

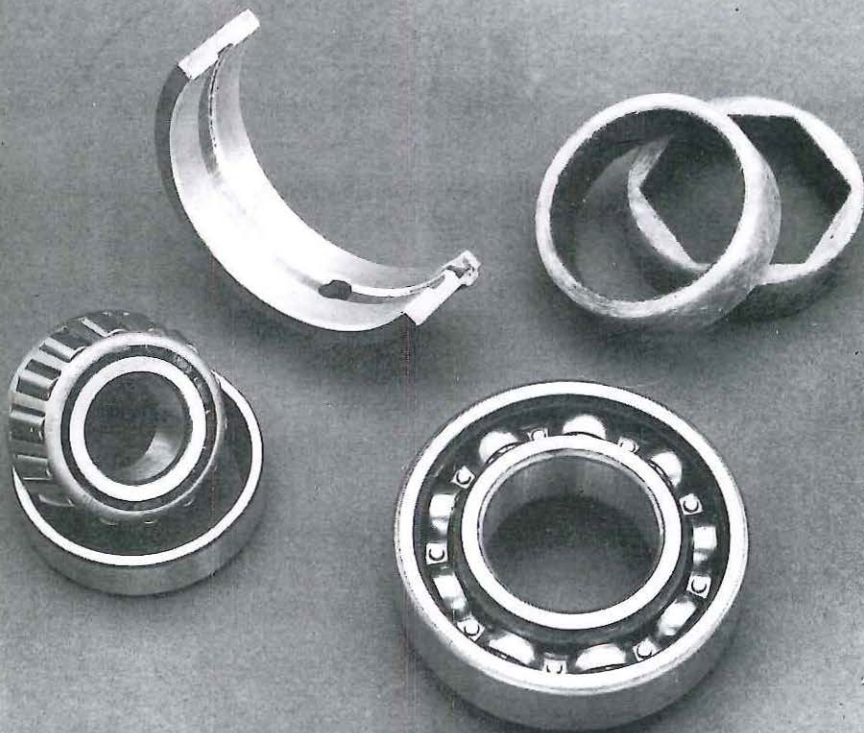
SAE CHICAGO SECTION **NEWS**

VOL. 53

NO. 1

JANUARY, 1985

BEARINGS



**A MINI-SEMINAR ON FOUR TYPES OF BEARINGS
INCLUDING MATERIALS, DESIGNS AND APPLICA-
TIONS AS THEY APPLY TO INDUSTRY.**

SAE CHICAGO SECTION NEWS

Published by CHICAGO SECTION, SOCIETY OF AUTOMOTIVE ENGINEERS

Address all Correspondence to S.A.E. Chicago Section office.

330 E. Roosevelt Road, Lombard, IL 60148

PHONE: (312) 629-6363

EDITORIAL BOARD

R. F. Mayer Editor

ADVERTISING

Frank Egberts

Photographer

A. E. Kluge

VOL. 53

JANUARY, 1985

NO. 1

GOVERNING BOARD CHICAGO SECTION – 1984-1985

M. P. Thompson (Allis-Chalmers)	Chairman	(312)-339-3300
C. E. Nelson (Caterpillar Tractor Co.)	Past Chairman	(312)-859-4809
C. F. Cervenka (Consultant)	Vice Chairman	(312)-968-0459
K. C. Wolfgram (Caterpillar Tractor Co.)	Treasurer	(312)-859-5124
Patricia M. Crowley (International Harvester Co.)	Secretary	(312)-836-2452

DIVISION VICE-CHAIRMAN

William F. Lindsey (Caterpillar Tractor Co.)	Fox Valley	(312)-859-4786
James C. Waltz (Bendix Aircraft)	Michiana	(219)-237-3220

