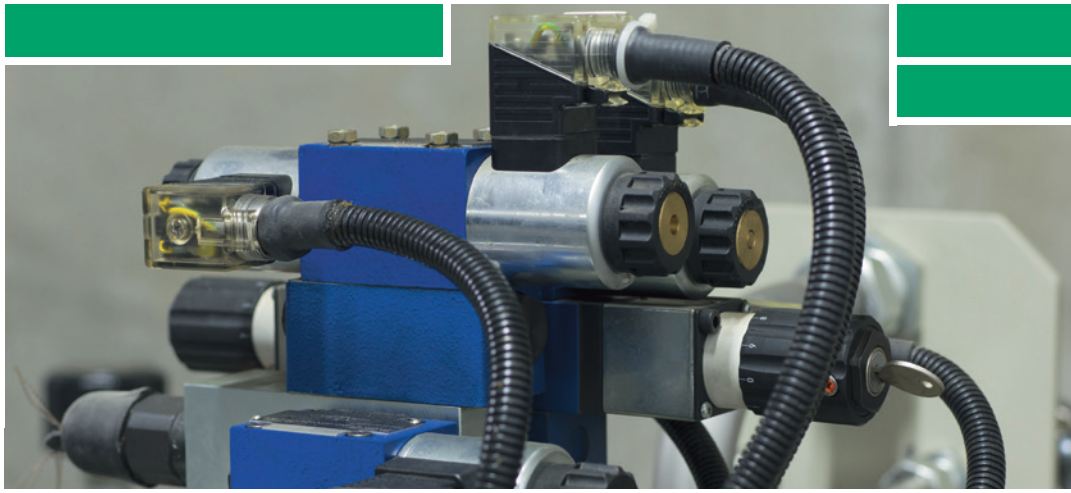
Australian Fluid Power Society Inc.

AUSTRALIAN FLUID POWER SOCIETY

The Australian Organisation for Fluid Power & Motion Control Professionals

Fluid Power Online Training Information Brochure



OIL HYDRAULIC SAFETY COURSES

IHSA International Hydraulic Safety Authority

AUSTRALIAN FLUID POWER SOCIETY

The Australian Organisation for Fluid Power & Motion Control Professionals

Online fluid power safety training courses

Australian Fluid Power Society Inc., in conjunction with International Hydraulic Safety Authority, is promoting occupational health and safety courses specifically designed for people working in the fluid power industry and companies which use fluid power systems in manufacturing or industrial processes.

Fluid power systems and electrical systems are both forms of transmitting energy from one point to another and 'hydraulics', a common term for a fluid power system which uses a liquid as the energy transmitting medium, is often described as being 'mechanical electricity'. Inherent danger exists in any energy-transmitting system and whilst electrical systems are covered by extensive safety standards and statutory requirements, hydraulic systems are subject to significantly less regulation. As a result, failures in fluid power systems are more prevalent than those in electrical systems and the common effects of hydraulic failures to people are soft tissue injuries, crushing injuries, bone fractures and dislocations, lacerations and skin punctures, burns, fluid injection injuries and other serious injuries which occasionally result in death.

Click on *safety course* to register for the hydraulic safety courses

Hydraulic failures can also result in a supported load falling, other property and equipment damage and environmental damage.

Universally-compatible viewing

All courses are created using standards that allow playback on most internet-capable devices with standard web browsing capabilities including *Apple iTouch*, *iPad* and *iPhone* as well as most other 'smart' phones and tablets including those with *Android* and *Windows* operating systems.

Investment In Safety

Investing time in safety training is a vital part of ensuring long-term business success. Safety knowledge not only supports safe work practices but it increases worker productivity and it reduces the possibility that a business will need to meet the cost of workplace accident claims and possibly, prosecution by a Statutory Authority. It is a well-known fact that the employees of a business are happier and more productive when the business places a high value on their well-being by instituting and maintaining workplace safety systems and programs and that financial investment in safety increases the profitability of a business.

FLUID INJECTION AWARENESS: Online course

AUSTRALIAN FLUID POWER SOCIETY
The Australian Organisation for Fluid Power & Motion Control Professionals

IHSA International Hydraulic Safety Authority

Overview

Pressurised fluids are common in all areas of industry as well as domestic homes and should always be considered extremely hazardous. The e-learning awareness course identifies such hazards and provides the course participant with information on ways of mitigating this hazard. Fluid injection injuries can lead to the loss of fingers and limbs, long term paralysis and death.

The incident reports presented throughout this comprehensive course are graphic and show how severe fluid injection injuries can be. The course also provides information on appropriate first aid methods. Understanding and identifying where these hazards exist will greatly reduce a course participant's risk of injury.

