

P E R S O N A L I T Y P R O F I L E

Add-on day running light circuit could boost safety

By John Ira Petty

Dan Harrison would like to help shed a little more light on a safety concern. He's come up with a device that lets almost any car display day running lights.

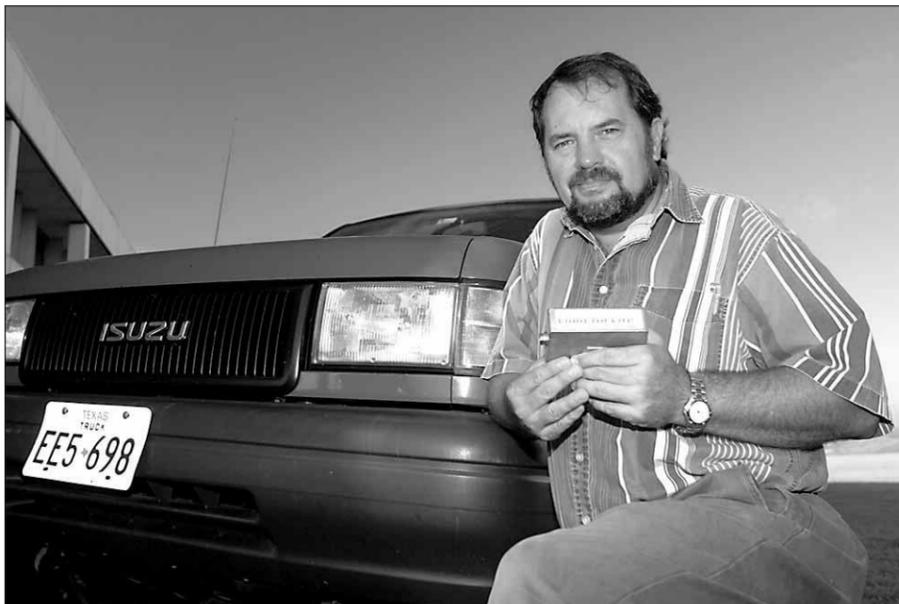
Harrison, chief of the Electronic Design and Development Branch, has tested the device on his own vehicle, an Isuzu Trooper, for about six months. It has proven to be reliable and effective. It also is inexpensive and simple to install.

General Motors offers day running lights as standard equipment on some of its models. Owners of cars without day running lights have to use standard headlights if they want to increase daytime visibility. That eats into the 1,000-hour average life of most bulbs.

Harrison's system operates the headlights at 80 percent power. Average life at that power is about 20,000 hours, so the day running lights don't substantially decrease bulb life.

Getting to JSC at 7 a.m. helped give him the idea. In the morning twilight, he could see fine, but pedestrians sometimes seemed unaware of his car.

Installing the circuit basically involves hooking up two wires. The circuit



JSC Photo 98E07123 by Robert Markowitz

Dan Harrison, chief of Engineering's Electronic Design and Development Branch, shows how his simple wiring change can boost highway safety and extend headlight life.

automatically turns on the lights at 80 percent power as soon as it senses the alternator charging the battery. That has the advantage of not turning on the lights until after the car starts – which is helpful if the battery is low. It also might make the difference between making it home and not making it home if the alternator stops charging during the day.

"I've put some things like that into it to try to make it a little more user-friendly," Harrison said.

Full-power lights are switched on for night driving in the conventional way.

Harrison, 47, was born in California but grew up in Muskogee, Okla. He got a bachelor's degree in physics and mathematics from Northeastern Oklahoma University.

Right out of college he came to Houston, worked for Texas Electronics Instruments for three years, then spent 10 years with Lockheed. He came to JSC in 1988.

He worked first on the Payload and General Support Computer, a laptop for the shuttle crew, then moved to lead on the Portable Data Acquisition Package flown on STS-37. Subsequently he was section head for data management system

hardware on the Freedom Project.

After a stint as project manager for the recently flown Orbiter Interface Unit, he became avionics manager for the Early Communications System. He has held his current position as EV2 branch chief since last winter.

Harrison's hobbies are bow-hunting, a pastime he has pursued much of his life, electronics and cars. His hunting includes trips to Colorado to hunt elk and hunts on a Texas lease.

Another combination of hobbies involved building some electronic deer feeder timers.

He and wife Malee have two sons, Danny, 23, and Josh, 20, and a daughter, Sophia, 19.

Harrison didn't invent the circuit to make money.

"I don't know if it's patentable – it might be," he said. But he has no plans to try. He sees it as "just something people can use as an added safety measure."

