

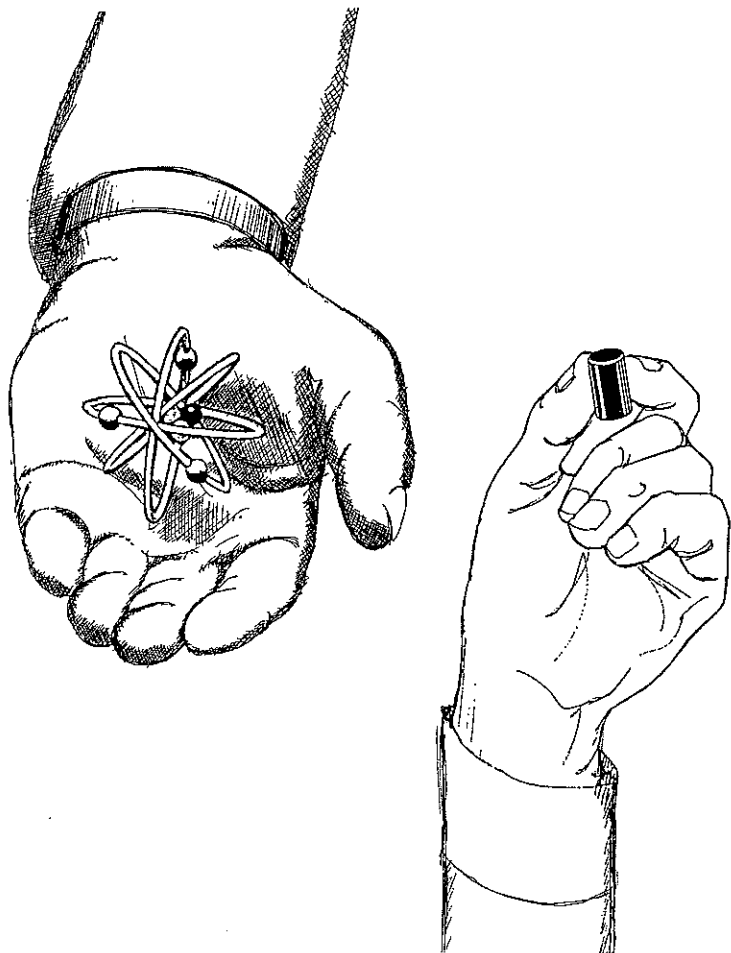
SAE

CHICAGO
SECTION
VOL. 54

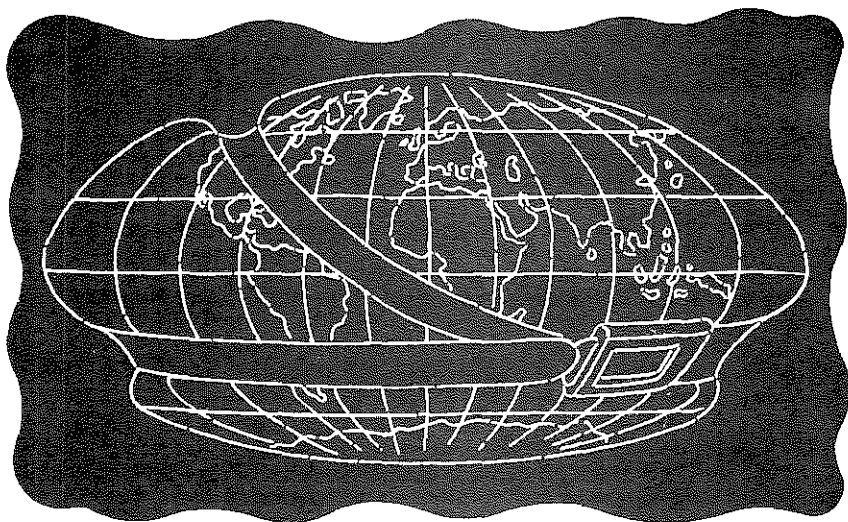
NEWS

NO. 6

OCTOBER, 1986



**"CHERNOBYL—WHY
IT CAN'T HAPPEN HERE"**



We make seat belts for the world.

© TRW Inc., 1986

TRW is the name and mark of TRW Inc.

This year, nearly 32 million new passenger cars will hit the road worldwide. And a company called TRW will build more seat belts for them than any other independent supplier.

TRW has been an innovator in seat belt design for 24 years. We were a pioneer in emergency locking retractors for seat-belts. We helped develop the world's first passive seat belt system. Designed the first emergency pretensioner device. And right now, we're hard at work in both North America and Europe, developing advanced inflatable restraint systems.

