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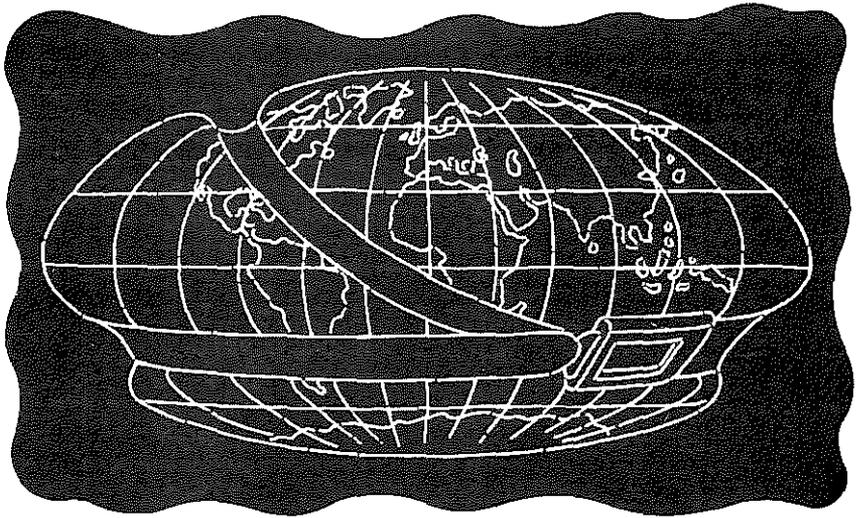
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CHICAGO
SECTION
VOL. 54
NOVEMBER, 1986
NO. 7
NEWS



We make seat belts for the world.

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.

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**Automotive
Worldwide Sector**

CHICAGO SECTION Chairman's Message



Last month I stressed the importance of attending local section meetings. Participation in local section meetings provides the backbone on which regional and national meetings are built. New ideas and formats can be tried at the local level and result in increased involvement.

An example of this type of meeting is the Second Agricultural Machinery Conference being held on November 3, 4, and 5 at the Stoffers 5 Seasons Inn in Cedar Rapids, Iowa. This joint meeting sponsored by the Mississippi Valley SAE Section, Iowa ASAE Section, and Quad City ASAE Section provides an excellent program on agricultural machinery technology. This meeting became a reality as local groups saw a requirement for this type of meeting, got involved, and developed a very successful program.

If you would like to get involved in SAE planning activities, contact your section officers.

Chicago Section Chairman



Kenneth C. Wolfgram

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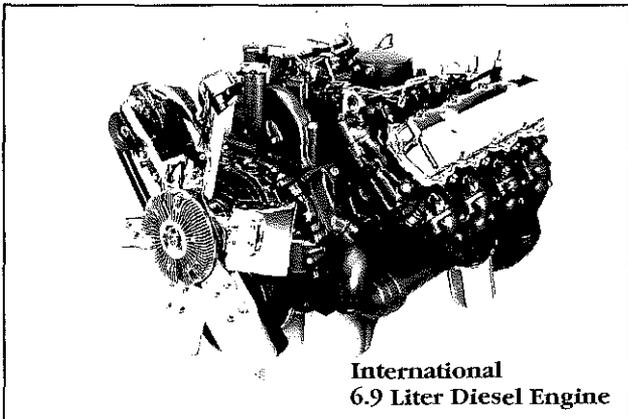
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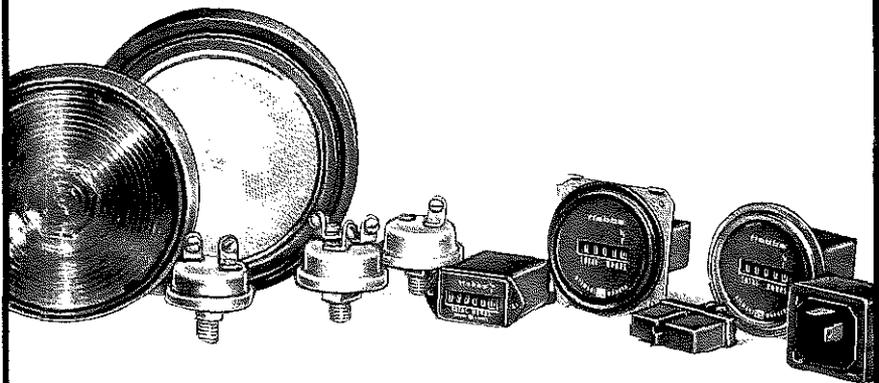
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SAE Chicago Section

