# Southwind

VOLUME 22 ISSUE 1 1st QUARTER 2003



Association of Electric Motor Repair Shops for Co-operative Self-Improvement

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### 2003 Technical Forum Planned for Greenville, South Carolina

The 2003 Spring Technical Forum will be held April 24-26 in Greenville, South Carolina it can now be announced. This will be the 49<sup>th</sup> annual Southeastern Chapter Technical Forum, and the following events and classes are planned.

#### Golf Outing

We are planning a golf outing at a local course. More details will be available later.

Electrical Rotating Apparatus Testing presented by Baker Instruments
This is a comprehensive look at testing procedures you can use in your shop and in
the field to evaluate a running motor, and also to help identify causes of failure.
Attendants will receive a copy of "Reliability Testing of Electric Motors." The table
of contents of this publication is reproduced elsewhere, along with the course
outline.

Generator Set Application and Troubleshooting presented by Baldor Generators This course includes introduction to selecting and sizing stand-by generators according to application, environmental considerations, electrical distribution, and basic testing and troubleshooting. There is considerable interest in stand-by power today and this course will help you position your technical staff to move into or expand your interest in this growing area.

#### Tour of the Spartanburg BMW Plant

We were able to secure *only* fifty (50) tickets for the new BMW plant tour, and these will be assigned on a *first-come first-served* basis. Unfortunately, our second tour cancelled on us at the last minute of our planning stages. We are trying to find another tour, but it is possible that there will be no second tour. If you do not care to tour the BMW plant, please select "alternate or not tour" so that someone who does can get that ticket. If you do want to tour the BMW plant ... *register early!* 

#### Southeastern Chapter Exhibit Hall

Our wonderful vendors will be there again with their exhibits, literature, and good company. In addition, drawings will be held both nights for prizes and gifts donated by our vendors, exhibitors, and Affiliate members. You must be present to win, so no sneaking out to Hooters!



#### EASA Southeastern Chapter 1397 Blashfield Street SE Atlanta, GA 30315 (404) 622-1441 (404) 622-0461 FAX

## FULL FORUM REGISTRATION 2003 Technical Forum Greenville, South Carolina April 24-26

FORM

PLEASE PRINT OR TYPE USE A SEPARATE SHEET FOR EACH REGISTRATION. COPY THIS FORM AS NEEDED. PLEASE CHECK ANY THAT APPLY Southeastern Chapter Active Member Company Affiliate Member or Vendor Must be paid Exhibitor or Sponsor – Please Address complete Form B City / State / Zip First-time Attendee Phone / Fax / Fmail Motor Shop owner / employee Confirmations will be provided if FAX or email address is included Price FULL FORUM REGISTRATION \$125 This badge gains access to the Exhibit Hall ONLY. All other tours, EXHIBIT HALL ONLY \$25 classes, meals and activities require FULL FORUM REGISTRATION. Total Enclosed: Cancellation Policy: Cancellations will receive a full refund if received at the Chapter Office by April 10, 2003. SEE TECHNICAL FORUM SCHEDULE FOR MORE INFORMATION T Greenville - Spartanburg O **TOUR SELECTION - FRIDAY, APRIL 25** U SPACE IS LIMITED. R We have only 50 tickets for the BMW tour and they will be filled first-come first-served. Unfortunately, our second tour has cancelled at the last minute! **One Parkway East** S We are trying to find a replacement but it is possible that there will be no Greenville, SC 29615 second tour. REGISTER EARLY! (If you don't want to go to BMW, please E (800) 833-2221 check "NO TOUR" so that someone else can get that seat. Thanks.) (864) 297-0300 L In order to receive the E NO OPEN TOED SHOES WILL BE ALLOWED ON TOUR negotiated room rate of C \$95 per night, be sure to contact the hotel for T **TOUR A** reservations before the **BMW Assembly Plant** cut-off date of O April 9, 2003 N ALTERNATE TOUR OR NO TOUR AT ALL

EASA Southeastern Chapter 1397 Blashfield Street SE Atlanta, GA 30315



If paying by credit card, you may register by faxing this form to: **404-622-0461** 

Check enclosed	VISA	MasterCard
NAME ON CARD (PLEASE PRINT)		
SIGNATURE		
CREDIT CARD NUMBER		EXPIRATION DATE

#### **EASA Southeastern Chapter** 1397 Blashfield Street SE Atlanta, GA 30315 (404) 622-1441 FAX (404) 622-0461

**EXHIBITOR RESERVATION** 

2003 Technical Forum Greenville, South Carolina **April 24-26**  **FORM** 

Exhibitor Tabletop displays are available for \$375, and include two (2) free Exhibit Hall passes. Vendor Sponsorships are available for \$275. This DOES NOT include a tabletop, but DOES include one (1) free Exhibit Hall pass. Exhibitors and Sponsors may then purchase additional passes for \$50 per person. Exhibit Hall passes are valid for admittance to the Exhibit Hall only ... no other meals or conference activities are included. Exhibitors and Sponsors may optionally purchase full Forum registrations for \$125. If you wish to do so, please use FORM A.