TRW—where high technology is helping make the world a safer place to drive.



**Automotive
Worldwide Sector**

CHICAGO SECTION Chairman's Message



It is my pleasure and privilege to serve the Chicago SAE Section as chairman for this season. Your elected and appointed governing board has laid the groundwork for an exciting program year. Planning for the 1986-87 section and division meetings began last May and is continuing. A total of 18 technical meetings are planned for this season. See the meeting date list elsewhere in this magazine for dates and topics.

If you are part of the 3 percent of the membership who regularly attend your local section meetings — Congratulations! It's up to us to get the other 97 percent involved and interested in local meetings. Each meeting offers both social and educational opportunities for "mobility engineers" to enhance their professional careers. To the 97 percent who haven't been attending — Give us a chance by attending this year's meetings. After attending a meeting, let your governing board know what you liked or disliked about our meetings. I'll be at every meeting; how about you?

Chicago Section Chairman

Kenneth C. Wolfgram

Find a way to meet diesel engine designers' needs for more efficient, smaller fuel injection nozzles.

STANADYNE INNOVATED THE WAY:

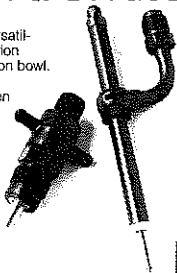
Typical nozzle spray pattern.

A Revolutionary 9.5mm Nozzle Plus Our Unconventional Conventionals.

Only 9.5mm in diameter, our unique Pencil Nozzle™ is smaller and provides more engine design versatility than conventional types. This small size affords better engine cooling; variable inlet configurations and body lengths make it adaptable to numerous engine configurations. It has been proved on over 50 different engine models.

Now, a new 5.4mm diameter Slim Tip model designed especially for small, high speed D.I. engines is available. Benefits to engine designers include:

- Improved versatility in tip location vs. combustion bowl.
- Allows more metal between valves, or larger valves.
- Compression seal at tip shoulder aids air-cooled installations.



- Small frontal area reduces heat input.

We also offer conventional nozzles and holders in 21mm and 17mm sizes; hole or pintle type. Whatever your diesel injection system requirements, we welcome the opportunity to help optimize your engine designs. Stanadyne Diesel Systems Group, P.O. Box 1440, Hartford, CT 06143 U.S.A. Phone: [203] 525-0821.

Stanadyne diesel systems

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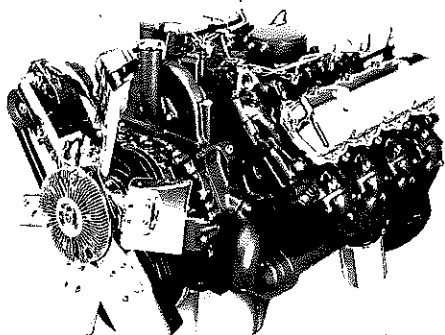
Powerful Ideas for OEM Needs.

We've been generating powerful ideas for nearly a century and bringing them to the marketplace in engines that deliver legendary dependability, durability and performance. And we're committed to supply original equipment manufacturers with our legendary engines today, and for years to come.

Navistar International Corporation has helped pioneer the engineering, research and development of internal combustion engines since 1889. Our engines have built a proven record in construction, agriculture, transportation and forestry equipment, as well as marine and recreation.

Today, we are one of the largest engine manufacturers in the world, with, we believe, the most capable research and engineering staff in the business. And we've made the commitment to serve the OEM market. We have the capacity to meet your needs.

So when you need a power plant, choose a powerful idea from Navistar.



