Your Tomorrow is in your hands Today!

American Ambulance Association
2015 Annual Conference & Tradeshow

November 1-3, 2015

The AAA is fighting for you!
Fleet 101
3 Point Cycle of Care

Fleet Maintenance Management

Do you know what it can do for you?

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emsfleettoolcart

@EMS_Fleet
Who am I?

Fleet Manager Richmond Ambulance Authority
20 years EMS Fleet Experience
15 Years EMS Fleet Management
ASE Certified Master Technician
Why are you here today?

Not to learn how to make them fast, see me after, I have a guy for that.
What are the 3 points in the cycle of care?
Frequent Training Topics

• Clinical standards
• ICD 10 reporting
• Equipment and medical supply use
• Situational awareness
• Customer service
Well, no. We didn’t notice the low left front tire, oil leak, fried brake pads, overheated engine, or “low battery” light. But the arm chair rest is a little wiggly and the left side music stereo speaker is a little weaker than the right.

Fleet maintenance is not usually on the top of peoples’ minds until a major failure occurs.
How much do you know about maintenance?

• What did you do before managing a fleet?

• Where do you look for information when you do not know the answer?

• Are you willing to listen, learn, and share information to better your fleet?
Where to find information for emergency vehicle maintenance?

• Fleet blogs

• Owner’s manuals

• Body manufacturers

• Other emergency fleet professionals

• Consultants
Why is emergency vehicle maintenance different?

• One size does not fit all.

• Here are three different types to compare.
Emergency Vehicles
Vehicles at work or home

So why are emergency vehicles supposed to be tougher?
Stuck?
Type of vehicle for the need?
<table>
<thead>
<tr>
<th></th>
<th>Cost per gallon</th>
<th>MPG</th>
<th>Cost per mile</th>
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<tbody>
<tr>
<td>Gasoline</td>
<td>$3.25</td>
<td>7.1</td>
<td>$0.47</td>
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<tr>
<td>Diesel</td>
<td>$3.43</td>
<td>5.37</td>
<td>$0.66</td>
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</table>
Geography of Maintenance

Climate makes a difference in vehicle selection, design and maintenance.
Clark County NV
2030 ft above sea level

1807 ft difference

Richmond VA
223 ft above sea level
Clark County NV
2030 ft above sea level

1807 ft difference

Richmond VA
223 ft above sea level
MINIMUM OCTANE RATING
(R + M) / 2 METHOD

PRESS

87

PRESS

91

PRESS

93
MINIMUM OCTANE RATING
(R + M) / 2 METHOD

87

Push Here
Which Manufacturer?

- Decision may be limited by budget or bid.
- “Off the shelf” vehicles.
- Creating a vehicle specification.
First: Design Factors
Second: EMS Vehicle Safety
Third: Maintenance
Without Maintenance
CHECK EVERY MONTH

OIL LEVEL
Add oil if low, and check for leaks.

HOSES*
Replace if bulging, rotten or brittle.

BELTS*
Replace if worn, frayed or glazed.

TIRE PRESSURE
Add air if too low.

COOLANT OR ANTIFREEZE*
Add if low, and check for leaks.

AIR FILTER
Replace if dirty.

INSPECT TIRES
For damage, bulges or uneven wear.
Time Marches On

Times and technology change
Management data

• Parts used
• Mileages
• Labor time
• KPI (Key Performance Indicators)
• Repair failure type
## Basic Data Management

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Date</th>
<th>LUH</th>
<th>Miles</th>
<th>Brakes</th>
<th>Lights</th>
<th>Transmission</th>
<th>Heat</th>
<th>A/C</th>
<th>Suspension</th>
<th>Tires</th>
<th>Interior</th>
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<td>356</td>
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Technician Intuition

I TOLD YOU!
How do we do this?

• Root cause analysis.
PDSA
Key Performance Indicators
Service Schedules

- Most vehicle manufactures have regular and severe duty service recommendations.
• The weight of an ambulance body on a chassis is equivalent to towing an 18 to 25 foot trailer all day every day.

• A manufacturer will rarely take exception with providing more service then recommended for the use.
When, Where, and Why?

- Most have a P.M. (Preventative Maintenance) schedule
- Do you let them lapse because of higher repair volume or lack of available vehicles?
## Ambulance Preventive Maintenance Schedule

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<tr>
<th>Service</th>
<th>A</th>
<th>B</th>
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<td>Change engine oil and oil filter. (check; clean) air filter, replace if required.</td>
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<td>Visualize inspect tires (include spare tire); adjust tire pressure to specification</td>
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<td>record pressure of all tires; record tread depth of all tires; check jack, jack handle &amp; wheel wrench (proper location &amp; operation)</td>
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<td>Visually check and lubricate all steering, suspension and driveline components; lubricate components equipped with grease fitting</td>
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<td>Check operation of all vehicle safety equipment, including:</td>
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<td>mirrors, vehicle lighting; emergency lighting horn; speedometer gauges; windshield wipers and washers; seatbelts</td>
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<td>Check exhaust (visual)</td>
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<td>Check:</td>
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<td>all belts; battery terminals (check battery fluid levels); coolant hoses; heater and AC controls; fluid levels, check for leaks (brake fluid, transmission fluid, power steering fluid)</td>
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<td>Lube doors and hood locks, latches and hinges. (inspect all module hinges for loose and/or missing rivets)</td>
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<td>Clean interior and exterior if requested (wash and vacuum)</td>
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<td>Check coolant condition and level, pressure test cooling system (check Supplement Decal Additive (SDA/concentration and adjust if necessary).</td>
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<td>Complete Manitoba Highways and Transportation Commercial Truck Inspection. (If expires within following 2 months) (Note: replace brake linings if worn 50% or greater.)</td>
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<td>Check and service charging and starting system. (check battery fluid levels)</td>
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<td>clean battery cases and terminals; perform complete charging system and AVR check; load test batteries (record readings); charging system output test (record readings); starter draw test (record readings)</td>
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<td>Replace and adjust wheel bearings.</td>
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<td>Replace fuel filter (service crankcase filter and PCV valve if applicable).</td>
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<td>Road test</td>
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<td>Automatic transmission tune-up (change fluid and filter, adjust linkage and bands if required).</td>
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<td>Check and adjust front-end alignment specifications if required.</td>
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<td>Replace rear differential fluid.</td>
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<td>Flush cooling system and replace coolant, check block heater operation (use OEM recommended coolant and additives).</td>
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<td>Scan fuel management computer for trouble codes.</td>
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Transition

• Gradual reduction in failures.
• Refine process to reduce repairs.
Fixing the Problem

• You must be as proactive with your P.M.’s as you are with payroll.
• If you miss one or hold off you are increasing failure potential.
I’m too far behind

Fresh Start

Next Service Set!
Inventory

Data

VENDORS
Guidelines for Great Fleet Management

• Work to never leave a crew stranded.
• Work to never leave a patient needing another transport.
• Safety of the vehicle, crew and patient is the top priority.
• Take every issue reported as a real issue regardless.
• Quality over quantity.
• Know your environment.
Illustrations and photos provided by:

- Steve Berry EMS Cartoons
- Ford Fleet.com
- Freightliner.com
- International.com
- Richmond Ambulance Authority

www.raaems.org