

How much service is right?

We have recently switched to Fullbay for tracking services and preventative maintenance. It allows us to create services specific for a truck, or component that might be used on many trucks. I have invested many hours recently in building checklists, and doing this has opened my eyes to a huge problem we need to address without delay. **Our PMs have been incomplete, by completing neither all the services required by NFPA 1910 or the services required by many manufacturers.**

Our present checklist has been in use for about 2 years. It was created using the form in NFPA 1910, Annex C.3 Figure C.3(b)¹. However, this form does **not** include all the requirements in NFPA 1910 chapters 6 through 19, which pertain to inspection & maintenance. Additionally, "This is just an example that must be customized to meet the requirements for specific emergency vehicles and department policies." Means that it does not cover additional items required by component manufactures (Cummins, Hale, Zico, etc.)

The service we have been providing therefore, does not meet the 'standard' set forth by NFPA. We aim to fix this, but it takes careful consideration (by us and you, the AHJ).

A full PM on a pumper is an intensive ordeal when compared to a vehicle like my car². My car has a manual, and in that manual is a maintenance table *for the whole car*. It covers the engine, transmission, tires and wheels. It's set forth in simple intervals based on time (months) and mileage. Now, let's look at a custom chassis pumper. First, we need to maintain it by NFPA 1910 (The current version of 1910 applies to all vehicles regardless of date of manufacture, by the way³). The max interval is 12 months, except for chapter 8⁴, which is to be done every 6 months⁵. Second, we take the manufacturers recommended services, adding specific details and intervals. Many of these overlap each other. When customizing the list to a truck, items can be removed that don't apply (like hydraulic brakes).

So my workflow looks something like this, for a custom Sutphen pumper:

1. Build a checklist that covers all points from chapter 8.
2. Referencing Sutphen chassis manual, add details to frame & suspension or items not listed in NFPA that Sutphen requires.
3. Reference axle manual, customize the inspection points for axles, wheel bearings, differentials.
4. Reference brake manufacturer manual, customizing inspection for brakes, wear limits, etc.
5. Repeat for engine, transmission, etc, you get the point. Basically any component that has its own manual I am referencing to make our inspection meet standards set forth by NFPA and OEM.
6. repeat the steps for chapters 9 through 16 as applicable.

All these things will make a PM take longer and cost more

Some examples of things explicitly required, but that we have not done:

- Hale ESP primers call for annual disassembly and cleaning.⁶
- Wheel lugs need to be checked for proper torque.⁷ I have never seen a tire professional use anything other than an impact wrench⁸. I've also known of broken wheel studs with no probable cause besides normal wear and tear (doubtful) or over torquing. What I'm implying here is that we can't just make sure the lug is at least as tight as the spec, we need to loosen it and torque it with

a torque wrench. You have wheel covers? That makes it take even longer.

How can we find a balance in making sure we perform service to the standard, without being frivolous? If cleaning a primer every year for 5 years costs more than repairing that primer when/if it breaks, and the low probability of an inoperable primer affecting fireground operations or other fire truck components by it's failure, is it responsible to make a decision to **not** perform the maintenance? I'm just asking the question, being the devils advocate.

For the wheels, after loosening and re-torquing them once, if we know they weren't removed during the year, the following PM I would feel comfortable simply checking if they are still tight. Surely they didn't get tighter by themselves.

These are a small example. More will come. We need to talk soon, and certainly before next PM, to figure out how to be responsible in doing our work.

A final thought: If a service is 'declined', we think that sounds 'unprofessional'. Perhaps something like 'judicial discretion'⁹⁾, with a written decision reasoning process, would be a better way to think about it.

— *Brigade Tek Admin* 2024/02/19 22:08

1)

for a limited time, this [share link](#) will allow you to view the table

2)

2007 Subaru Impreza

3)

NFPA 1910.4.3.2, [view here](#)

4)

Inspection and Maintenance of the Chassis, Driving and Crew Compartment, and Body

5)

NFPA 1910.4.6.5 & 1910.4.6.5.1

6)

[SB61](#) from Hale

7)

NFPA 1910.8.3.7, [view here](#)

8)

I'm only saying I havent seen it. I'm sure many do use a torque wrench

9)

defined by [Wikipedia](#)

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Last update: **2024/02/20 10:48**