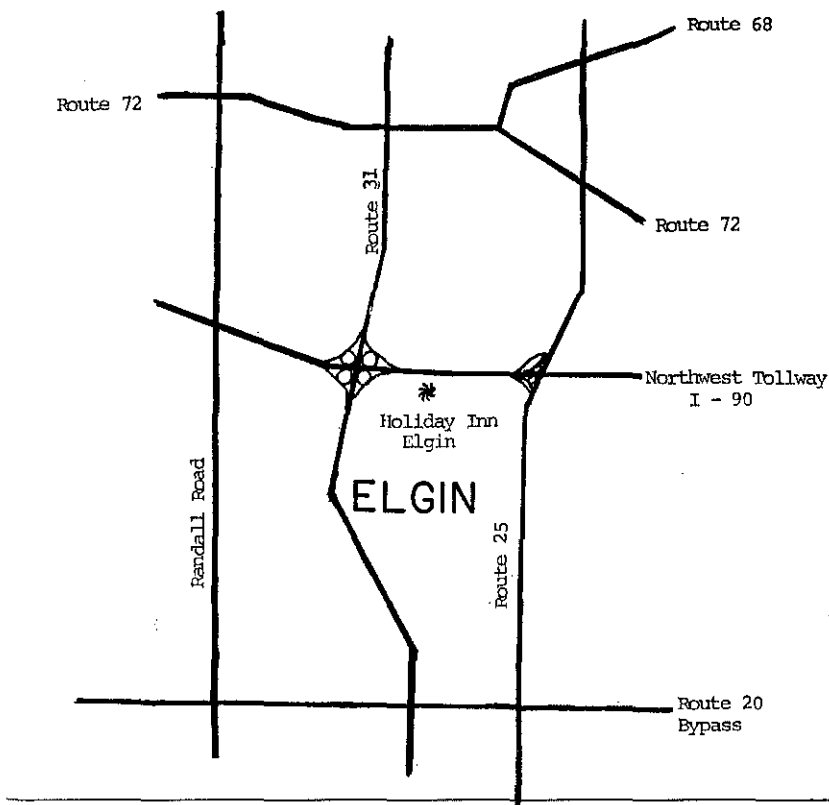
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J. Hill (Caterpillar Co.)	Reservations	(312)-859-5116

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FOX VALLEY DIVISION
SAE Chicago Section
TUESDAY, OCTOBER 21, 1986

ADVANCES IN AUTOMOTIVE TECHNOLOGY
A GENERAL MOTORS PERSPECTIVE

BY

JIM TAVAROZZI

General Motors and almost all of the rest of U.S. Industry have never been in a period where innovation and technology implementation were more important than they are today. The automobile itself is in the midst of a major transformation. Yesterday's vehicles were primarily mechanical products. Tomorrow's cars will be truly integrated electromechanical systems utilizing electronics for control. This discussion will highlight ways in which the auto industry is aggressively adapting new technology for its products.

Jim Tavarozzi is Manager, Strategic Technology Planning for the Chevrolet-Pontiac-Canada Electrical and Chassis Systems Group in Warren, Michigan. He holds a BSME degree from General Motors Institute. Jim has held engineering positions on a series of GM future product projects.

Coffee Speaker **Jack Chapman** is a career management consultant with a MS degree in Career Development and 20 years experience. He is President of the Professional Career Counselors' Network. His coffee talk title is "How To Put An Extra Grand In Your Paycheck."

Douglas W. Toynton is a Hydraulic Design Specialist for the Elgin Sweeper Company, a Division of Federal Signal Corporation. He graduated in 1979 from Gateway Technical Institute, Kenosha, WI, with an Associate of Science Degree in Fluid Power Technology.

SPEAKER



JIM TAVAROZZI

CHAIRMAN



D.W. TOYNTON

Meeting Location

HOLIDAY INN

345 W. RIVER ROAD
OFF I-90, SOUTH ON I-31
ELGIN, ILLINOIS

Agenda

5:30 p.m. SOCIAL HALF HOUR

6:00 p.m. DINNER

**7:00 p.m. COFFEE TALK
SPEAKER**

7:30 p.m. TECHNICAL SESSION

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HYDRO-COMPONENTS
R & D INC.**

ELGIN SWEEPER COMPANY

Reservations:

Mrs. Joann Hill
(312) 859-5116

Deadline: 12:00 NOON
OCTOBER 20, 1986

PRICES

\$11.00

\$13.00

\$ 6.00

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NON-MEMBERS

COLLEGE STUDENTS

SPEAKER



DR. DAVID ELIAS

CHAIRMAN



BRENT HARMAN

**"CHERNOBYL
IT CAN'T HAPPEN
IN THE
DR. DAVID ELIAS**

Dr. Elias will explain our current nuclear reactor designs, how many reactors are constructed, and why the Chernobyl accident occurred in the United States.

Dr. David Elias is currently Project Engineer for the Byron and Braidwood Projects. He has over 20 years of experience. Previously he was a member of the Office of Nuclear Energy, to 1983, was assigned to the Clinch River Reactor Project, Ridge, Tennessee, where he was Chief of Design for a significant portion of the design and construction of a \$1.2 billion dollar project. Funding of that project was approved by Congress in the Fall of 1983 after the export of nuclear technology. He holds a BSME—City College of New York; a MS—Polytechnic Institute; and a Ph.D.—University of Illinois.

Brent Harman is a Senior Staff Engineer with experience with hardware/software selection, installation, and testing of telecommunications on computer mainframes and a local area network.

He has a BSEE—Illinois Institute of Technology, 1981.

