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Mechanic "A" Frank Saldana uses a laptop computer to reprogram an engine control module (ECM) for a Cummins engine at Gateway Division 10.



Up for a Challenge: Division 10's Frank Saldana Finds Good Use for Discarded Engine Control Modules

- Idea could save the division \$30,000 annually

By FRANK LONYAI

(July 15, 2005) Mechanic "A" Frank Saldana fixes many of the most challenging defects on the buses assigned to Gateway Division 10. He also mentors fellow employees and often helps mechanics at other divisions with their maintenance problems.

Recently, Saldana learned that when the Regional Rebuild Center rebuilds an engine, the old ECM (engine control module) is set aside and a new one is installed with the rebuilt engine to ensure longevity of the engine for five years or more.

The ECM – the brain of the engine – controls all the engine's major functions, including ignition, air pressure, revolutions per minute, and exhaust temperature.

During a visit to the RRC, he saw scores of old ECMs marked as surplus. Back at his division, Saldana recommended reprogramming the surplus ECMs and installing them on Division 10 buses with Cummins engines.

A new ECM costs about \$1,100 and Saldana's idea could potentially save Division 10 about \$30,000 in annual parts costs.

16 ECMs were saved

Asked to take the lead in the project, he ordered 30 core ECMs. He checked all of them. Some were discarded as no longer usable, and some needed reprogramming. But, 16 were saved and put back in service.

One issue surfaced. The division did not have the capability to reprogram the ECMs on-site and, when they were sent out for reprogramming, it often took a while to get them back. Saldana recommended setting up the programming tools at the division.

Assistant Maintenance Manager Jim Fulkerson coordinated the effort with Maintenance Instruction and Vehicle Engineering, which donated a laptop computer for the local programming facility and used warranty arrangements to get free software for the project.

Today, Saldana and his colleagues sort through replaced Cummins ECMs, select the usable ones, reprogram them and put them in stock or directly into a bus.

Moving his brain around

"I like to do things differently, otherwise it becomes monotonous," says Saldana. "I'm trying to move my brain around, so it doesn't get soft."

Reprogramming surplus ECMs not only reduces parts costs, but also allows the division to repair a defective bus faster, says Fulkerson.

In many cases, it won't be necessary to remove the ECM from the bus; it can be reprogrammed from the laptop, cutting bus downtime.

"I am very happy that an employee's initiative became reality," says Fulkerson. "Many people participated to get it done."