ACTIVITIES VICE-CHAIRMAN

David Brent Lohbauer (Motorola)	Farm, Constr., Ind. Machry.	(312)-590-5092
T. J. Owen (C. R. Industries)	Parts & Accessories	(312)-742-7840
R. J. Turner (Imperial Clevite)	Power Plants	(312)-971-6720
William J. Farrell, Jr. (C-R Industries, Inc.)	Manufacturing & Materials	(312)-742-7840
T. G. Wood (Allis-Chalmers)	Advanced Technology	(312)-339-3300
Herman Allen Cease, Jr.	Transportation Equipment	(312)-348-0470
G. A. Loebbaka (Caterpillar Tractor Co.)	Student Activities	(312)-859-4845
Loren G. Pless (International Harvester Co.)	Fuels & Lubricants	(312)-865-3447

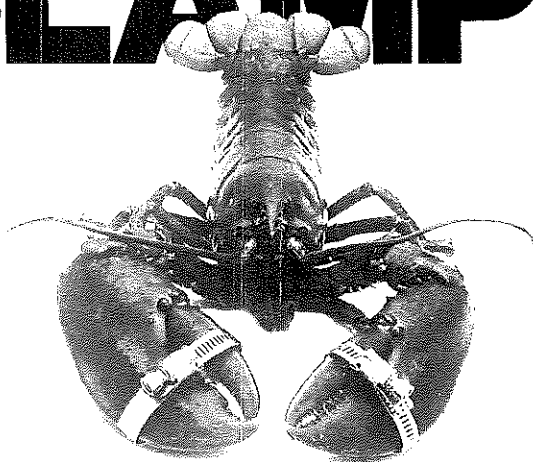
CHAIRMAN STANDING COMMITTEES

R. F. Mayer (International Harvester Co.)	Editor	(312)-865-6914
F. Egberts (International Harvester Co.)	Advertising	(312)-887-2001
O. F. Genz (Hydro-Components R & D, Inc.)	Engineering Resources	(312)-678-7670
A. E. Kluge (Caterpillar Tractor Co.)	Photographer	(312)-859-4786
R. Blank (Rolf Blank Public Relations)	Public Relations	(312)-938-0002
G. F. Raab (NTN Bearing Co.)	Member Involvement	(312)-298-7500
C. W. Riebe (Arco Petroleum Products Co.)	Reception	(312)-333-3300
G. Rezek (International Harvester Co.)	Student Advisor	(312)-865-3154
H. A. Weatherhead (H. A. Weatherhead Assoc.)	1985 National Truck Meeting	(312)-251-0529
D. G. Lytle (Stranahan Gear Co.)	Entertainment	(312)-537-2730
H. R. Cernota (Consultant)	Student Assistance	(312)-863-4353
H. Yano (Caterpillar Tractor Co.)	Arrangements	(312)-859-5119
K. A. Burdick (Sundstrand Aviation)	Regional Coordinator	(312)-346-6369

NATIONAL NOMINATING COMMITTEE

H. A. Weatherhead (H. A. Weatherhead Assoc.)	Delegate	(312)-251-0529
R. T. Bennett (International Harvester Co.)	1st Alternate	(312)-920-6027
N. R. Anderson (The Timken Co.)	2nd Alternate	(312)-325-7800

THINK CLAMPS



They're not just for hose connections.

The worm drive clamp is an amazingly versatile invention. It has thousands of uses. New ones are discovered every day by those who think clamps when it comes to fastening. Send for our catalog. Talk to us. You could boost your company's productivity and profits.

Your imagination's the only limit.



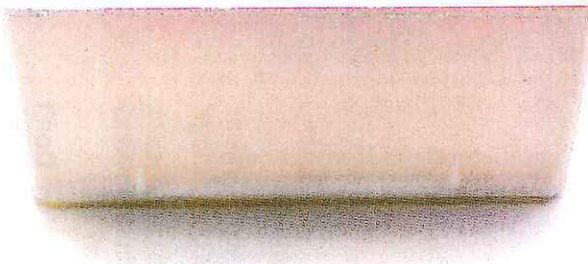
IDEAL DIVISION/PARKER HANNIFIN CORPORATION
1000 PENNSYLVANIA AVENUE/BROOKLYN, NY 11207





State-of-the-art start.