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"GUESTS WELCOME - BR**

SECTION

ER 14, 1986

— WHY
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ELIAS

ear power needs, how our nuclear
nobl disaster cannot occur in the

ngineer for Commonwealth Edison's
er 25 years of related experience.
of Nuclear Safety. Dr. Elias, prior
r Breeder Reactor Project in Oak
Technology, as well as responsible
ngineering work on this 4.2 billion
prematurely terminated by the US
nditure of about 1.7 billion dollars.
ew York; a MSME—Rensselaer
sity of Maryland.

neer for J.I. Case. He is involved
on, maintenance, performance and
es, word processors, PC's, and on

hnology 1971 and a MBA—Illinois

OAK MEADOWS COUNTRY CLUB

WOOD DALE ROAD
BETWEEN LAKE STREET (ROUTE #20)
AND
IRVING PARK ROAD (ROUTE -19)

5:30 p.m. Social Half-Hour
“ATTITUDE ADJUSTMENT HOUR”

6:00 p.m. Dinner
7:00 p.m. Technical Session

MEETING SPONSORS

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Torrington/Fafnir Company
Fram Group — Allied Corporation

TICKET PRICES

Members	\$12.50 each
Non-members	\$14.50 each
Students	\$ 6.00 each

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OUNCEMENT
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MICHIANA DIVISION
SAE Chicago Section

TUESDAY, OCTOBER 28, 1986

STRESS VECTORED COMPOSITES

BY

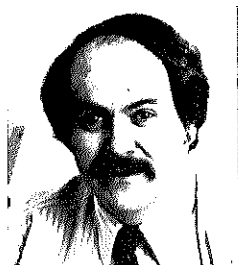
DR. LARRY CERCONE

Composites are used in many applications including helicopter rotor blades, pressure vessels, self-lubricating bearings and golf club shafts. Polygon has been working with composites for over 35 years. The uses of composites, the processes and the future of composites will be discussed.

Dr. Larry Cercone is currently working at Polygon on many development projects in composites for numerous companies including General Electric, B.F. Goodrich and General Dynamics. His expertise is in developing processes for the composites industry as well as working on new advanced materials. He has a B.S. in Chemistry, Math, Physics, an M.S. in Chemical Engineering, and a Ph.D. in Chemical Engineering.

Keith Fulmer is a Staff Engineer in ABS Engineering at Allied Automotive in South Bend. He has a BSME from Purdue and has been with Allied/Bendix for 27 years. Keith has 27 patents in the brake actuation field and is a 27 year SAE member.

SPEAKER



DR. LARRY CERCONE

CHAIRMAN



KEITH FULMER

Meeting Location

The Balloon Works
(at the Holiday Inn)
2550 N. Michigan
Plymouth, IN

Plant Tour at Polygon Co.
Industrial Park, U.S. 6 West
Walkerton, IN

5:00 p.m. — Tour
6:15 p.m. — Social Period
6:45 p.m. — Dinner
7:45 p.m. — Technical
Presentation

Student Support:
Hydro-Components R & D Inc.

Reservations:

Keith Fulmer
Allied Automotive
(219) 237-2115

Deadline: 4:00 p.m. EST
Thursday, October 23, 1986

Prices

\$ 9.25
\$10.00

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MICHIANA DIVISION ROSTER

Shirley J. Borden (Allied Automotive) Senior Engineer Chairman (219)-237-5635
Robert Wilson (Allied Automotive) Project Engineer Vice Chairman (219)-237-2125
Dr. Raymond Brach (University of Notre Dame) Assoc. Professor Membership (219)-239-6127
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Raymond Kosarski (Allied Automotive) Project Engineer Student Activities (219)-237-5660
Roger Miller (Allied Automotive) Senior Engineer Publicity (219)-237-2953
Keith Fulmer (Allied Automotive) Staff Engineer Arrangements (219)-237-2115

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BIG LEAGUE STUFF

In response to a challenge for a softball game, the Ag Engineers (ASAE) from Chicago vs. SAE-Chicago the combatants went forth on July 19, 1986 in Lisle to do battle.

Superb pitching from Tom Young, SAE, and relief pitching from one of the wives, the SAE boys (and girls) blasted their way to a 9-0 lead. Alas the Ag Engineers, being used to pitching hay and other stuff, showed the SAE engineers how to play the game. Taking their cue from the Chicago Cubs and following said Cubs' usual pattern, the SAE boys (and girls) swooned in the late innings and lost 12-9. Chicago Section salutes both the ASAE and SAE teams for their courage!