TUESDAY, NOVEMBER 18, 1986

SPEAKER



C.W. RIEDIGER

CHAIRMAN



JEFFREY BUTLER

THE CATERPILLAR 416 BACKHOE LOADER
BY
CRAIG W. RIEDIGER

Caterpillar recently introduced its first backhoe loader—a significant extension to the existing product line of construction equipment. It is a highly versatile machine entering a well developed marketplace. This paper describes design considerations, the development program, and vehicle design features associated with the 416 Backhoe Loader.

CRAIG W. RIEDIGER graduated from Iowa University in 1973 with a B.S. in Mechanical Engineering. Craig joined Caterpillar in 1973 and has held positions as vehicle test engineer, design engineer, and currently as supervising design engineer.

JEFFREY BUTLER graduated from Bradley University in 1980 with a B.S. in Mechanical Engineering and Aurora University in 1985 with a M.S. in Business Administration. Jeff joined Caterpillar in 1981 and currently is in Reliability Engineering.

Meeting Location

Saratoga Hotel
Corner of Rte. 31 and I-5
North Aurora, IL

5:30 p.m. SOCIAL HALF HOUR
6:00 p.m. DINNER
7:00 p.m. TECHNICAL SESSION

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Deadline: 12:00 NOON
NOVEMBER 17, 1986

Prices

\$11.00 MEMBERS
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\$ 6.00 COLLEGE STUDENTS

SPEAKER



DANIEL J. EDMINSTER

CHAIRMAN



CHESTER L. FRANCIS

DESIGN

AUTOMATED MANUFACTURING

120 VOLT - 1000 WATT MOTOR

START TO PRODUCTION

BY

DANIEL J. EDMINSTER

The 120 volt—1000 watt electric motor is designed to replace the 3 to 4 horse power gasoline engine used in lawn mowers to develop a motor capable of automated manufacturing process so that it can be produced.

Many unique situations and solutions are presented:

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3. Motor/Hydraulic Pump for
4. 6/1 gear reduction.
5. Motor which is equipped

The high torque double insulated motor is designed for lower ampere draw, greater accelerating capabilities which are not normally found in other designs.

DANIEL J. EDMINSTER is manager of Motor Products Div. of Briggs and Stratton. He holds a Electrical Engineering degree from the University of Engineering. He has been involved in motor design for his career.

CHESTER L. FRANCIS is Associate Engineer at Acme Corporation — Heavy Duty Electric Division of University of Iowa in mechanical engineering since 1965.

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D SECTION

MBER 11, 1986

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omatic assembly utilizing state of
more competitive product could

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snowthrowers.
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or hydraulic pump mounting.

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nal with current induction motor

anager of Engineering Electrical
in Menominee Falls, Wisconsin.
egree from the Milwaukee School
ved with electric motors most of

unt Manager for Robert Bosch
al. He is a graduate of the Univer-
ng and has been a SAE member

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AND
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6:00 p.m. Dinner

7:00 p.m. Technical Session

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SAE Chicago Section

TUESDAY, NOVEMBER 18, 1986

SPEAKER



DR. JOHN UHRAN

CHAIRMAN



DR. TONY MICHEL

ARTIFICIAL INTELLIGENCE AND THE ENGINEER
BY
DR. JOHN UHRAN

The basic facts and background for potential users of artificial intelligence will be presented. Design of, need for and future directions will be explained and the impact of this technology in the engineering profession will be discussed.