A high-technology battery for today's high-technology vehicles: The Delco Freedom Battery. It's a truly maintenance-free automotive battery. Made with a tough, finely grained lead calcium power grid that contains no antimony to cause excessive gassing and water loss. With a sealed top, to help prevent overfilling, contamination and internal damage. And with a lifetime supply of electrolyte, so you never have to add water. Ever.

Quality is built in. From the inside out. From the incoming raw materials to the finished product, Freedom Batteries are tested and re-

tested for quality control. Data from every test are compiled by a central computer for accurate "Statistical Process Control." It's a continuous state-of-the-art check on today's performance—and the basis for future improvements.

Delco gives you Freedom of choice. Delco Freedom Batteries come in a variety of efficient sizes and performances that can help you save weight, space and fuel. And they're available with different terminal configurations to meet your specific requirements.

Get more than just a battery. Get 55 years of Delco Remy experience,

and the know-how that comes from having manufactured 370 million batteries (70 million Freedoms). Get Delco Remy's worldwide expertise as a complete electrical systems designer. And get the freedom of a no-maintenance battery designed and tested for dependability: The Delco Freedom Battery.

Delco Remy, Division of General Motors. World Headquarters: Anderson, Indiana 46018. Offices in Milton Keynes, England; Russelsheim, W. Germany; Gennevilliers, France; Milan, Italy; Tokyo, Japan.

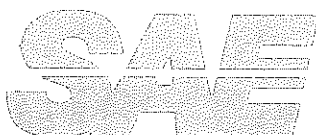
A world leader in automotive electrical systems.



Delco Remy



CHICAGO SECTION Chairman's Message



Education of its members is one of SAE's prime objectives.

This is the second year the Chicago Section has held a Mini-Seminar. Last year's was on Fluid Sealing Products and this year's is on Bearings.

Let your society work for you. Attend this meeting. Work with your society. Give us some feedback. Should we continue these Mini-Seminars? Should they be expanded into half-day or full-day sessions?

Do a fellow employee a favor, bring him to an SAE meeting. Don't forget Fox Valley and Michiana also have a very good meeting program schedule.

Sincerely,

CHICAGO SECTION CHAIRMAN

M.P. Thompson

M.P. THOMPSON

Powerful Ideas for OEM Needs.

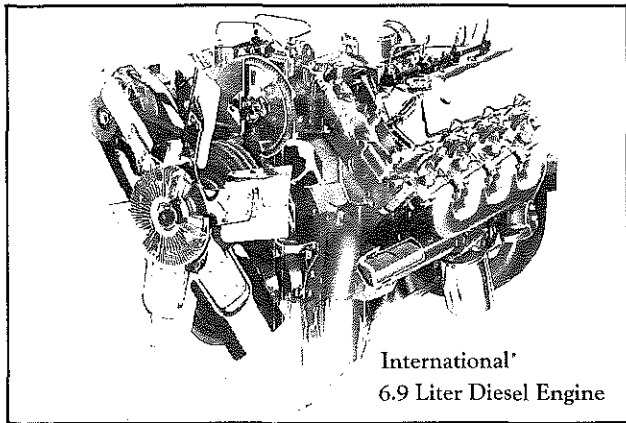
We've been generating powerful ideas for nearly a century and bringing them to the marketplace in engines that deliver legendary dependability, durability and performance. And we're committed to supply original equipment manufacturers with our legendary engines today, and for years to come.

International Harvester 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, IH is 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.

International Engines are here to stay.

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



International®
6.9 Liter Diesel Engine

Engine Division, International Harvester, 401 N. Michigan Ave., Chicago, Ill. 60611

IH
ENGINES

SPEAKER



BERNARD HARRIS

SPEAKER



WILLIAM A. YAHRAUS

SPEAKER



ANTHONY SKIPPY

BEARINGS

Bearings are highly engineered and complex products, produced in a multitude of designs and styles. Choosing which of these styles to use in a given application is of critical importance to design engineers. Our speakers

Bernard Harris

Self Lubricated Bearings

Bernard Harris is a Product Manager for Duralon and Tuf-lite bearings at Rexnord. He has been at Rexnord for 18 years in product research and development as well as product management. He holds nine patents on self lubricating bearings. He has a degree in Mechanical Engrg. from the Milwaukee School of Engineering, and is a member of the American Society of Mechanical Engineers.

