



U.S. Department
of Transportation
National Highway
Traffic Safety
Administration

DOT Auto Safety Hotline

Vehicle Owner's Questionnaire
To Report Vehicle Safety Defects
1-888-DASH-2-DOT
(1-888-327-4236)
INTERNET: www.nhtsa.dot.gov/hotline

FOR AGENCY USE ONLY 1368

Date Received

Repository ☐

2004 APR -1 AM 10:56
25-FEB-2004

Reference No.
10069764

OWNER INFORMATION (Type or Print)

Name

Address

City ROCKLEDGE

State FL

Zip Code

Daytime Telephone Number

E-mail Address

Evening Telephone Number

Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? ☐ YES ☒ NO
In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.

Signature of Owner

Date

VEHICLE INFORMATION

17 digit Vehicle Identification Number Located at bottom of windshield on driver's side

1GBF615R8Y1106207

Make

CHEVROLET

Model

EXPRESS

Model Year

2000

Date Purchased

9/99

Dealer's Name and Telephone Number

Williams Chevrolet Inc

Engine:

No. Cylinders 8

Fuel Type:

gas

Original Owner

☒

Dealer's City

State

Zip Code

Transmission Type

Auto

☒ Antilock Brakes

☐ Cruise Control

Powertrain

Vehicle Component Code

133000 VISIBILITY: POWER WINDOW DEVICES AND CONTROLS

Multiple Failure: 3 continued to get worse
now takes 10 minutes to get back
up. It goes down e.i.e.

FAILED COMPONENT(S)/PART(S) INFORMATION

Incident Date(s)

12-FEB-2004

Failure Mileage

100000
continuous

Failure Speed

200+

Drivers side power window problems
from end of last week, replaced three times
never work correctly

ADDITIONAL ITEMS TO BE COMPLETED WHEN REPORTING A TIRE FAILURE

Tire Make

Tire Model (Name or Number)

Tire Size (Example P215/85R15)

DOT No. (Example: DDTMALBABC036)

☐ Original Equipment

☐ Prior Repair

Failure Location:

Tire Component Code

Tire Failure Type

ADDITIONAL ITEMS TO BE COMPLETED WHEN REPORTING A CHILD SEAT FAILURE

Make:

Date Manufactured:

Model No./Name:

Seat Type:

Installation System:

Child Seat Component Code:

Failed Part:

APPLICABLE INCIDENT INFORMATION

(These describe in detail the incident(s), failure(s), condition(s), and injury(s).)

Crash

☐ Yes ☒ No

Fire

☐ Yes ☒ No

Number of Persons Injured

Number of Deaths

Reported to Police

N

Narrative Description of Incident(s), Crash(es), and Injury(ies).

Please describe (1) events leading up to the failure, (2) failure and its consequences, and (3) what was done to correct the failure;
(i.e. parts repaired or replaced (and if old part is available)).

WHILE DRIVING/PARKING IT WOULD BE HARD FOR THE CONSUMER TO ROLL UP/DOWN THE DRIVER'S SIDE POWER WINDOW. DEALERSHIP
WAS NOTIFIED, BUT DID NOT RESOLVE THE PROBLEM. "AK

As you can see I have
attached Service Invoices to show it was replaced
three times. There is also an article that states
it is a problem that has existed. The window goes
down fine, it just won't close. It only moves about 1/2
inch every minute or so when it feels like it.

Include, if available: Police/Fire Department Report, Photos, and Repair Invoice.

ATTACH ADDITIONAL SHEETS IF NECESSARY

The Privacy Act of 1974, Public Law 93-579 This information is requested pursuant to authority vested in the National Highway Traffic Safety Act and subsequent
amendments. You are under no obligation to respond to this questionnaire. Your response may be used to assist the NHTSA in determining whether a Manufacturer
should take appropriate action to correct a safety defect. If the NHTSA proceeds with administrative enforcement or litigation against a manufacturer, your response,
or a statistical summary thereof, may be used in support of the agency's action.

