

Getting Back to Basics

California Transit Association Meeting
Long Beach, CA

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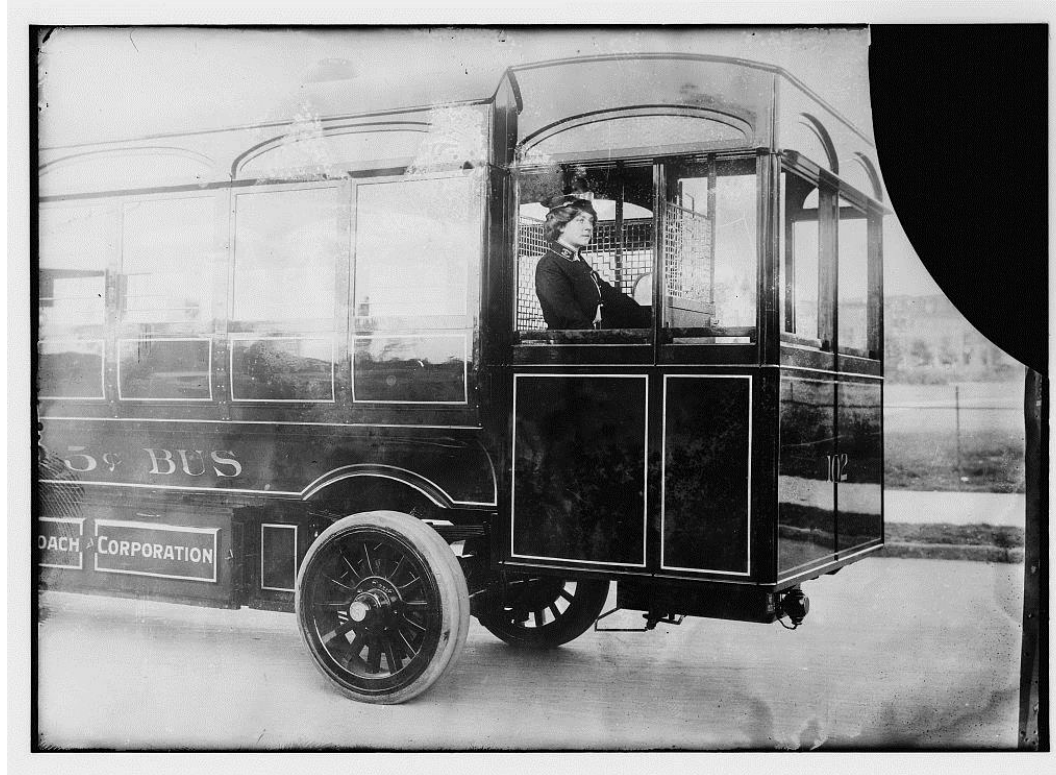


Hero's Aeolipile or Hero's Engine at 70 A.D.



Simple Power Production

1915 Edison Electric Bus



17 Years later Clessie Cummins demonstrated a coast-to-coast diesel bus run.
In approximately 1935, Charles Kettering developed the successful general motorcycle engine.
Transit has used electric, diesel, gasoline, propane, LNG, and CNG over the past 140 years.

MODERN ELECTRIC BUS



All of the past and present motive power units demand a certain level of preventive maintenance functions, however complex or brief.

This is best done through a written P.M program that explains what to do and when to do it.