William Yahraus

Sleeve Bearings

William Yahrus is Manager of Product Analysis for Clevite, an Imperial Clevite Company. He has spent the majority of his 15 years at Clevite in the area of bearing technology. In 1968 he received a B.S. in Mechanical Engineering from the Case Institute of Technology and his M.S from Stanford University in 1969.

Anthony Skippy

Tapered Roller Bearings

Anthony Skippy is a Consulting Engineer for Mobile/Energy Equipment for The Company. In his position with Timken he has held positions in sales, Engineering and Manufacturing Engineering prior to his present position. He has a B.S. degree in Mechanical Engineering from the University of Birmingham.

ELMHURST COUNTRY CLUB

5:30 P.M. Social Half-Hour

"ATTITUDE ADJUSTMENT HOUR"

6:00 P.M. Dinner

7:00 P.M. Technical Session

\$11.00 - Members

13.00 - Non-Members

6.00 - College Students

Dinner Reservations

Single Table Reservations

Contact your planner

Chicago Section
(312) 621-1000

AY, JANUARY 8, 1985-ELMHURST COUNTRY CLUB

ER

SPEAKER

MODERATOR



SKIPPER



ANGELO P. DeSANTIS



THOMAS J. OWEN

NGS

at this mini-seminar will discuss designs, materials and applications on four bearing types—self lubricating, sleeve, tapered roller, and ball bearings.

er
Bearings
er is a Super-
—Light Mo-
ment Appli-
Timken
17 years
has held po-
Mechanical
Application
r to his cur-
received his
Mechanical
n the Univer-
m in 1967.

Angelo DeSantis Ball Bearings

Angelo DeSantis is a Project Engineer in the Application engineering department with NTN Bearing Corporation. He received his B.S. degree in Mechanical Engineering from McGill University in Montreal, Canada in 1977. Since graduation he has worked in various locations in Canada and the U.S. as a bearing Sales/ Application Engineer. He has been a member of S.A.E. since 1975.

Thomas Owen Moderator

Thomas Owen is a Sales Engineer for the O.E. Division, Chicago Rawhide Manufacturing Company, having previously held various positions in Marketing during his 15 years at CR. He received his B.S. degree in Marketing from Northern Illinois University in 1967.

MEETING SPONSORS:

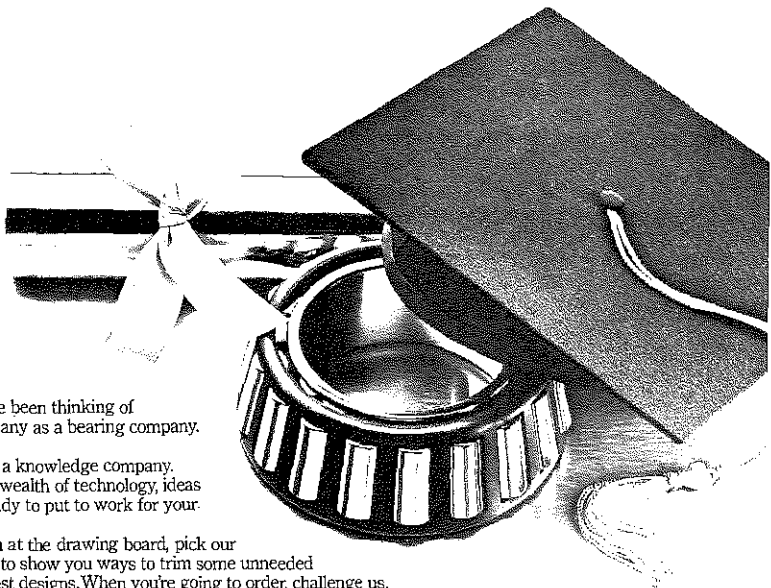
nts

ons Required
Restricted to 8 people.
representative.

on Office
-6363

CHICAGO RAWHIDE
NTN BEARING CORPORATION
P.T. COMPONENTS, INC.
Link Belt Bearings Division
REXNORD - BEARING OPERATION
THE TIMKEN COMPANY
THE TORRINGTON COMPANY

IT'S NOT JUST WHAT WE MAKE. IT'S WHAT WE KNOW.