DR. JOHN UHRAN, a professor in the Dept. of Electrical and Computer Engineering, University of Notre Dame, has been teaching at Notre Dame since 1966 after having taught at Purdue University. He has followed computer technology since the dept. first obtained a PDP-8 computer and has taught many regular and seminar courses on various computer topics. He is presently helping to establish a presence for artificial intelligence on the campus by working with small groups of students on development projects.

DR. TONY MICHEL is presently the Chairman of the ECE Dept., University of Notre Dame. He previously taught and did research at Iowa State University for 16 years. He is a specialist in the stability of linear and non-linear systems and has been instrumental in the recent growth and broadening of the graduate program in the department.

SPECIAL FEATURES: **Joint Meeting** with St. Joseph Valley Section of American Society of Mechanical Engineers.

Computer Display illustrating some engrg expert system software: by Omni Micro Business Centers.

Meeting Location

Ramada Inn
52890 US 33 North
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- 6:00 p.m. - Social Period**
- 6:00 p.m. - Computer Demo.**
- 7:00 p.m. - Dinner**
- 8:00 p.m. - Technical Presentation**

Student Support:
Hydro-Components R & D Inc.

Reservations:
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(219) 237-2115

Deadline: 4:00 p.m. EST
Thursday, November 13, 1986

Prices

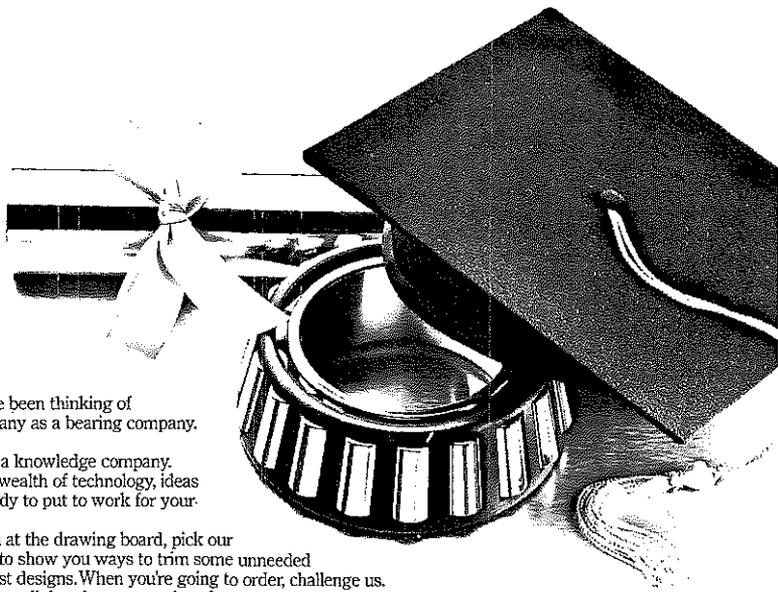
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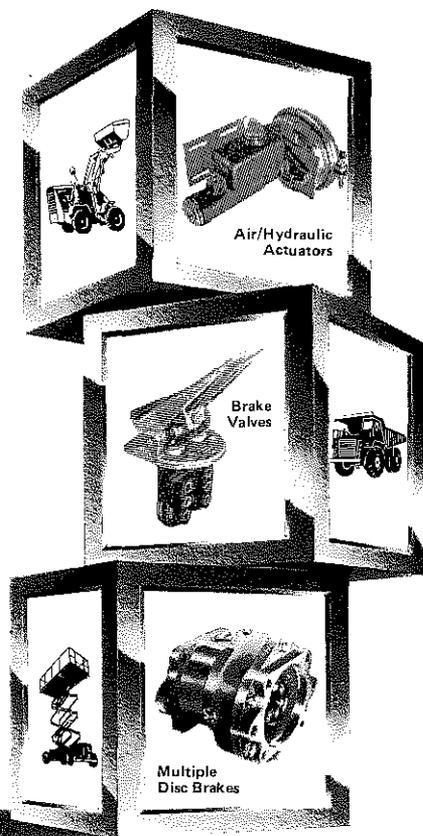
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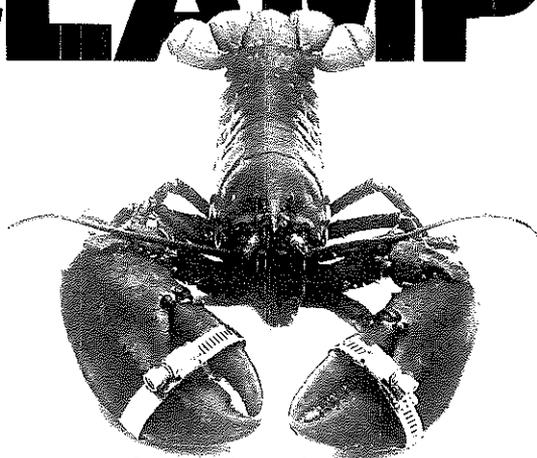
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September 4, 1986
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Bartlett Hills — **Chuck Downs - 66**
St. Andrews No. 1 — **Ed Walinski - 64**
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If inadvertently your name has been omitted please contact the Chicago Section Office.