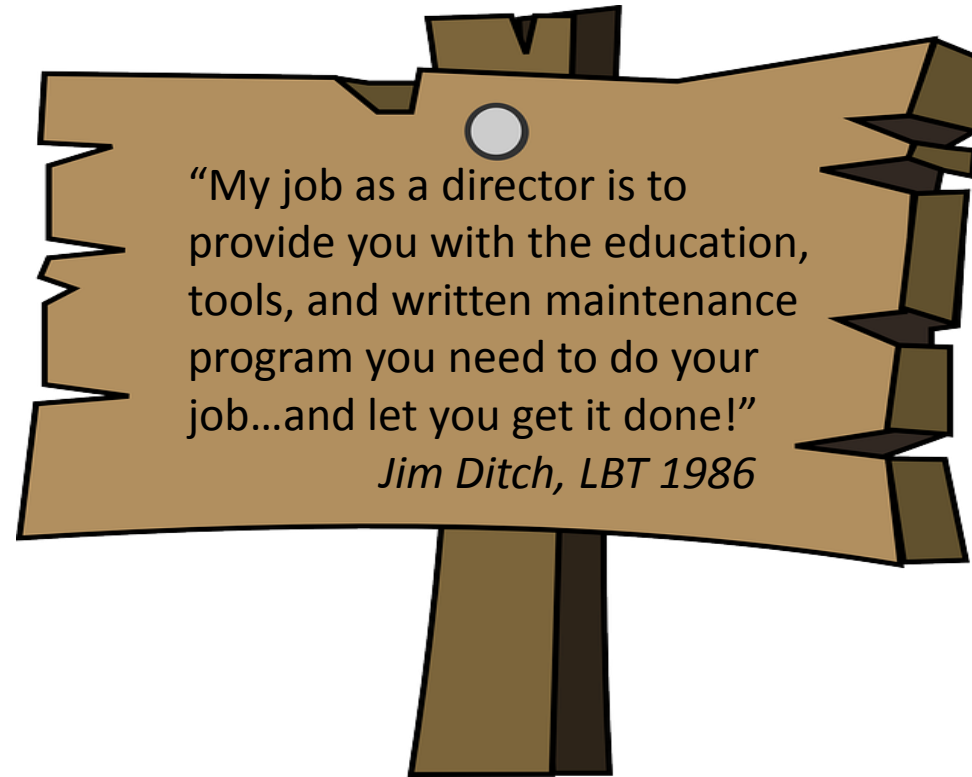
Starting your basic P.M. program.

Get all of these forms of information about each bus in your fleet; such as Gilligs, New Flyer, Orion, Ford, and GM.



Ramp
Wheelchair lift
Federal & State
Tire Information
Bus Body Guide
Ford & Chevy Repair
ADA Compliance
Air Conditioning
Warranty

THE JOB OF A MAINTENANCE PROFESSIONAL WELL DEFINED



I've taken this message to over 10,000 maintenance staff and managers in 44 states since 1988. Like Jim Ditch, all managers recognize the other parts of this departments responsibilities, such as tracking the P.M. and inspections program, parts management, and emissions management.

Training for new systems

In the nineties, it was recognized by many maintenance directors that “the advent of programmable logic controls (PLC) would change the electrical systems of buses just as it had with trucks.” Bob Evans, Central Ohio Transit Authority, Director of Maintenance said.

Training today is a requirement, not just an added feature from manufacturers.

Today’s technicians need to have a complete understanding of “OHMs Law”, and the theory of electricity as well as a healthy respect of large orange cabling on buses – “Be afraid, be very afraid if you don’t understand it.”

Understanding of electrical systems and their operation is one of the toughest elements of most young mechanic skill sets. When they master this critical bus system, they can become an artisan.

Remember.....

“A man who works with his hands is a laborer, a man who works with his hands and his brain is a craftsman, but a man who works with his hands, his brain, and his heart is an artist.” Lewis Nizar.



Regulations and Compliance

Every state agency deals with compliance of regulations (rules) handed down from Washington. The bus maintenance shops across the USA are swimming in regulations, some of which are:

- Painting of buses and parts
- Fuel systems
- Safety in the shop environment
- Labor and employment
- Bus air conditioning
- Idling
- Emissions and so on.....

However, the most ardent regulation that mechanics and technicians are directly involved with are state DOT staff or highway patrol inspections on their fleet and facilities.

State troopers or Highway Patrol motor carrier inspectors are looking for defects defined as “anything that will take control of the bus out of the hands of the driver,” as I once hear an attorney say.

Chances are, your CHP inspector was once a maintenance person or member of a fleet administration. This all makes sense and we should always inspect buses as if people we know are on board. With that thought in mind, I suggest the following:

- Never “get ready” for a highway patrol inspection – we should always be ready.
- Strive for a pleasant working relationship and learn from it – DO NOT become adversarial.
- Remember how good you feel after passing an inspection – as a team!

Managers should build confidence in the process of training for the in-house inspectors. Regulations review, proper tools, and an inspection bay is the framework for this to be successful.

Hiram Walker Legacy

Past FTA Administrator Hiram Walker once said to me....

“A P.M. program should provide clean, safe, and reliable buses in operation at the proper level of fiscal control.”

Could this be the foundation of FTA’s newest requirements for bus maintenance?