FOR YEARS, you've been thinking of The Timken Company as a bearing company. Or a steel company.

Now think of us as a knowledge company.

A company with a wealth of technology, ideas and skills that we're ready to put to work for your company right now.

When you sit down at the drawing board, pick our brains. We may be able to show you ways to trim some unneeded weight from your newest designs. When you're going to order, challenge us. We'll share ideas for streamlining the way you buy from us.

When you're setting up production, call us in. We'll show your people a few special tricks we've learned that may save you time and money.

The Timken Company. The knowledge company. Put us to the test. We think we'll pass with flying colors.

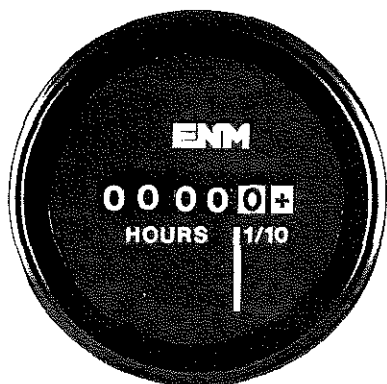
The Timken Company, Canton, Ohio 44706.

TIMKEN®
REGISTERED TRADEMARK

DC HOUR METER

NEW

**Dual Voltage
Model T16**



- Solid State Timing
- Shock Resistant
- Extended Voltage Range
8VDC to 32VDC
- Extended Temperature Range
-40°C to +85°C

- Fits SAE Panel Opening 2.06" Dia.
- Construction: Steel Case, Stainless Steel
Bezel, Polycarbonate Window

WRITE FOR LITERATURE



ENM COMPANY

5617 Northwest Highway
Chicago, IL 60646
Phone: (312) 794-6150
Telex: 25-4068

SAE ACTIVITIES

CHICAGO SECTION—OCTOBER 9, 1984



Dr. Gordon Millar, National SAE President, visits Chicago Section and discusses the broad involvement of SAE and its Members.

Creative Problem Solving!

**GARLOCK
Has The
Answers ...**

- Engineering expertise to solve unique requirements
- Consulted sales to give on-the-spot assistance
- Knowledgeable with a wide variety of materials to give greater design flexibility
- Over 80 years expertise to assist you in even the most demanding design problem

For Hydraulic Seal Answers, Contact: GARLOCK

Mechanical Packing Division
Hydraulic Components
Attn: George LeMoyne
P. O. Box 412, Palmyra, New York 14522
315/597-4811

95% of vibration problems solved with stock parts.

Complex or simple vibration problems from giant earth-movers to printed circuit boards — we've solved the full range. And, in our experience with nearly two dozen diverse industries, most vibration problems have been solved with standard Lord parts.

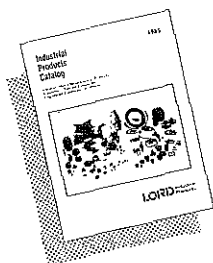
Bring us in on a design vibration problem and here's what you can expect:

- **Smoother** operating, quieter running products with engineered elastomeric parts — usually from stock.
- You'll get **free sample parts** from our shelves for trial. If the problem is among the 5% unusual enough to require it, you can count on help in engineering a custom Lord part.
- **Fast** and thorough service to meet your needs anywhere in the world. In the U.S. we have representatives in most major cities.

- You receive consistently **high quality, high value** products. We control our raw materials, compounding, machining, tools, adhesives and processes in our own plants.
- And, you can expect to benefit from our 60 years' experience devoted exclusively to vibration control.

