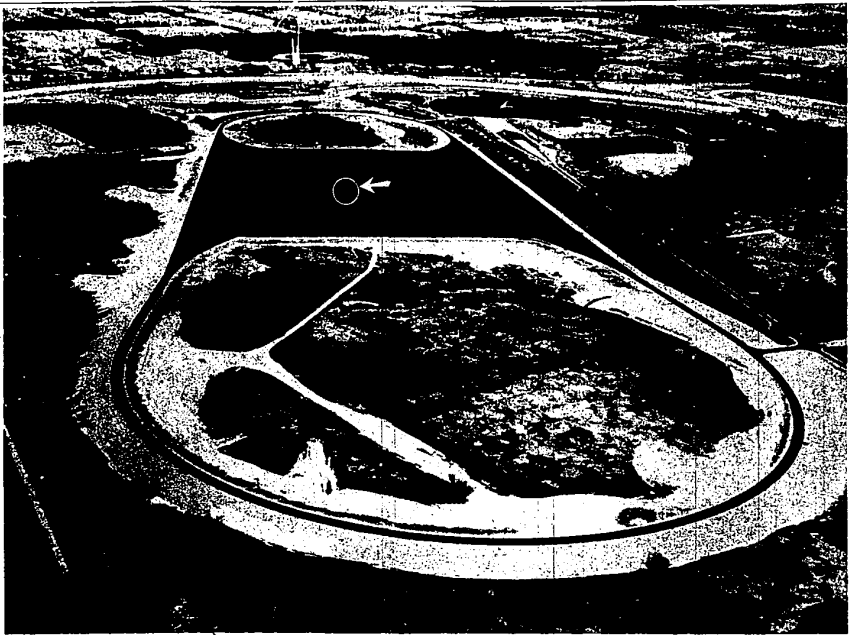


Where Safety Is No Accident

GM Tests Not Only Cars, But Bones, Bridges And Roads

AS LARGE as 59 football fields, this blacktop is the world's biggest vehicle test area - the General Motors Corp. Proving Grounds near Milford. The white pinpoint in the circle is an automobile. The new vehicle test site was inspected by civic leaders recently.



By W. W. EDGAR
Roving Editor

Highway safety is no accident. It is the result of a continuing study that runs the gamut from the bone structure of the human body to the shape of a curb and the composition of materials with which the major highways are built.

All of these things are built into focus within the short space of a three-hour tour of the GM Proving Grounds at Milford.

To bring community leaders up to date with the latest moves for the protection of life and limb, GM played host to several hundred guests from Michigan and Ohio—and there wasn't a person in attendance who wasn't amazed by the amount of research and effort that is being expended every minute of every day for the ultimate protection of the public.

TO MANY, THE GM Proving Grounds, which cover more than 4,000 acres of beautiful rolling country and 79 miles of paved

roads, was looked upon as nothing more than a site where emphasis was placed on the quality of the parts that go to make the modern automobile.

But in the short space of three hours, they learned that safety of human beings in our modern mode of travel goes way beyond the durability of the latest model automobile and its built-in safety features.

For instance, few thought that the design of the curbing along the road or the abutments at bridges or the amount of clearance at the side of the road were of much concern to the manufacturer. Yet, over the sprawling proving grounds, one finds the latest type of road construction, a new design for bridge abutments and varied clearances along the modern highways.

Aside from that there is a 4½-mile track constructed at various bank angles to test the maneuverability of cars at high speeds, and what is known as "black lake"—64 acres of black top—on which all manner of driver training is done. This runs from high speed to sharp

curves, and all sorts of skids on a wet surface.

"Black Lake" is the size of 59 college football fields and is so marked by the engineers to offer any type of road problem or driving test that one could meet in the ordinary course of events.

Also, throughout the rolling hills, are all sorts of grades, running from 64 per cent to 5 per cent—and they offer a test for any car.

More than that, there is a replica of an old Belgian Black road with an interesting background. It was a street in Chicago years ago and was moved to Milford block by block and rebuilt in order to study the wear and tear of a car on a bumpy road. And the figures are interesting.

It was stated by the research experts that in a 10-mile trip over the Belgian Road, an automobile absorbs shock in the amount of 1,000 miles of regular driving.

THE RESEARCH that continues throughout the day and night also has been focused on the discharge of fumes and carbon in the

fight against water and air pollution.

As Harold Warner, one of the GM executives, explained, "We are fighting this battle so that all of us can breathe a bit easier."

A part of the tour that also was a surprise was the work being done in studying the bone structure of the human body. In this study, every effort is being made to determine just how much of a crash a bone can stand before breaking — or how much of an impact the neck can stand before incurring what is known as "whiplash."

All of this research, combined with such things as the color and height of road signs, the safe degree in the design of a curb, and the wiggle of a tire on a dry or wet surface, furnished proof that highway safety is no accident.

Since the proving grounds were opened 40 years ago, 45 billion test miles have been driven. And during the past few years, the average has been 18 million miles a year. And imagine—much of this was done 14 years before Ralph Nader was born.



ENGINEERS use this VRV -- for "variable response vehicle" -- to simulate handling characteristics of many kinds of autos, from large to small, with front engine or rear. Featured here: A steerable rear wheel, with side movements measured by the small outrigger wheels.

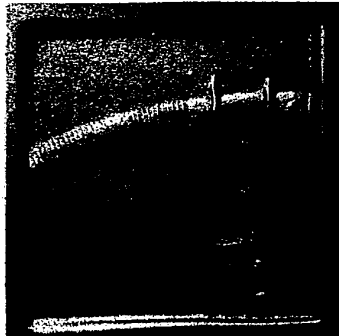


SILENT DUMMIES HOLD wires emerging from electronic test instruments, waiting to be

DUMMY TESTS a new material called MetNet, a metal foam developed by GM's metallurgical engineering department.

Above: The dummy is strapped in place and will be used to test pressures in a simulated automobile collision.

Below: A plastic replica of a patch of MetNet has been crushed between a dummy and a steering wheel, leaving the impression of the wheel rim and spoke.



KEEP YOUR EYE ON THE MALL

SANTA ARRIVES AT THE MALL
NOVEMBER 29
at 11 a.m.

KIDS REGISTER NOW to be a Livonia Mall Christmas ELF!

One boy or one girl (10 or under) will be chosen by Christmas Carol on Friday, Nov. 29 at 11 a.m.

WHEN SANTA CLAUS ARRIVES in the LIVONIA MALL -- to be a CHRISTMAS ELF -- (drop coupon near Kresge's)

Prizes for the Christmas Elves including free luncheon with Santa, games, gift certificates, candy and free movie.

Name _____
Address _____
Age _____
You must be present Friday, Nov. 29 at 11 a.m. at the Livonia Mall Crowley Court to win.

43 STORES
MEET YOU AT THE MALL
Open 'til 9:30 - Mon., Thurs., Fri., Sat.
'til 5:30 Tues. - Wed.

There's always something going on at ...
LIVONIA MALL
7 MILE AT MIDDLEBURY
7 MILE AT MIDDLEBURY