gauges. While performing Pump Test, did any of the 2½" & 1½" Individual Gauges with Discharge Valves Closed & not using for the Pump Test Show pressure on any of the Individual Discharge Pressure Gauges. Explain:		Repairs Needed	OK	Repaired on Site
19. Tank Suction Valve from tank to pump not leaking when Dry Vacuum Pump Test performed. When suction valve cap was removed & water was in pump indicates tank to pump valves or tank fill line leaking Explain:	Repairs Needed	OK	20. Tank Fill Line and Circulating Line not leaking when performing Pump Test, and when Dry Vacuum Test performed Explain:		Repairs Needed	OK	Repaired on Site
21. Pump packing not leaking excessive when running Pump Test and when Dry Vacuum Test performed Explain:	Repairs Needed	OK	22. If Apparatus pump is equipped with Mechanical Pump Seal check it for leaks Explain:		Repairs Needed	OK	Repaired on Site
23. Inspect while Pump Test is being performed - Check Pump Inspection Door for external plumbing leaks Explain:	Repairs Needed	OK	24. Fire Pump in gear out of Gear Performance Explain:		Repairs Needed	OK	Repaired on Site
25. Inlet Screen on all left and right suctions in place and in good condition Explain:	Repairs Needed	OK	26. Check for oil leaks under engine while performing test Explain:		Repairs Needed	OK	Repaired on Site
27. Check for oil leaks under Pump Transmission while performing test	Repairs Needed	OK					

Please mark appropriate box

Please mark appropriate box

28. Apparatus RPM Tach in cab performing Explain:	Repairs Needed	OK X	Repaired on Site	29. Pump Panel Apparatus RPM Tach performing Explain:	Repairs Needed	OK XX	Repaired on Site
30. Apparatus Temp Gauge performing Explain:	Repairs Needed	OK X	Repaired on Site	31. Engine of Apparatus Temp running normal Explain:	Repairs Needed	OK X	Repaired on Site
32. Amp or Volt Gauge Performing in cab Explain:	Repairs Needed	OK X	Repaired on Site	33. Amp or Volt Gauge performing on Pump Panel Explain:	Repairs Needed	OK X	Repaired on Site
34. Oil Pressure Gauge Performing in cab Explain:	Repairs Needed	OK X	Repaired on Site	35. Oil Pressure Gauge performing on Pump Panel Explain:	Repairs Needed	OK X	Repaired on Site
36. If Two Stage Pump is Transfer Valve working? Explain:	Repairs Needed	OK X	Repaired on Site	37. Pressure setting devises working (Relief Valve-Water Pressure Governor, Etc.) If equipped with lights, are lights working? Explain:	Repairs Needed	OK X	Repaired on Site
38. All Suction and Discharge valves opening and closing properly Explain:	Repairs Needed	OK X	Repaired on Site	39. Water Level Gauge for Booster tank working? If equipped with lights, are they working? Explain:	Repairs Needed	OK	Repaired on Site
40. Gear Box on Fire Pump while performing test sounds normal. Was there excessive gear noise? Explain:	Repairs Needed	OK X	Repaired on Site	41. If Apparatus is equipped with Automatic Transmission and equipped with Temp Gauge is it performing and working Explain:	Repairs Needed	OK X	Repaired on Site
42. Fire Apparatus Engine Fire Pump Cooling Valve checked for leaks Explain:	Repairs Needed	OK X	Repaired on Site	43. Fire Pump Tank Fill Valve checked for leaks and working properly Explain:	Repairs Needed	OK X	Repaired on Site
44. Water tank of Apparatus full at start of Pump Test Explain:	Repairs Needed	OK X	Repaired on Site	45. If water tank was full at start of Pump Test, did tank loose water during the Pump Test? Explain:	Repairs Needed	OK XX	Repaired on Site
46. Did Water Tank overflow during the Pump Test? Was Pump Cooling Valve & Tank Fill Valve in closed position ? Explain:	Repairs Needed	OK X	Repaired on Site	47. Were Instrumental Pump Panel lights all working? Explain:	Repairs Needed	OK X	Repaired on Site
48. Pump Panel Throttle performing correctly Manual Throttle <u>X</u> Electronic Throttle _____ Explain:	Repairs Needed	OK X	Repair	49. 100% Fire Pump Capacity Test Performed from Draft at Rated Capacity at 150 PSI for 20 minutes Explain:	Repairs Needed	OK X	Repaired on Site
50. Five minute 100% Capacity of Fire Pump Performed at 165 PSI Explain:	Repairs Needed	OK XX	Repaired on Site	51. 70% of Fire Pump Capacity performed at 200 PSI for 10 minutes Explain:	Repairs Needed	OK X	Repaired on Site
52. 50% of Fire Pump Capacity performed at 250 PSI for 10 minutes Explain:	Repairs Needed	OK X	Repaired on Site	53. Check Relief Valve Screen if equipped Explain:	Repairs Needed	OK X	Repaired on Site
54. Check Heat Exchange Governor Screen (American Fire Apparatus) Explain:	Repairs Needed	OK	Repaired on Site	55. Customer Opted for Oil Analysis on: (Cost \$45.00 Each)	Automatic Transmission	Gear Box Oil	Engine Oil
56. If fire truck is equipped with a heated shield pan lid was it removed (to remove excess heat) before performing the pump test and remain off during the pump test?					Yes NA		No
57. If fire truck hose reel is above pump area was the door open before performing the pump test and remain open during the pump test to remove excess heat?					Yes NA		No
58. Were left and right side of Suction Appliances removed and suctioned capped before Dry Vacuum Test performed? (If equipped)					Yes X		No
59. Were left and right side of Suction Appliance left off while performing the Service Pump Performance Test? (If equipped)					Yes X		No
60. After Service Pump Performance Test completed, were the left and right Suction Appliances installed back on Apparatus? (If equipped)					Yes X		No
61. If Apparatus has a power take off generator, was it operating during the Pump Performance Test? (As recommended by NFPA 1911 Standards)					Yes NA		No
62. If any discharge/suction valves were leaking and needing replaced or repaired, please check the following boxes for size and type. _____ Elkhart Size _____ Suction _____ Discharge _____ _____ Akron Size _____ Suction _____ Discharge _____ _____ Other Size _____ Suction _____ Discharge _____ Explain: _____							
63. Was an exterior adhesive plastic data placard with type of service performed (NFPA 1911-2012 Pump Service Test) attached to pump panel area after Pump Performance Test completed?					Yes X		No