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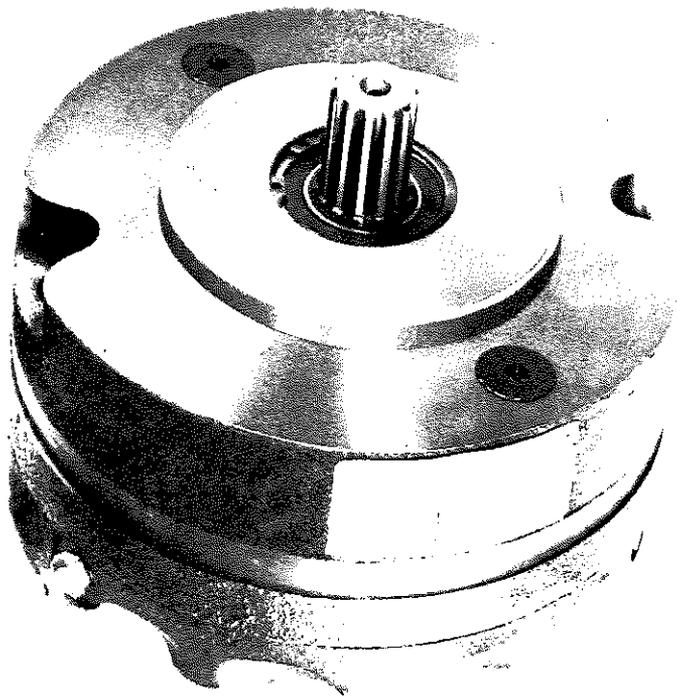


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These brakes are ruggedly built with large diameter 8620 or 4140 steel shafts for high strength and long disc life. Torques to 4000 lbs. in. with low release pressures which makes these brakes ideal for closed-loop hydrostatic systems. B mount brakes feature a unique balanced piston design and they are interchangeable with older fail-safe brake designs.

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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
11-11	Chicago	Electric Motors For Small Equipment
11-18	Fox Valley	Caterpillar Tractor 416
11-18	Michiana	Artificial Intelligence
12-09	Chicago	SAE-National President Visit
1987		
1-13	Chicago	Power Plants
1-27	Michiana	
2-10	Chicago	Parts & Accessories
2-17	Fox Valley	Ladies Night—Epcot Center
2-17	Michiana	
3-10	Chicago	Advanced Technology
3-17	Fox Valley	Sealing Seminar—CR Industries
3-24	Michiana	Serviceability by Design
4-14	Chicago	Fuels and Lubricants
4-21	Fox Valley	Diamond Star Motors
4-28	Michiana	
5-12	Chicago	Transportation Equipment

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