



7512 4th Avenue  
Lino Lakes, MN 55014  
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website: [www.eamservice.com](http://www.eamservice.com)

## Emergency Vehicle Safety Inspection/Full Service Report

*CUSTOMER COPY*

Customer Name LAKE ELMO  
Date 7-21-15  
Unit No. Engine 2  
Mileage 64,987  
Engine Hours 3,718

☒ Vehicle deficiencies are noted on this report.

**The Reliability of Mechanical equipment is directly related  
to the quality and frequency of maintenance!**



# CHECK FOLLOWING ITEMS

Satisfactory Requires attn.

Operation of starter	BB	
Warning Devices, low oil, low air, low vacuum	BB	
Steering wheel play & column securement	BB	
Operation of interior lights, switches & rear vision mirrors		BB
Heater-Defroster controls	BB	
Horn	BB	
Safety equipment	BB	
Window lifts & door latches	BB	
Seat belts & cushions	BB	
Operation of wipers & windshield condition	BB	
Foot brake	BB	
Clutch pedal free travel	NA	
Operation of transmission	BB	
Speedometer & instruments	BB	
Air governor for operation	BB	
Oil pressure @ high idle	BB	
Maximum engine RPM	BB	
Unusual engine noise	BB	
One minute test for air leaks	BB	
All exterior lights		BB
Emergency Lighting	BB	
Parking-Brake System	BB	
<b>UNDER CHASSIS - FRONT END RAISED</b>		
Front bearing & king pins for looseness	BB	
Steering arms & sector mounts for looseness	BB	
Front springs	BB	
Lube front axle	BB	
Adjust brakes ( air only ) - Check Pedal Height (hydraulic)	BB	
Drain oil	BB	
Replace oil & fuel filter	BB	
Refill crankcase	BB	
Crossmembers & frame for looseness, cracks	BB	
Lube chassis complete	BB	
Clutch brake adjustment	NA	
Transmission oil level & leaks	BB	
Drain air tanks, inspect brake hoses & tubing, hydraulic/air	BB	
U-joints for play	BB	
U-joint slip yoke	BB	
Differential pinion bearing for looseness	BB	
Rear springs, U-bolts, center bolts	BB	
Torque arms & bracket looseness & cracks	BB	
Rear brake drums & linings through inspection hole	BB	
All wheel seals for leaks	BB	
Differential oil level	BB	
Power divider oil level	NA	
Clean axle vents	BB	
Cab mounts & bolts	BB	
Check coolant & nitrate levels		BB
Pressure test cooling system	BB	
Fan hub for looseness	BB	
Master cylinder fluid level	NA	
Water pump for leaks and looseness	BB	



# UNDER CHASSIS - FRONT END RAISED (CON'T)

Satisfactory Requires attn.

Air compressor mounts	BB	
Air conditioning mounts & wires	NA	
Alternator load test Volts <del>13.8</del> Amps <u>84.1</u>	BB	
Alternator mounting brackets	BB	
All belts	BB	
Fuel lines for leaks	BB	
Exhaust system	BB	
Service air cleaner	<del>BB</del> BB	
Clean & check battery cables	BB	
Battery water level, hold downs & cover	BB	
Battery load test #1 <u>11.2</u> #2 <u>11.0</u> #3 <u>11.2</u> #4 <u>11.8</u>	BB	
Check all hoses, condition & leaks	BB	
Check & fill steering sector	BB	
Install service sticker	BB	

## RUN ENGINE AND CHECK FOLLOWING

Air cleaner restriction	BB	
Air filter for leaks	BB	
Retighten drain plug	BB	
Recheck oil level	BB	
Lube door hinges & locks, check latch timing	BB	
Lube seat mechanism	-	
Fuel tank straps, mounts, caps & crossover line protection	BB	
Mud flap brackets	BB	
Wheel bearing reservoirs for correct level	BB	
Visually check exposed wheel nuts, studs, lock rings & rims for cracks or looseness	BB	
Axle flange nuts & gaskets	BB	
Tread depth RF <u>14/32</u> LF <u>14/32</u> RRI <u>15/32</u> RRO <u>14/32</u> LRI <u>17/32</u> LRO <u>14/32</u>		
RRRI <u>—</u> RRRO <u>—</u> LRRI <u>—</u> LRRO <u>—</u> Meets DOT requirements		
Tire Pressure RF <u>100</u> LF <u>—</u> RRI <u>100</u> RRO <u>100</u> LRI <u>65</u> LRO <u>85</u> <small>Air L.R.'s to 100 PSI</small>	BB	

GENERATOR SERVICE	Satisfactory	Requires Attn.	HYDRAULIC GENERATOR SYSTEM		
Change oil & refill crankcase		BB	Replace hydraulic filter & fluid		
Replace oil filters	BB		Check fluid level		
Replace fuel filters			Inspect wiring		
Check generator mounts	BB		Inspect generator mounts & trays		
Retighten drain, recheck oil level	BB		Inspect hydraulic pump and PTO mounting		
Check exhaust & air filter systems	BB		Remove hydraulic pump on direct mounts		
			& inspect/lube drive splines		
			Clean cooling system		
			Inspect all hydraulic hoses & fittings		

