




Change is necessary for productivity improvement. Change costs money. Will the cost of change be recovered in savings resulting from it? If so, it is worth implementing!



# Preventive Maintenance 101

**By Carl Henderson**

Committing to a thorough preventive maintenance program improves safety and reduces costs over the long term!



# Provide the safest & most cost effective service!

- Balance safety considerations against cost efficient operations.
- District transportation operations are under scrutiny to account for dollars spent.
- Never compromise safety!



A successful “PM” program centers around five basic areas:

- Planning
- Standardization
- Training
- Research
- Record keeping



# Planning

## Two Maintenance Philosophies

- Preventive Maintenance (Scheduled Maintenance).
- Demand Maintenance (Unscheduled Maintenance).



# Demand Maintenance – Unscheduled Maintenance



# Preventive Maintenance – Scheduled Maintenance



# Preventive Maintenance Objectives

- Maximize availability of the bus.
- Minimize cost.
- Never! Never! At the cost of safety!




# Preventive Maintenance Inspection

A systematic approach to inspecting equipment at planned intervals.



# Preventive Maintenance is an inspection procedure.

- Involves:
- Maintaining key systems.
- Diagnosing key areas and looking for potential premature failure.



## Four items necessary for a complete “PM” program

- A good form with a systematic and logical (complete) inspection.
- An accurate schedule.
- A well trained mechanic.
- A quality control program.



# Scope of Preventive Maintenance Programs

- Servicing
- Inspection
- Detection
- Correction



# Standardization

- Participate in your State specification committee.
- Purchase the same type bus each time.
- Focus on selecting a single dealer and manufacturer.
- Standardize major components, then standardize all equipment and parts.



## Training; Improve your district's knowledge pool

- Set a minimum goal of training per year per employee.
- Make sure your drivers and clerical staff are included.
- If you contract your maintenance, make sure your mechanic is certified.



# Research

- Explore new options.
- Make a list of resources. (From oil filters to educational needs).
- Keep your staff on the cutting edge of technology.




# Record keeping

- Good records build history and history pin points indicators. ( The useful life of the bus and it's components). The crystal ball effect.
- Good records allow you to control hard cost.
- Should you ever be involved in an accident you will be asked to provide detailed records.



# Resources

- National Bus Sales & Leasing, Inc.
- SAE – Society of Automotive Engineers 412-776-2103 <http://www.sae.org>
- ASE – Automotive Service Excellence 703-713-3800
- All chassis OEM's



# National Bus Sales contact info!

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