



MAIN OFFICE
530 John Dietsch Blvd, N. Attleboro, MA 02763
Sales 508.695.7138 Fax 508.699.6842

Chris Champagne
General Manager
Cell: 207.650.8803
Fax: 207.729-4737
Email:

cchampagne@GreenwoodEV.com

Greenwood-North Location
19 Summer St Brunswick, Maine 04011

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Chief Mark Cotreau
Rye Fire Department
555 Washington Road
Rye, NH 03870

Chief Cotreau;

At your request I have evaluated the fire apparatus fleet being presently used by the Rye Fire Department. The purpose of this evaluation was to give you a quick overview of issues with the trucks. For a more in depth review we would need to bring them to our service center for a full evaluation of the pumps, motors, transmissions, and springs.

Based on my 20+ years in fire apparatus and my EVT training this is a brief overview of my findings of each vehicle.

I will rate each truck's condition and serviceability of a scale from 1 to 10, with 10 being perfect and 1 being terrible.

Engine 1:

Engine 1 is a 1993 International commercial cab with a KME brand fire body installed.

Engine 1 is 25 years old, and built on a medium duty commercial chassis. Serious rust is present on the chassis frame, pump, and under the cab.

Rust under the cab, which is made of metal;



The pump passes a function test, based on the numbers provided it exactly matches the original test plate from 1993, which is virtually impossible. Based on what the condition of the pump looks like and the age of the truck I would say it needs a rebuild in the near future.



Plumbing; The plumbing is original and made from untreated steel. The plumbing shows signs of significant rust and is in need of repair/replacement at the same time the pump is repaired.



Frame- This is an area of serious concern, this truck has seen duty for 25 winters in New Hampshire and been exposed to road treatment chemicals. The frame shows signs of rust and based on my experience if left unrepaired the frame will be damaged beyond repair in just a few more years. The white powder on the frame in these photos is road treatment that has worked it's way between the truck frame and body frame, both of which are untreated metal.





My conclusion for Engine 1 is that it's a 4/10 for condition and a 5/10 for serviceability. The truck lacks many features common to modern apparatus and is in need of expensive repairs to the pump, plumbing, and frame. It is my estimation that that truck would require approximately \$75,000 in repairs to extend the service life another 5-10 years, and this does not include upgrades. At 25 years old this truck is at the end of service life by most standards.

Engine 3:

Engine 3 is a 2003 E-One Custom cab and E-One body fire apparatus. This truck has an all aluminum cab and body as well as stainless steel plumbing. At 15 years old this truck is approximately 1/2 way through it's service life. This truck generally is solid but it does have issues to be addressed to assure it makes it's full 25 years.

Like Engine 1 the pump has a current service test, and like Engine 1 the test mimics the original test plate. I would only assume that the pump works, and cannot speak to condition without a full test.

Body- The body shows signs of surface corrosion from contact with road chemicals and reaction by the aluminum body. To preserve the apparatus I would suggest a repaint.

Frame- The frame is showing signs of surface rust and should be addressed ASAP to prevent this issue from becoming beyond repair. A frame sandblast and repaint is advised.





I would estimate that Engine 3 requires a mid-life refurbishment in the range of \$100,000-\$150,000 to assure it makes it's desired service life. Overall condition is 6/10 and Serviceability is 7/10. This would still be considered a "modern" piece of apparatus.

Ladder 1;

Ladder 1 is a 1988 Simon Duplex cab and LTI body/ladder. There are a number of issues regarding this apparatus that are very concerning.

The #1 issue is the age, at 30 years, and the fact that at 1988 production this vehicle was made prior to the very important 1991 NFPA 1901 standard, which is generally considered to be the beginning of "modern" apparatus.

The 1991 standard had many important benchmarks for apparatus such as ABS brakes, 3 point seat belts, fully enclosed cabs, minimum strength (tip loads) for ladders, intake relief valves from fire pumps to prevent overpressure, minimum decibel standards for cabs, and many more changes.

Ladder 1 is also a vehicle produced by two companies who are both out of business. The cab manufacturer Simon Duplex has been out of business for 20 years, the ladder manufacturer LTI has been out of business 10 years. Parts and technical support are difficult if not totally impossible.

The fire pump on Ladder 1 passes a function test, but based on it's age and current standards it is not compliant. It would take considerable work to make it meet current standards.

The aerial ladder passes it's 3rd party test, but the test is based on the standards of a 1988 ladder. This ladder doesn't comply with "modern" post 1991 requirements and as such must be treated as such.

There are many issues that are readily apparent when evaluation the apparatus. Most of these issues are related to firefighter safety. This apparatus has outside seating (canopy cab) that places firefighters in harms way with only a small padded metal bar to hold them into the cab, this has been deemed unsatisfactory for 27 years. The cab has lap belts only, which is likewise very unsatisfactory. The vehicle has sirens/airhorns on the cab roof which has been proven to cause hearing damage/loss to firefighters. The vehicle also lacks ABS brakes, which is a very basic safety feature.

In conclusion I would consider Ladder 1 a 3/10 for condition and a 1/10 for serviceability. I would not spend any additional money on this apparatus and would strongly advise to replace it as soon as possible. Given the large body of information published about the dangers of older apparatus like Ladder 1 there is little ability to operate this truck in good conscious.