Course topics:

The following topics are covered in the online Fluid Injection awareness course:

- ✓ Fluids descriptions
- ✓ Common fluids involved in injection injuries
- ✓ Fluid pressure and velocity relationship
- ✓ First aid after a fluid injection injury
- ✓ Effects of injected fluids on the human body
- ✓ Personal Protection Equipment (PPE)
- ✓ Guarding against injury
- ✓ Avoiding a fluid injection injury
- ✓ Pressure resulting from thermal expansion
- ✓ Energy hazards: identification and control
- ✓ Pressurised vessels

Course duration

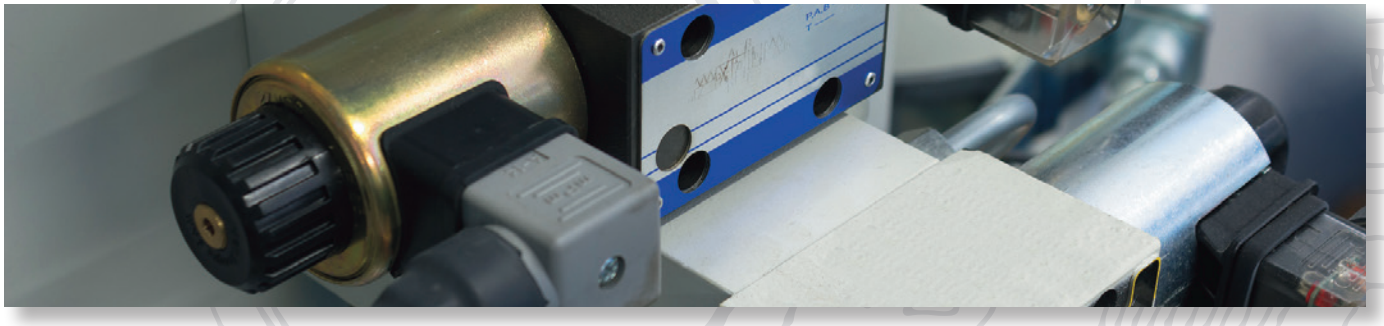
Approximately 45 minutes. Click on *course details* to view course details

Course testing

Tests are conducted during the online *Fluid Injection Awareness* course as it is designed to reinforce the presented information. Supplementary material necessary to complete the course is prompted at the commencement of the course and is accessible in the *print document* tab.

Certificate of completion

The *Certificate of Completion* will be available for downloading and printing after successful completion of the course.



Course Fee

$80 Per Person

HYDRAULIC SAFETY IN CONSTRUCTION: Online course

AUSTRALIAN FLUID POWER SOCIETY

The Australian Organisation for Fluid Power & Motion Control Professionals

IHSA International Hydraulic Safety Authority

Overview

Even though hydraulically operated equipment is used in all areas of construction, many construction workers are not aware of the safety hazards associated with using and being near such equipment. Some types of injuries which can occur through people using or being near hydraulic equipment are soft tissue injuries, crushing injuries, bone fractures and dislocations, lacerations and skin punctures, burns, fluid injection injuries and other serious injuries which occasionally result in death. The failure of hydraulic equipment can also cause environmental damage through liquid spills and property and equipment loss due to mechanical failure and fire.

The course contains over 800 visual learning aids including many video-films, animated diagrams and procedural and referenced documents. The purpose of the course is to provide important information which will assist in eliminating safety hazards and reducing the risk of injury to workers and damage to equipment and the environment. The course, in combination with a full hydraulic safety program, will greatly reduce the risks mentioned above.

The course complements the online, *Hydraulic Safety: Exposure Level* and *Hydraulic Safety: High Risk Maintenance Level* courses.

Hydraulic Safety In Construction Online Course Online Course Topics

- ✓ Health and exposure
- ✓ Ethics and standards
- ✓ Hoses
- ✓ Stored energy
- ✓ Threads and porting
- ✓ Seals
- ✓ Safety devices
- ✓ System pressure bleed down
- ✓ Mechanics and geometry
- ✓ Welding
- ✓ Hazard assessment
- ✓ Beyond lockout
- ✓ Environment
- ✓ Ethical choices

Course duration

Approximately 5 hours. Click on *course video* to view course details

Course testing

Tests are conducted during the presentation of the course to reinforce the information provided in the online *Hydraulic Safety in Construction* course. A test result mark of 80% must be achieved in order to receive a *Certificate of Completion*. Participants are able to repeat the course two more times if the pass mark is not achieved at the first attempt. Supplementary materials necessary to complete the course are accessible online.

Online certificate of completion

The course *certificate of completion* which is valid for a period three years after the certificate is granted, will be available for downloading and printing after the successful completion of the course.