Positive Pressure Fan	Hydraulic Rescue Tool		
Change oil and refill crankcase	Change oil and refill crankcase		
Replace fuel filter	Replace fuel filter		
Visually inspect fan blades	Visually inspect all hoses & couplings		
Visually inspect all guards	Check engine mounts		
Visually inspect drive belts	Check hydraulic fluid level		
Check engine mounts	Check exhaust & air filter systems		
Check stabilizer feet			
Check exhaust & air filter systems			

## Vehicle Deficiencies listed on Back

Inspector's Signature

*Bill Boehman*

Certification Number

928609



# Fire Pumps and Accessories

## Maintenance Report

### Volume Pump

#### Pump Transmission

Change Oil, and Filter if applicable

Operation  
Completed

BB

#### Outboard bearing/

Lubricate or check oil Level if applicable

BB

#### Transfer Valve Lubricate

BB

#### Shift Unit

Check Oil Level and Lubricate all Linkage

BB

#### Priming System

Check Pump & Motor Mounts

Oil Motor, Check Tank Oil Level & Fill

Check Motor Coupling

Lubricate Priming Valve & Linkage

BB

#### Discharge, Suction & Drain Valves

Operate & Lubricate

BB

#### Pilot Valve Clean Screen and Orifice

Flush and Insure Water Flow

Stops In Off Position

BB

#### Conduct Dry Vacuum Test

Max Vacuum Achieved 22

Vacuum Drop 34

Pass ✓ Fail ✗

BB

#### Test Run pump, Operate Relief &

Transfer Valve

Check Packing Drip Rate mech. seals

BB

Operation  
Completed

### High Pressure Pump

Pump Crankcase change oil

Relief Valve Lubricate & Inspect

Hose Reels Lubricate & Inspect

Nozzle Guns Lubricate & Inspect

PTO Cable Lubricate & Inspect

PTO Driveshaft & Pillow Blocks

Inspect And Lubricate

Inlet Strainer Clean & Inspect

Check Drive Belt(s)

Test Run Insure Smooth Flow

### Foam Pro

Inspect Wiring, Hoses

Flowmeters & Connections

For Tightness, Corrosion, Leaks

And/or Damage

#### Foam Strainer screen

Remove and Clean

#### 1600 Series

Cam Bearing Grease Fitting

Lubricate With a Manual Grease Gun

#### Cam Bearing

Lubricate Cam Surface

#### 2001/2002 Series

Gear Case Drain & Refill Using

SAE30 Non-Detergent Oil

Operation  
Completed

### Compressed Air Foam System

#### Compressor

Change Oil & Filter

Use ISO 68 Hydraulic Oil

#### Polychain & Clutch

Visually Check

#### Air/Oil Separator

Change Cartridge every 24 months

#### Air Intake System and Filter

Check

#### Water Strainer

Check

### Portable Pump Service

Change oil and refill crankcase

Replace oil filter

Replace fuel filter

Check engine & pump mounts

Change pump oil

Check exhaust & air filter systems

## Equipment Deficiencies listed below

- 1) L1 compartment upper light out
- 2) L3 compartment lights out (bad switch)
- 3) generator " " (bad switch)
- 4) right ~~step~~ light out on tail board, 1 marker light out
- 5) B2 lower compartment light out
- 6) right pump panel lights out, 1 out left panel
- 7) coolant filter housing shut off valve frozen open
- 8) air filter should be replaced Carquest # 87491
- 9) relief valve stuck closed- water ~~down~~
- 10) #1 discharge linkage over extends
- 11) ~~generator overfueling~~
- 12) tank to pump / tank fill leaking 3" elbow 1 1/4 gate



# Invoice



## Send Payment To:

Emergency Apparatus Maintenance, Inc.  
7512 4th Avenue  
Lino Lakes, MN 55014  
TEL: 651.786.4463 • 1.800.EAM.3911  
FAX: 651.786.0517  
EML: service@eamservice.com

Work Order: 81919

Type: Service

WO Date: 07/20/2015

Invoiced: 07/29/2015

PO:

Reference:

Accounts Payable  
Lake Elmo Fire Department  
3800 Laverne Ave No.  
Lake Elmo, MN 55042

Amount Due: **\$1,065.00**

**Terms: Net 30 Days**

## Service Summary

Engine 2 (3173)

Miles: 64987

Hours: 3718

### Request

- 1 NFPA Pump Test.
- 2 Service Pump per EAM Pump Service Report.
- 3 Full Service/Emergency Vehicle Safety Inspection.
- 4 Service Generator.

### Work Completed

- 1.1 NFPA Pump Test Completed. Passed all phases.
- 2.1 Service Pump per EAM Pump Service Report - Completed.
- 3.1 Service Truck - Completed.
- 4.1 Service Generator - Completed. Crankcase was overfull of gas/oil mixture, creating a large mess when fill plug was removed - cleaned up. Ran generator after servicing for 1/2 hour with no issues, checked oil level - good.

