



# Update

Edition 5, Volume 1

Canadian Welding Association - Toronto Chapter

October 2002

## **Plan to Attend our next Seminar!**

**Tuesday, November 12, 2002**

Royal Woodbine Golf Club, 195 Galaxy Blvd., Etobicoke, Ont  
Reception: 6:30 pm, Dinner: 7:00 pm, Presentation: 8:00 pm

**Please reserve your Dinner Tickets**

by leaving a message at  
our Administration Office  
905-821-6916 by

Monday afternoon, November 11, 2002

### TOPIC

## **Laser Welding**

**Presented by Dr. Igor Dykhno**

Dr. Dykhno will discuss the most recent developments in combined plasma-laser arc welding technology and equipment.

He will explain how the Nd:YAG lasers and CO2 lasers have been applied to the welding of tailored blanks on Zn-coated steels and high-strength steels, edge fillet welding of Zn-coated steels, edge welding of stainless steel and Zn-coated Steels, lap welding of Zn-coated steels and stainless steels, thick section - butt welding of mild steels, Al- welding: GM project and Ti-welding without backing gases.

Join us for dinner and see how the latest laser technological

advancement can help your company's productivity.

### **About the Speaker;**

Dr. Igor Dykhno obtained his PhD in Mechanical Engineering from Kiev Technical University, Ukraine. He is currently Managing Director for Plasma Laser Technologies Ltd. His broad experience includes; Head of Advanced Welding Technologies Department with Paton Welding Institute, Ukraine; Project Manager, German-Ukraine Research and Development Program for Al-based composite materials and high-strength Al alloys welding; Research Scientist at Lawrence Berkeley Laboratory; president of Plasma-Laser Technology Ltd. He has 5 US Patents and published more than 30 articles in leading scientific journals.

## **Time Well Spent**

Over the past year, the CWA set the groundwork for the future by developing a new Constitution and Bylaws to benefit all members. Membership categories were restructured to include a new category within Corporate Membership for Fabricators and Manufacturers.

Committees have been formed to provide an opportunity for industry to congregate and discuss ideas and concerns of mutual interest. The new Committees are Technical, Supplier, Education and Marketing with the intention of a Fabricator and Manufacturer Committee to be formed in the near future.

The Technical Committee will deal with health and safety issues such as the legislation pertaining to manganese. The Education Committee will promote the welding industry to our youth, provide support for educational institutions plus provide educational symposiums. The Supplier Committee will work to standardize bilingual requirements for welding equipment and gas suppliers. The Marketing Committee will interface with the organizers of Weld Expo and promote membership and growth within the organization.

**Mark  
on your  
Calendar**



**Special All Day Seminar!**

**Monday, February 10, 2003**

*Topic:*

**Designing Joints for Improved  
Weld Behaviour**

*Presented by:*

**Duane Miller, Sc.D, P.E.**

**Register today! For information call 905-821-6916  
or visit our web site at [www.cwa-acs.org/toronto](http://www.cwa-acs.org/toronto)**

**Don't Forget! • CINDE/CWA CHRISTMAS DINNER & DANCE • December 7, 2002**

Quality Inn, Oakville • Contact Irene Hall 905-387-1655 or email [ihall@cinde.ca](mailto:ihall@cinde.ca)

## EDUCATIONAL INFO:

# POWER SOURCES FOR WELDING Fault Finding Guide

In most cases, the manufacturer's handbook for a power supply will include detailed guidance for fault finding on that system, and should always be consulted. The guide below gives general guidance on fault finding equipment problems for a range of processes.

Symptoms	Possible Causes	Remedies
Power source dead	No line voltage	Check voltage
	Incorrect line voltage	Check voltage
	Line fuse blown	Check and replace
	Power source fuse blown	Check and replace
	Overload tripped	Reset
GMAW: Wire feeds but arc will not start	Power source fuse blown	Check and replace
	Welding cables loose	Tighten
	Contact relay failed	Replace
GTAW: Arc will not start	HV/HF failed	Replace
	HV/HF switched out	Use correct switch position
	Too large arc gap	Reduce arc gap
	Too large diameter electrode	Use smaller diameter
	Incorrect electrode material or poor condition	Use appropriate electrode, sharpen correctly
Arc starts, but stops after a period	Machine overload	Reduce welding current
	Duty cycle too high	Operate within equipment capability
	Power leads have too small a diameter or too long	Replace with larger cables
	Fan not operating	Check fan operation
GMAW/FCAW/SAW: Wire stops feeding	Drive roll pressure incorrect	Adjust pressure
	Wire feeder connection failure	Repair connection
	Drive motor/control board failed	Replace
	Torch liner dirty	Replace
	Contact tip restricted/burnback	Replace contact tip
	Sharp bend in torch cable	Straighten
GMAW/GTAW: Unstable arc/oxidation	Low gas cylinder pressure	Replace cylinder
	Incorrect flow rate setting	Adjust
	Leaks	Repair
	CO2 regulator frozen	Thaw – install heater
	Incorrect polarity	Change polarity

Extracted from GCIL Module 5 – Power Sources for Welding

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