Find out why Lord is the best solution for all your vibration problems. Call or write:

FREE
126-page
catalog
circle
number



Lord Corporation
Industrial Products Division
1635 West 12th Street
P. O. Box 10039
Erie, Pa. 16514-0039
Telephone: 814:456-8511

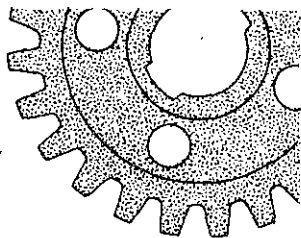
LORD Industrial Products

A Division of Lord Corporation

Raymond W. Fabere, chief engineer at Caterpillar Tractor Company's Aurora Plant, announced his plan to retire the first of January 1985. Mr. Fabere began his career with Caterpillar in 1951 when it purchased the Trackson Company in Milwaukee, Wisc. where he had been employed since 1946. He moved to the new Aurora facility in 1958, becoming chief engineer in 1969. He joined SAE in 1951 and is a past member of the Technical Board on which he served in 1974, 1975 & 1976.

All of us at the Chicago section wish Mr. Fabere well in his future endeavors.

IF Gear Quality, Selection and Delivery is Your Job ...



Then look to Overton Gear to solve your most complex custom or production gear problems through value analysis, experienced manufacturing capability, quality control and inspection.

*Write for Your
Free Copy of
Overton's Gear
Brochure. . .today!*

Overton
Gear and Tool Corporation



530 Westgate Drive, Addison, Illinois 60101

SAE — Chicago Section

1984-1985 Meeting Dates

Date	Group	Subject
1984		
10-9	Chicago	SA Student Activities—AMC Racing (Jeeps/Renaults)
10-17	Fox Valley	Chrysler Laser Car
10-23	Michiana	Robots
<hr/>		
11-8	Fox Valley	Experimental Stress Analysis in the '80's . . . and beyond
11-13	Chicago	Mack Truck—16.4 Litre V-8 Engine
11-27	Michiana	Ford Aerostar
<hr/>		
12-6	Fox Valley	Caterpillar 3500 Series Engine
12-11	Chicago	Fisher Body Plant Tour; Meeting at Willowbrook
<hr/>		
1985		
1-8	Chicago	Mini-Seminar on Bearings
<hr/>		
2-12	Chicago	Robotics at General Motors; A Look at the Future
2-19	Michiana	Cad/Cam (Held in Michigan)
2-26	Fox Valley	Fuels (Oxygenated) At AMOCO Research Center
<hr/>		
3-12	Chicago	Engine Oil Classification System
3-19	Fox Valley	Caterpillar 936 Wheel Loader
3-26	Michiana	Miles Laboratory
<hr/>		
4-9	Chicago	Advanced Technology, Plastic Engine
4-23	Fox Valley	International 6.9 Litre Engine
4-23	Michiana	Ethanol Plant
<hr/>		
5-14	Chicago	Transportation Equipment

RETURN POSTAGE GUARANTEED



CHICAGO SECTION
330 E. ROOSEVELT ROAD
LOMBARD, ILLINOIS 60148

Non-Profit
Organization
U.S. POSTAGE
PAID
LOMBARD, ILL.
Permit No. 296

DO NOT DELAY
TIME VALUE DATA EXPEDITE

CUSTOM MOLDED RUBBER
FUNCTIONAL SEALING PRODUCTS
FOR
AUTOMOTIVE
AND
OFF-THE-ROAD
EQUIPMENT



POWER BRAKE SEAL/DIAPHRAGMS •
MAIN BEARING SEALS • COMBUSTION
ENGINE WATER PUMP SEALS • POWER
STEERING SEAL/DIAPHRAGMS • MANI-
FOLD AND OIL PAN SEALS • INTEGRAL
MECHANICAL FACE SEALS • OFF-THE-
ROAD EQUIPMENT SEALS • CRUISE CON-
TROL DIAPHRAGMS • TRANSMISSION
MODULATOR DIAPHRAGMS • RUBBER-
TO-METAL POPPETS, VALVE SEAT AND
STEM ASSEMBLIES • TRANSMISSION
SEALS • PUMP DIAPHRAGMS • ETC. ETC.



CHICAGO-ALLIS MFG. CORP.

113-125 N. GREEN • CHICAGO, ILL. • 60607
(312) 666-5050