## Parts Installed & Summary of Charges

Qty	Price	Total	Part	Part Number	Summary of Charges	
1.0	\$0.00	\$0.00	Oil Filter (1748)	1748	Quoted Labor	\$825.00
1.0	\$0.00	\$0.00	Fuel Filter (3405)	3405	Total Labor	\$825.00
40.0	\$0.00	\$0.00	15W-40 Oil	15w/40	Quoted Parts	\$240.00
12.0	\$0.00	\$0.00	Automatic Transmission Fluid, Quart	Dextron III	Total Parts	\$240.00
1.0	\$0.00	\$0.00	Oil Filter (1516)	1516	Total Accessories	\$0.00
4.0	\$0.00	\$0.00	10/30, Oil, Quart	10/30	Environmental Charges	\$0.00
					Pump Service	\$0.00
					Pump Test	\$0.00
					Subtotal:	\$1,065.00
					Tax:	\$0.00
					Total:	\$1,065.00

**NOTE:** The following items are awaiting customer approval before repairs are made. Please call Emergency Apparatus Maintenance.

- 1 L-1 Compartment upper light out.
- 2 L-3 Compartment lights out, bad switch.

Entered 12/18/15



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**NOTE:** The following items are awaiting customer approval before repairs are made. *Please call Emergency Apparatus Maintenance.*

- 3 Generator compartment lights out, bad switch.
- 4 Right step light out on tailboard, 1 marker light out.
- 5 R-2 Lower compartment light out.
- 6 Right pump panel lights out, 1 out left panel.
- 7 Coolant filter housing shut off valve frozen open.
- 8 Air filter should be replaced - Carquest #87491.
- 9 #1 Discharge linkage over extends.
- 10 Generator overfueling.
- 11 Tank to pump/tank fill leaking - 3" Elkhart, 1-1/2" gate.



# Pump Test Certification Results



Department: Lake Elmo Fire Department

Vehicle: Engine 2 (3173)

Make: Navistar

Year: 1990

Model: 2674

Miles: 64987

Engine:

Governed Speed: 2425

Pump Make: Waterous

Pump Capacity: 1250

Pump Model: CMYBX

Pump S/N: 21139W

Test Time: 11:16:00

Test Date: 07/22/2015

Ambient Temperature (°F): 80

Water Temperature (°F): 87

Barometer (mmHg): 30.01

**PASSED**

## Cumulative Test Data

	Capacity	200 PSI	250 PSI	
Gallons Per Minute:	1250	875	625	
R.P.M. Calibrated:	1659	1802	1586	
R.P.M. Engine:	1600	1800	1550	
R.P.M. Panel:	1100	1300	1100	
Net Pump Pressure:	<b>150</b>	<b>200</b>	<b>250</b>	
Correction Factor:	4	3	2	1250 GPM @ 150 PSI @ 1659 RPM Volume
Pump Pressure:	146	197	248	875 GPM @ 200 PSI @ 1802 RPM Volume
Pump Suction:	7	3	2	625 GPM @ 250 PSI @ 1586 RPM Pressure

## Relief Valve/Pressure Governor Test

Pressure	Operates Properly	PSI Increase
150 PSI	YES	13
90 PSI	YES	10
250 PSI	YES	8

## Dry Vacuum Test

Pump Packing Drip Rate:	0
Vacuum Achieved:	22
Vacuum Drop:	2

## Priming Test

Suction Diameter:	6
Suction Length:	20
Suction Lift:	2
Time:	7

## Capacity Test Raw Data

Tip	Mode	CF
2 1/4"	Volume	4
Tachometer		
Cab	Panel	
1659	1100	
Pump Gauges		
Pressure	Compound	
145	6	
Test Gauges		
Pressure	Vacuum	
146	7	
Time	Calibrated RPM	PITOT
11:16:00	1658	69
11:21:00	1662	69
11:26:00	1654	69
11:31:00	1662	69
11:36:00	1660	69

## 200 PSI Test Raw Data

Tip	Mode	CF
2"	Volume	3
Tachometer		
Cab	Panel	
1802	1300	
Pump Gauges		
Pressure	Compound	
195	5	
Test Gauges		
Pressure	Vacuum	
197	3	
Time	Calibrated RPM	PITOT
11:41:00	1800	55
11:46:00	1804	55
11:51:00	1802	55

## 250 PSI Test Raw Data

Tip	Mode	CF
1 1/2"	Pressure	2
Tachometer		
Cab	Panel	
1586	1100	
Pump Gauges		
Pressure	Compound	
249	5	
Test Gauges		
Pressure	Vacuum	
248	2	
Time	Calibrated RPM	PITOT
11:56:00	1588	88
12:01:00	1588	88
12:06:00	1584	88

Technician: Bill Bothman

Work Order: 81919

Printed: 7/29/2015