Course Fee

$110 Per Person

HYDRAULIC SAFETY: EXPOSURE LEVEL – Online course

IHSA International Hydraulic Safety Authority

AUSTRALIAN FLUID POWER SOCIETY
The Australian Organisation for Fluid Power & Motion Control Professionals

Overview

People are exposed to hydraulic systems at many different levels and many hydraulic accidents and fatalities are a result of people working around hydraulic systems without understanding the related safety hazards.

The course provides participants with information which gives them an awareness of hydraulic safety hazards in the workplace. During the course, special attention is given to many common misconceptions about hydraulic safety hazards including those relating to environmental health.

Course topics

The following topics are covered in the online course:

- ✓ Hydraulic fluids
- ✓ The effects of human exposure to hydraulic fluids
- ✓ Potential hydraulic system safety hazards
- ✓ Personal protective equipment (PPE)
- ✓ Safety standards and qualifications
- ✓ Your role in your workplace
- ✓ Types of hydraulic hoses and hydraulic hose construction
- ✓ Hydraulic hose applications
- ✓ Hydraulic hose assembly fabrication methods
- ✓ Specifications and Standards
- ✓ Equipment life cycle limits
- ✓ Accumulator operation and the application of accumulators in hydraulic systems
- ✓ Forms of hazardous energy
- ✓ Commonly-used hydraulic thread connections
- ✓ Hydraulic equipment pressure ratings
- ✓ Types of hydraulic seals and seal applications
- ✓ Hydraulic equipment maintenance and maintenance planning
- ✓ Importance of seal guarding
- ✓ Hydraulic system considerations
- ✓ Hydraulic devices
- ✓ Pressurised grease safety hazards
- ✓ The effects of gravity on hydraulic machinery
- ✓ Overhanging loads and run-away load hazards
- ✓ The effects of modifying hydraulic components
- ✓ The hazards of welding hydraulic components
- ✓ The purpose of a safety hazard assessment
- ✓ General responsibilities

Course duration

Approximately 4.5 hours. Click on *course video* to view course details

Course test

Testing conducted during the online course is designed to reinforce the information presented in the course. Supplementary materials necessary to complete the course can be accessed online.

Certificate of completion

Participants will receive a *certificate of completion*, hard hat sticker and wallet cards by mail within 21 business days of a successful course completion. Certificates and wallet cards are valid for 3 years from the awarding of the certificate.

Course Fee

$110 Per Person

HYDRAULIC SAFETY: HIGH RISK MAINTENANCE LEVEL – Online course

IHSA International Hydraulic Safety Authority

AUSTRALIAN FLUID POWER SOCIETY
The Australian Organisation for Fluid Power & Motion Control Professionals

Overview

The maintenance and repair of equipment fitted with hydraulic systems is extremely hazardous to the personnel involved in the work and also to everyone in the vicinity of the equipment. Maintenance and repair personnel are required to carry out procedures that expose them to high levels of risk of injury or death due to inherent hydraulic system safety hazards. Many incidents of injury to people are a result of them working on hydraulic systems and not understanding the safety hazards associated with the work. The course provides participants with comprehensive information on how to recognise and manage the relevant hydraulic safety hazards and a strong emphasis is placed on information on the implementation of structured procedures to overcome the hazards as is information on energy mitigation.

Course topics:

The following topics are covered in the course:

- ✓ What are hydraulic fluids and what are the effects of human exposure to the fluids?
- ✓ Potential hydraulic system safety hazards
- ✓ Personal protection equipment (PPE)
- ✓ Safety standards and qualifications
- ✓ Recognised Standards and your role in the implementation of Standards
- ✓ Hose fabrication applications and construction
- ✓ Life cycle specifications and Standards
- ✓ Accumulators and the application of accumulators in hydraulic systems
- ✓ Procedures for testing and discharging accumulators
- ✓ Hazardous energy and the cause of unexpected movement
- ✓ Guarding and safety valves
- ✓ System design considerations
- ✓ Safety through engineered controls
- ✓ Pressurised grease safety hazards
- ✓ Effects of air in hydraulic systems
- ✓ Establishing a 'zero energy state'
- ✓ General responsibilities and safety hazard assessment
- ✓ Pre-work inspections and what is 'lock out'?
- ✓ Lockable devices and the importance of 'sequence'
- ✓ Hydraulic fluids and the environment
- ✓ Spill preparedness and acceptable disposal practices
- ✓ Biodegradable hydraulic fluids and absorbents
- ✓ Ethical choices
- ✓ Hydraulic accidents and fatalities
- ✓ Effects of modifications to hydraulic components
- ✓ Hazards of welding hydraulic components and interconnections
- ✓ Fluid power calculations
- ✓ Gravity, overhanging and runaway load hazards
- ✓ Types of seals and applications
- ✓ The importance of mechanical seals
- ✓ Understanding maintenance and planning
- ✓ Commonly used hydraulic threads and porting
- ✓ Definition of 'pressure rating'

Course duration

Approximately 10 hours. Click on *course video* to view course details

Course testing

Testing conducted during the online course is designed to reinforce the information presented in the course. Supplementary materials necessary to complete the course can be accessed online.