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63 Point Preventative Maintenance Recommended Repairs Needed

(Refer back to pages 3 and 4)

1.	2.	3.	4.	5.	6.	7.
8.	9.	10.	11.	12.	13.	14.
15.	16.	17.	18.	19.	20.	21.
22.	23.	24.	25.	26.	27.	28.
29.	30.	31.	32.	33.	34.	35.
36.	37.	38.	39.	40.	41.	42.
43.	44.	45.	46.	47.	48.	49.
50.	51.	52.	53.	54.	55.	56.
57.	58.	59.	60.	61.	62.	63.

The above marked items are recommended repairs that were discovered while performing the Fire Pump Performance Test and the 63 Point Preventative Maintenance Checklist. These items were found to not be functioning and not properly working as intended. They are in need of repair for the safety of Firefighters and to save lives and property. The negative results could possibly affect the communities ISO Rating, cause further damage to the fire apparatus, hinder function and performance, and could cause injury and loss of life and property.

Recommended Apparatus Repairs Needed

Repairs Needed: _____ **No Repairs Needed:** x

The following repairs are recommended to bring your fire apparatus up to standards to meet the fire pump service test as per NFPA 1911-2012 and ISO recommended standards.

Recommended Repairs:

Recommended Parts:

Fixed on Site: Yes _____ No _____ If no, why not: _____
Authorizing Contact: _____
Verbal Authorization: Yes _____ No _____ Person Communicated With: _____



PUMP PERFORMANCE TEST RESULTS

63 POINT PREVENTATIVE MAINTENANCE CHECKLIST RESULTS

Date Tests Were Performed: 6/13/14

 Results from the Pump Performance Test and the 63 Point Preventative Maintenance Checklist has indicated that this fire apparatus is in need of repairs as indicated by the repairs checked on the 63 Point Preventative Maintenance Checklist.

 X Results from the Pump Performance Test and the 63 Point Preventative Maintenance Checklist has indicated that this fire apparatus has successfully performed the Pump Performance Test and the 63 Point Preventative Maintenance Checklist.

PUMP PERFORMANCE TEST AND

63 POINT PREVENTATIVE MAINTENANCE CHECKLIST NOTES

Vacuum Notes:

The vacuum, or negative pressure, on the intake side of a pump is measured in inches of mercury, usually written as “in. Hg” or “Hg” (Hg is the chemical symbol for mercury). A vacuum of 1 in. of mercury is equal to a negative pressure of 0.49 psi, or 1 in. Hg – 0.49 psi. A positive pressure of 0.49 psi at the bottom of a 1 in.² (645 mm²) container will support a column of water that is 1.13 ft. (0.344 m) high; therefore, a negative pressure of 0.49 psi at the top of the container will support the same column of water. This means 1 in. Hg = 0.49 psi = 1.13 ft. (0.344m) of water head.

NFPA 1911-2012 18.7.6 Vacuum Test:

The maximum vacuum attained shall be at least 22 in Hg (75 kPa), unless the altitude is above 2000 ft. (610m), in which case the vacuum attained shall be permitted to be less than 22 in. Hg (75 kPa) by 1 in. Hg (3.4 kPa) for each 1000 ft. (305 m) of altitude above 2000 ft. (610 m).

Note: Every 1” of truck vacuum attained equals ½ ft. of draft lift. Example: 20” of truck vacuum attained equals 10 ft. of draft lift.

Department Name: <u>YORK FIRE DEPT</u>		Contact Phone Number: _____
Date of Inspection: <u>6/13/14</u>	Personal Contact: <u>KEVIN</u>	Title: _____
Checklist Completed by: <u>KH</u>	Contact Email: _____	
Weis Service Technician: <u>KH</u>		
Fire Apparatus Manufacturer: <u>SIMON-DUPLEX</u>		
Pump Rated Capacity: <u>1500</u>	Manufacturer's Serial #: _____	

Signature: _____ Title: _____ Date: _____

WORK COMPLETED IN FIELD BY SERVICE TECH

[illegible]