Early Reservation discounts available <b>only</b> if r received with payment by <b>March 2</b>		Early Reservation	Just on time Reservation	Due
EXHIBIT / TABLETOP		\$275	\$375	
(includes two complimentary exhibit hall passes – include names below Name:	V)	·		
Name:			Comp	
			Comp	
VENDOR SPONSORSHIP (includes one complimentary exhibit hall pass – include name below)		\$200	\$275	
Name:			Comp	
Additional Exhibit Hall Passes				
Name:			\$50	
Name:			\$50	
FC2002 Discount Available only to 2002 Fall Conference exhibitors who attended t	hat meeting (did not	receive a refund)	- \$50	
· · · · · · · · · · · · · · · · · · ·	ust be enclosed	·	Enclosed:	
		<i>y</i> -		<u> </u>
Contact Name:		CHECK HERI	F Groor	nville - Spartanb
Company:		if you will nee	- 01661	iville - Spartant
Address:		110 Volt Hookup	44	arriott
City / State / Zip:			A	<u> </u>
Phone / FAX / email:		_		ne Parkway East
			— Gre	enville, SC 296' (800) 833-2221
IMPORTANT! Shipments to the hotel should be labeled:			In	(864) 297-0300 order to receive the
YOUR NAME		irmations will b	e neg	gotiated room rate of
EASA TECHNICAL FORUM APRIL 24 C/O GREENVILLE-SPARTANBURG MARRIOTT		ed if FAX or e-r ress is included		5 per night, be sure contact the hotel for
ONE PARKWAY EAST	auu	ress is included	4	ervations before the
GREENVILLE, SC 29615				cut-off date of April 9, 2003
METHOD OF PAYMENT: Check	VIS	SA	Master	rCard
Mail to:	IF PAYING FOR MU	LTIPLE REGISTRATI	IONS WITH SAME	CREDIT CARD
EASA Southeastern Chapter  I 397 Blashfield Street SE	COMPLETE ONLY O	ONE FORM AND MAR		
Atlanta. GA 30315	NAME ON CARD (PLEA	ASE PRINT)		
VICE	SIGNATURE			
If paying by credit card, you may register by faxing this form to:	CREDIT CARD NUMBE	R		EXPIRATION DATE
404-622-0461				



#### Southeastern Chapter Electrical Apparatus Service Association

Raymond K. Paden, Exec Sec/Treas 1397 Blashfield Street, SE Atlanta, GA 30315 (404) 622-1441 (404) 622-0461 FAX

#### Table of Contents

- 1. Reliability Testing of Electric Motors
- 2. Theory, Methods, and Tests for Motors and Generators Outline

Insulation

Winding Temperature Calculation

Test Instruments

Meg-ohm-meter

Power Factor/Dissipation Factors

Surge Tester

### Electrical Rotating Apparatus Testing Course Outline

- I. Insulation
- II. Test Instruments
- III. Test Parameters
- IV. Methods of Testing
- V. Induction Motor/Generator
- VI. Wound Rotor Motor
- VII. Synchronous Motor/Generator
- VIII. DC Motor/Generator
- IX. Transformers

- 3. Insulation Life Cause of Insulation Failure
- 4. Test Parameters

**NEMA** 

ANSI/IEEE

Paschen's Law

5. Induction Motor

Data/Name Plate

Polarization Insulation Test

**High Potential Test** 

Surge Test

**Rotor Loading** 

**Broken Rotor Bars** 

- 6. Voltage Distribution across Apparatus Coils
- 7. Wye-Delta Connection
- 8. High Voltage Machines
- 9. Wound Rotor Motor Test Procedures
- 10. Synchronous Motor/Generator Test Procedures
- 11. DC Motor Generator

Fields

Armature: Bar-to-Bar, Span Test

**Electrical Neutral Commutator** 

Brush Current Density Potential Method

- 12. Testing Transformers
- 13. Motor/Generator Test Data Sheets