Narrative Description of Incident(s), Failure(s), Crash(es), and Injury(ies)

It is difficult to open door when going to
toll booth. You must get out of toll booth
area to close door properly and cars are
behind you. If you roll window down it
takes 5-8 minutes to get it back up, and
in rain + cold it is worse. GM should repair
or replace this part as it has been defective
from the start and they never solved problem.
They kept telling me it's normal.

Motor has been replaced three times!
Jim Rathmann - dealer on 11/2 saw problem told me
to contact G.M. It did no good!!

ATTACH ADDITIONAL SHEETS IF NECESSARY

U.S. Department
of Transportation

National Highway
Traffic Safety
Administration

400 Seventh St., S.W.
Washington, D.C. 20590

Official Business
Penalty for Private Use \$300

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO 79179 WASHINGTON, D.C.

POSTAGE WILL BE PAID BY NHTL HWY. TRAFFIC SAFETY ADMIN.

U.S. Department of Transportation
National Highway Traffic Safety Administration
Office of Defects Investigation, NVS-216
400 7th Street, SW
Washington, DC 20590

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

**VEHICLE
OWNER'S
QUESTIONNAIRE**

DOT AUTO SAFETY HOTLINE

TO REPORT VEHICLE SAFETY DEFECTS
COMPLETE THIS FORM
ON

DASH2DOT

and dial toll free at

1-888-DASH-2-DOT

1-888-327-4236

DOT Auto Safety Hotline
(DASH) 2 DOT



U.S. Department of Transportation
National Highway Traffic Safety
Administration
<http://www.safercar.gov>



Paul Fenelon had it up to him... with his car window.

AUTOMOTIVE

Making "Eureka!" Pay

An inventor turns that most prosaic of devices—the contraption that raises and lowers your car's windows—into a big deal.

BY JONATHAN FANEY

PAUL FENELON FOUND A FORTUNE buried inside the door of his Lincoln Town Car. He was fiddling through a restless retirement in Nashville in 1991 after selling his thermoplastics business to Exxon, when the driver's side window of the car stopped fitting flush into the door. The bad window created an irritating whistle on the highway. Fed up after a few weeks of this, he took the car to the dealership to get it fixed. The problem soon

returned, and back Fenelon brought it to the dealership. Soon after that "fix" Fenelon went to lower his window and it fell like a stone into the door.

Enough was enough. Fenelon pried the door panel off himself to have a look. The device he found inside struck him as foolish beyond explanation. "I was absolutely flabbergasted by the complexity of it," says the fiery Fenelon, 61, his brogue from a childhood in Ireland rising to a shout. "The design is crazy! A com-

plete waste." Fenelon immediately pictured a simpler system that, now realized, is lighter by half, quieter, cheaper, easier to build and more durable.

Fenelon had found what all casual dreamers and determined tinkers crave: an elegant solution to a nagging problem, attached to a potentially giant payoff. A bit of math sent Fenelon's heart fluttering: 16 million cars or so are sold in the U.S. every year, each needing two or four window regulators. That's a \$900 million annual mar-

Technology

ket, and a royalty of a few percentage points would make a tidy fortune.

The payoff, however, was a long time coming. It has taken nearly a decade and \$3 million of his own money to find a buyer. But now Dura Automotive Systems, a \$2.4 billion supplier in Rochester Hills, Mich., is offering the Fenelon regulator as part of a window system it sells to automakers. Dura says it will begin production in 2004 and ship more than 500,000 units within a year.

The invention itself turned out to be a relative cinch. Persuading partsmakers to take a look (while protecting his invention) was the tough part. Fenelon knew, having run a company that supplied plastics to automakers, just how insular and risk-averse that industry is. "It's hard to walk into a building and show 2,500 engineers something they should have done," Fenelon says. "They just don't like it. Sometimes you have to hit them over the head with a two-by-four."