SAE CHICAGO NEWS **SECTION**

Published by CHICAGO SECTION, SOCIETY OF AUTOMOTIVE ENGINEERS

VOL. 54

OCTOBER, 1986

NO. 6

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SAE-CHICAGO SECTION

1986-1987 Meeting Dates

Date	Group	Subject
1986		
10-14	Chicago	"Chernobyl-Why It Can't Happen Here"
10-21	Fox Valley	Advances in Automotive Technology—GMC
10-28	Michiana	Stress Vectored Composites
<hr/>		
11-11	Chicago	Manufacturing & Materials
11-18	Fox Valley	Caterpillar Tractor 416
11-18	Michiana	Artificial Intelligence
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12-09	Chicago	SAE-National President Visit
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1987		
1-13	Chicago	Power Plants
1-27	Michiana	
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2-10	Chicago	Parts & Accessories
2-17	Fox Valley	Ladies Night—Epcot Center
2-17	Michiana	
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3-10	Chicago	Advanced Technology
3-17	Fox Valley	Sealing Seminar—CR Industries
3-24	Michiana	Serviceability by Design
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4-14	Chicago	Fuels and Lubricants
4-21	Fox Valley	Diamond Star Motors
4-28	Michiana	
<hr/>		
5-12	Chicago	Transportation Equipment

SAE ACTIVITIES — Chicago Section

Chicago Section officers met with NTN Bearing Company of America officials and presented **Mr. T. Tsuji**, a director of NTN, with a plaque for his support of SAE activities prior to his return to Japan.



L. to R.: **W. Hayes**, V.P.-NTN Bearing Co. of America; **T. Tsuji**; **C.F. Cervenka**, Past Chairman, Chicago Section; **K.C. Wolfgram**, Chairman, Chicago Section; **George F. Raab**, Manager, NTN Bearing Co. of America and Secretary; Fox Valley Division also participated in the presentation.

Notre Dame's 1986 Summer Program in Engineering for High School Students

Rudolfo Escareno, Chicago Section's candidate for Notre Dame University's Summer Program for High School Students, did an excellent job. We look forward to his attendance at one of our Chicago Section meetings so that we can meet this outstanding young man.

UNITED AIR CLEANER and the U.S. HEMTT — M 977



The U.S. Military's 10 Ton vehicle known as the **HEMTT** fills the need for extended mobility and the higher payload requirements of the tactical vehicle fleet. **United Air Cleaner** supplies the air cleaner used on the **HEMTT** vehicle which is made by the Oshkosh Truck Corporation.

The vehicle demands quality and performance. With confidence, you can count on **United Air Cleaner** to furnish you with a product that will meet your quality and design requirements.

Contact **United Air Cleaner** for your needs.

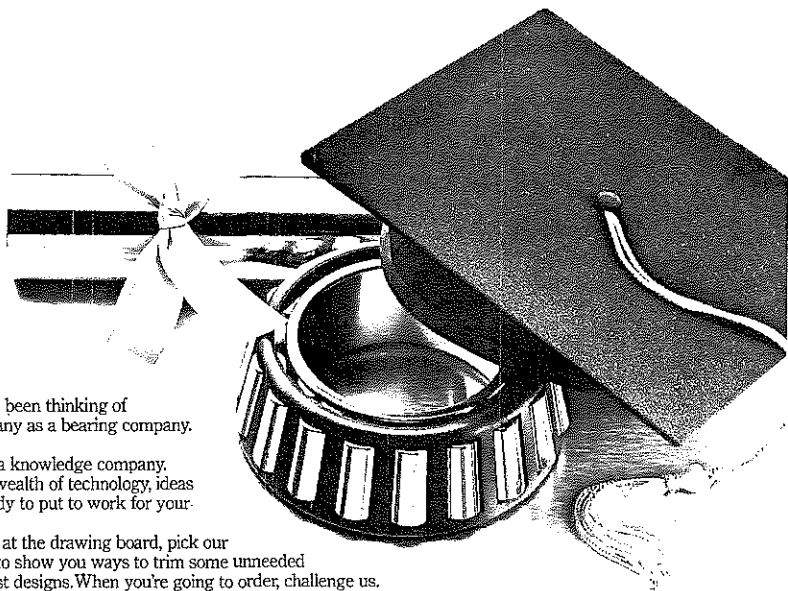
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A Filtrona Co.

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Telex 206157

October always marks the start of SAE activities. Get on board and attend as many programs as you can. You will learn a great deal from all of them, as well as benefiting socially.

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When you're setting up production, call us in. We'll show your people a few
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