

Venue – THE CONFERENCE CENTRE
National Fluid Power Centre (UK)
Worksop, Nottinghamshire, S81 7HP

This seminar represents the start of an ongoing commitment by the NFPC, working closely with the BFPA and its member companies, to engage with industry through a series of technical events; improving the awareness of this important subject and providing effective solutions to the issues raised.

Seminar Programme:

- PAPER 1 ENERGY EFFICIENCY AND SUSTAINABILITY IN HYDRAULIC SYSTEMS**
Mr D. O'Loughlin - Technical Manager, NFPC
- PAPER 2 SAVING ENERGY USING VARIABLE SPEED INVERTER DRIVES**
Mr C. Pinchbeck - Regional Manager, Danfoss Ltd
- PAPER 3 HYDRAULIC LAUNCH ASSIST**
Mr S. Skinner - European Training Manager, Eaton Ltd
- PAPER 4 IMPROVED ENERGY EFFICIENCY THROUGH FLUID CLEANLINESS MANAGEMENT**
Mr M. Day - Technical Manager, Pall Industrial Manufacturing
- PAPER 5 FUTURE HYDRAULIC FLUID TECHNOLOGY OFFERING ENERGY EFFICIENCY AND SUSTAINABILITY**
Dr R. Dixon - Technology Manager, Shell Global Solutions

Cost per person: £95.00 Exc VAT

Includes refreshments, lunch and internet access to seminar notes (PDF)

Times: 10.00 am to 4.00 pm

Synopsis and booking form on reverse

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At the National Fluid Power Centre, Worksop, Nottinghamshire, S81 7HP
The UK's leading centre for Fluid Power and Motion Control Training

10:00 Arrive, Coffee/Tea/Refreshments

10:25 Welcome and Introduction **Mr John R Savage**. Director, NFPC

10:30 - 11:10 **Mr David O'Loughlin**. Technical Manager, NFPC

Title: ENERGY EFFICIENCY AND SUSTAINABILITY IN HYDRAULIC SYSTEMS - THE BIGGER PICTURE

Synopsis: In the majority of cases hydraulic systems exist solely for the purposes of transmitting power - they are convenient, adaptable and practical but not always as efficient as they could be. There are many ways in which energy efficiency can be improved but it turns out that striving for maximum 'minute by minute' energy efficiency might, in some cases, be a poor second to looking at the bigger picture.

11:15 - 11:55 **Mr Steve Skinner**. European Training Manager, Eaton Ltd

Title: HYDRAULIC LAUNCH ASSIST

Synopsis: Stop and go driving, such as that necessary with refuse lorries, delivery vans or buses, is very inefficient. A significant amount of the work cycle of vehicles is spent either accelerating or braking. So is it possible to harness the kinetic energy of motion and recycle it?

12:00 - 12:40 **Mr Clive Pinchbeck**. Regional Manager, Danfoss Ltd

Title: SAVING ENERGY USING VARIABLE SPEED INVERTER DRIVES

Synopsis: An overview of the AC inverter drive and its principle of operation. How and why inverter drives can save energy. Case studies and typical applications for energy saving with inverter drives will be presented.

12:45 - 13:30 **LUNCH**

Demonstration in the NFPC Training Laboratory

13:40 Introduction to afternoon programme **Mr John R Savage**. Director, NFPC

13:45 - 14:20 **Mr Mike Day**. Technical Manager, Pall Industrial Manufacturing

Title: IMPROVED ENERGY EFFICIENCY THROUGH FLUID CLEANLINESS MANAGEMENT

Synopsis: Fluid Cleanliness Management entails operating with clean fluids throughout the life cycle of the system (from manufacturing through to operation) to ensure reliable operation and long life of both the hydraulic system and the processes involved with it. Clean fluids can eliminate wear, reduce friction and improve lubricity by reducing oil degradation. Filters, as well as producing clean fluids can, by intent, reduce both energy and maintenance costs. A major result of having clean fluid is that it allows the development of more efficient and sensitive components and control systems previously found impossible because of the level of contamination.

14:30 - 15:10 **Dr Richard Dixon**. Technology Manager for Hydraulic Oils, Shell Global Solutions

Title: FUTURE HYDRAULIC FLUID TECHNOLOGY OFFERING ENERGY EFFICIENCY & SUSTAINABILITY

Synopsis: This paper will briefly review the current state of the hydraulic fluid market and possible future directions. The potential for technological development of fluids offering energy efficiency improvements and reduced environmental impact will be discussed and technological gaps highlighted. A number of case studies in the area of environmentally adapted hydraulic fluids and off-highway hydraulic fluids will be reviewed and misconceptions highlighted. The listener should go away with a clear understanding of how to interpret technical performance claims commonly made for hydraulic fluids.

15:15 - 15:50 **Open Forum**

An opportunity to ask questions, voice your opinion and share good practices.

15:55 **Acknowledgement and Closing Speech** **Mr John R Savage**. Director, NFPC

Energy, Efficiency & Sustainability

3 April 2007 at the National Fluid Power Centre

Please reserve me.....seminar place(s).

Names of attendees:

.....
.....

Contact Name:.....**Position:**.....

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Methods of payment (Please tick)

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- By cheque made payable to North Notts Create Ltd
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In all cases payment must be made at least **one week** before the start of the seminar and all payments are non-refundable. It is possible to transfer your place to a colleague if you are unable to attend but please advise us of any change prior to the seminar.

Fax, Email, Post or book on-line at www.nfpc.co.uk.

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