# GM Collects Wrecked Cars For Steering Tests

Milford -- Senior Project Engineer
Wilton D, Nelson is custodian of more
than 400 damaged automotive sisering
Ground, Patiently and deliberably he
is adding to his collection.
It consists of energy absorbing (EA)
columns removed from smashed 1967
vehicles in all parts of the country,
Nelson and his fellow engineers in
GM's Safely Test Engineering Department carefully examine and measure
each speciman as soons at its received.
Primarily they are interacted in how
many inches the column was com-

pressed by impact of the driver's body, it is designed for controlled compression up to 8-1/8 inches, depending on the impact force, it yields at approximately 1,000 pounds of impact at rate that can be tolerated by a person's chest or rib cage,

IN SOME CASES to verify its per-formance, engineers will give the damaged specimen laboratory com-pression tests and disassemble it for complete inspection of all parts. The column assembly consists of a vicel mesh jacket that absorbs impact

energy, Inside the jacket are the steering shaft and gearshift tube. They are destigated to "tromboost" or telescope under Impact. In addition, engineers study the accident report accompanying the damaged column, An effort is made to reconstruct the case and deturnine precisely how the steering column was involved.

If details are incomplete, at highor call is made for the missing information. If that falls, an engineer may fly to wherever the wrecked vehicle is and make a detailed technical

mortems have convinced Nelson the GM sieering column is an extremely effective safety feature. GM introduced it last fall at the beginning of the 1967 model year, after more than five years of experimentation and development, From biomechanics studies with cadavers at Wayne State University, engineers obtained vital data for design of the EA column system and projected human tolerance to impact forces. However comprehensive a test and

ultimate payoff occurs in the field. There is no way, for instance, loanticipate all crash situations, with their infinite variables, in the laboratory or on the proving ground.

When the EA column was announced as standard ecompenhensive in a standard ecompenhensive in a standard compenhensive in a doll-tion, independent investigators—Dr. Donald F. Huelks of the University of Michigan and Dr. Alan Nahum and Mr. Arnold Stepel of the University of California, Loa Angeles—

SAVE OVER

Gear Division, producer of the LA insurance investigators were asked to return to GM any columns they to return to GM any columns they consist were compressed in ac-tidonia. More instantaneous feedback came from accidents involving GM employes in company cars, Nearby police and public safety agencies were alerted to contact GM's Automotive Satety Test Engineering Department if they observed or were involved in crashes affecting steering columns.

## Don't Argue With Computer Phone 'Girls'

fast computers.

COMPUTERS are now being used by many telephone company facilities throughout the U.S. This is only the beginning of a vast revolution in handling phone calls. Afready, "lintercept operators," who handle about 150,000 calls to non-working numbers in Chicage about 150,000 calls to non-working numbers in Chicage the control of the control of the control of the computer at their injectips. In less than second they can receive answers to such questions as when a phone was disconnected, and what a person's new number is.

"Say you call you coustin," a Bell Telephone Company official comments. "He's moved, and you get the intercept operator, as you give her the number such spunching in most in the sum of the purchase of the proper such as you give her the number such spunching in most in the sum of the purchase purchase in the number is moved, and you get the intercept operator, as you give her the number such properties of the control of the purchase in the purchas

and you get the intercept opershor, as you give her the number
she's punching it into the computer. The computer's
answer-appears on a small
display screen in front of ther
a few seconds later."
The Illinois Bell Telephone
Company system in Chicago
also provides caliers with
names and addresses associated with phone numbers — except for non-published numbers
which are maintained in a
separate file. As the computer
revolution continues, your own
telephone company will
protably add such a service.
About 15,000 people use it in
Chicago each day.

SINCE MANY types of data

SINCE MANY types of data can be held in the computer memories, lelephone operators will be able to give you much more sent to give you much more sent. The UNIVAC computers in the Chicago system for instance, hold both working and non-working numbers. Before they were installed, the infercept operators only dealt with non-working numbers. Twenty per cent of intercepted calls are from people who are calling working numbers but who have made mistakes in diating.

who have made mistakes in dialing.

In your own area, operators, aided by computers, will probably someday be able to also tell you why phones were disconnected, and when a new phone will be connected. And they will give you, time and charges on calls much faster.

and providing answers instantaneously.

Nisely-four "intercept" positions are operating at the vessel service of the control o

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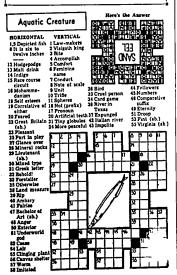


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