Fenelon also knew about the bitter-sweet tale of Robert Kearns, the inventor, in 1967, of intermittent windshield wipers. Kearns showed his design to Ford, then spent 20 years in bruising court battles with every big automaker—all of whom, he contended, had stolen his idea. The ordeal

left Kearns distraught, although in the end he won \$30 million from Ford and Chrysler. Determined to avoid Kearns' fate, Fenelon tenaciously guarded his prototypes, forcing often reluctant manufacturers to sign nondisclosure agreements. Fenelon's license with Dura compels the partsmaker to help defend his patents, and Fenelon can market any improvements Dura happens to make.

The most common window regulator on the road today is a scissorlike mecha-

"It's hard to show 2,500 engineers something they **SHOULD HAVE DONE.**"

nism that opens to push up the window. This arm-and-sector design, around for half a century, made sense in the old days because the elbowlike fixed fulcrum allowed for the hand cranks to stay in one place. When automakers began offering power windows, they just slapped a motor where the hand crank used to go. One of many problems: The awkward design requires a motor that is unnecessarily strong. When the window hits the top of the door and stops, the high torque on the system damages the motor and can bend parts.

Even a Dura competitor, ArvinMeritor,

admits the world could use another window regulator. "None of the systems out there now are perfect," says Enrico Fin, ArvinMeritor's head of advance sales for door systems.

Fenelon's is a plastic set of parallel vertical tracks with teeth. A motorized circular gear rides up and down between them like a cog railway. The window, clamped in place above the motor, moves smoothly and quietly. He knew he had something big from the first test he did.

With the help of a machinist, and using a formula he concocted for a stiff, self-lubricating plastic, Fenelon built a crude prototype of the gear and found that the torque required to push the window was half of what the old design required.

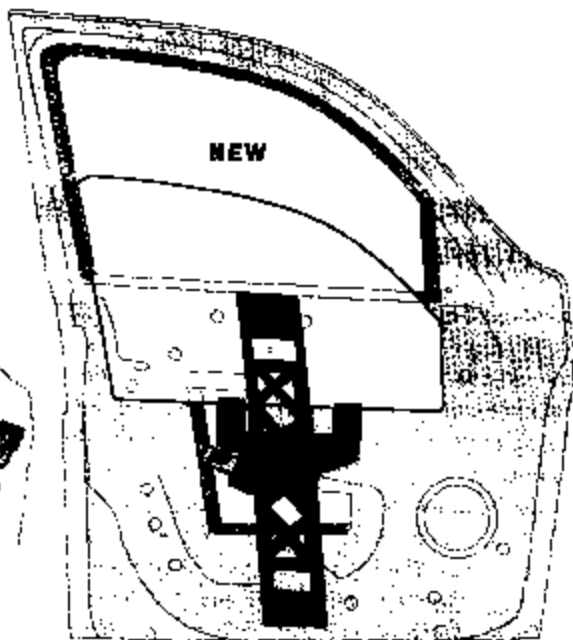
In its latest incarnation, Fenelon's window regulator is less than half the weight of the arm-and-sector design, 2 pounds rather than 5. It is quieter by 5 to 10 decibels. It requires 40% less electrical power and has just 10 components, as opposed to 24. It also requires no grease, a huge nuisance in assembly plants. "There's no way they can follow us," Fenelon says of the competition. "We're going to just kill 'em!"

Dura is slightly less sanguine. The company thinks the new regulators can get 25% of the market within a few years. "Paul's got a lot of good ideas," says Sean McGuire, Dura's marketing chief. "But he also has a lot of persistence."

In order to win over manufacturers, Fenelon had to test his invention seven ways to Sunday. He built a contraption that opened and shut the windows of a modified Ford Explorer 35,000 times. He installed his device into a Ford Crown Victoria, the model abused by so many cops and cabbies, and slammed the door 100,000 times to see if vibrations would wear it down. Every time Fenelon built a new prototype, he discovered ways to improve it. He's got six patents now, and three pending. "Perfection is very much a moving target, and if you're going to improve something, you better protect it—or you're giving it away." ■

The Ups and Downs of Car Windows

Current window mechanisms waste energy and break too often. Paul Fenelon's new system, a gear inside a track, reduces torque and failures.



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THE FREEDOM OF INFORMATION
ACT (FOIA), 5 U.S.C. 552(b)(6).**