He has written an article on the device to be published soon in "Electronics Now" magazine. It explains just how to make and install the circuit. Parts cost about \$10. It will be available in kit form for about \$20. "So, it's basically just out there in the public domain," he said.

He's had one other article published in "Electronics Now," a January cover story about an accelerometer-based instrument that tells a driver (via an LCD on the windshield) how long it took to reach 60 m.p.h.

Harrison would like to see more private autos with day running lights. He also plans to offer his day running lights circuit to JSC for possible use on center vehicles. ■

Three secretaries earn high praise

Three JSC secretaries have received the center's highest honor for clerical support, the Marilyn J. Bockting Award for Secretarial Excellence.

**Hasson**

Bryant of the Technology Transfer and Commercialization Office received her award in May.

In addition to outstanding performance, Hasson was cited for important contributions to the high level of her organization's morale and leadership initiative in the organization's administrative services process improvement team. She is secretary to the deputy directors of SR&QA and

**Pollard**

SR&QA for Russian Programs.

Pollard, who is assigned to the Information Technology Office, was recognized for her unerring support to 20 employees and the directorate's chief scientist, in particular for coordinating multiple tours and workshops.

**Bryant**

community outreach activities and coordinating a recent move to consolidate space within the organization. ■

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X-38 systems

for free flight. With it, the launch panel operator can declare the X-38 "ready for flight," the last step before the pilot's decision to release the craft.

The fully functional software was delivered to the X-38 program in 1997. It has been used in six captive carry tests, with the X-38 remaining attached to the B-52, and one free-flight test. The application will be used for the remaining

flight tests of the current X-38 prototype. It also will be used in flight testing of a subsequent X-38 prototype, which will begin this fall.

"The application lets us look into the vehicle," said Debbie Buscher, software lead for the X-38 program. "It's our one way of communicating with the vehicle and determining what's going on before release." ■

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Space Station

environment. It is the first of three Multi-Purpose Logistics Modules that Italy will provide to the U.S.

"These are the moving vans for the International Space Station. They will take up supplies, food and experiments and bring back scientific samples, old experiments, broken hardware and trash. Eventually, they will even carry refrigerators to transport food and experiment samples," Schurr said. "These modules will carry everything except people."

Construction of Leonardo began in April 1996. The cylindrical module is approximately 21 feet long and 15 feet in diameter, weighing almost 4.5 tons. It can carry up to 10 tons of cargo packed into 16 standard space station equipment racks. Construction of the second module already has begun. Named Raffaello, it is scheduled to arrive at KSC in 1999. The third module, named Donatello, is scheduled for delivery in 2000. In addition to the logistics modules, Italy also is manufacturing two additional station connecting modules, or nodes, to provide to the U.S. The nodes will be similar to the Unity node now at KSC but slightly larger.

The arrival of Leonardo in Florida has been challenging as a trail blazer for future components, Schurr said.

"We've been able to confirm the use of our ground support equipment at KSC for processing international hardware," Schurr explained. "This has been very much a pathfinder. It will help make certain that we don't have any problems when the Japanese and European laboratories show up. We've also paved the way for future components as the first station module to go through a full-blown acceptance."

Central to the success of the effort has been Jim Graves, the MPLM element manager for the station program since the program's inception in 1993, Schurr said. Graves is a JSC employee in residence at Marshall Space Flight Center. Marshall provides technical and engineering oversight and support for the MPLM development. Another key contributor at JSC in overseeing the development and delivery has been Matt Leonard, the station launch package manager for STS-100. On that flight, the Leonardo module will carry racks and supplies to outfit the U.S. laboratory and set the stage for the start of a new era of orbital research.

Also instrumental in ensuring smooth coordination with Italy have been Amy Ronalds, the station program's international partners office liaison with Italy at JSC, and Mark Dillard, a JSC employee working in Italy as a station liaison. In addition to an international effort, building Leonardo is a complex multi-center effort for NASA, with major contributions and functions at KSC, MSFC and JSC, Schurr said.

Leonardo is being prepared for launch at KSC with engineering support from the Italian Space Agency, Alenia Aerospazio and Boeing.

The construction and delivery of Leonardo has christened what will be an extensive assembly line from Italy to the U.S. for coming modules, Schurr said. "The success we have had with this first MPLM has greatly increased the amount of confidence I have that we will be able to get the other modules and nodes delivered on schedule," he explained. "We have come out learning a lot about how to do business and with a great working relationship." ■