Certificate of completion

Participants will receive a *certificate of completion*, hard hat sticker and wallet cards by mail within 21 business days of a successful course completion. Certificates and wallet cards are valid for 3 years from the awarding of the certificate.

Course Fee

$160 Per Person

HYDRAULIC SPECIALIST- Online course

International Fluid Power™ Society
Certification Empowers Opportunity.

AUSTRALIAN FLUID POWER SOCIETY
The Australian Organisation for Fluid Power & Motion Control Professionals

Overview

Whether you are studying for the Hydraulic Specialist Certification test or simply want to enhance your existing hydraulics skills in a convenient and flexible environment, the interactive Hydraulic Specialist Course is here to help.

The IFPS have taken their Hydraulic Specialist Certification Study Manual from traditional print into a full colour, animated, interactive online learning platform.

Schematics are colour-coded and animated

Full-color graphics

Chapter review questions - interactive (you'll immediately know if you've grasped the chapter information)

Voice-over text for auditory learners

Three additional online pre-tests

Safety and energy tips throughout

Contains additional explanations not covered in the printed manual

To view the Hydraulic Specialist training video ***click here***

Course topics

The following topics are covered in the online course:
1.Understand the function of hydraulic components in circuits.

2.Analyze loads and motion.

3.Selecting components for hydraulic systems.

4.Analyze and troubleshoot hydraulic systems.

5.Electro-Hydraulic control systems.

Course duration

The student has twelve months to complete the five online course modules detailed above. Time starts when the student first registers for the course. Click on *hydraulic specialist* to register for the hydraulic specialist course

Outcomes

The course prepares students for the internationally recognized IFPS Hydraulic Specialist Certificate which can be taken and awarded in Australia.

Course Fee

$575 Per Person

PNEUMATIC SPECIALIST- Online course

International Fluid Power™ Society
Certification Empowers Opportunity.

AUSTRALIAN FLUID POWER SOCIETY
The Australian Organisation for Fluid Power & Motion Control Professionals

Overview

Whether you are studying for the Pneumatic Specialist Certification test or simply want to enhance your existing pneumatic skills in a convenient and flexible environment, the interactive Pneumatic Specialist Course is here to help.

The IFPS have taken their Pneumatic Specialist Certification Study Manual from traditional print into a full colour, animated, interactive online learning platform.

Schematics are colour-coded and animated

Full-color graphics

Chapter review questions - interactive (you'll immediately know if you've grasped the chapter information)

Voice-over text for auditory learners

Three additional online pre-tests

Safety and energy tips throughout

Contains additional explanations not covered in the printed manual

To view the Pneumatic Specialist training video ***click here***

Course topics

The following topics are covered in the online course:
1.Understand the function of pneumatic components in circuits.

2.Analyze loads and motion.

3.Selecting components for pneumatic systems.

4.Analyze and troubleshoot pneumatic systems.

5.Electro-Pneumatic control systems.

Course duration

The student has twelve months to complete the five online course modules detailed above. Time starts when the student first registers for the course. Click on *pneumatic specialist* to register for the pneumatic specialist course

Outcomes

The course prepares students for the internationally recognized IFPS Pneumatic Specialist Certificate which can be taken and awarded in Australia.

Course Fee

$575 Per Person

ANIMATED HYDRAULIC CIRCUITS Online course

International Fluid Power™ Society
Certification Empowers Opportunity.

AUSTRALIAN FLUID POWER SOCIETY
The Australian Organisation for Fluid Power & Motion Control Professionals

Overview

The circuit schematics found in this course are designed to illustrate an operational or theoretical hydraulic system showing the interaction of components to achieve a desired output.
This course is designed as a means of reviewing or reinforcing concepts to test candidates and cannot possibly cover every application of a component within a hydraulic circuit. Fluid Power system design experts developed the circuits in this course that are intended to represent a specific application or the use of a component within a circuit to illustrate the typical usage.

What you will download

Color-coded, animated, and voiceover .mp4 and .wmv files of each circuit operation using ANSI recognized color designations. Each circuit shows the sequence of operations within the hydraulic circuit as well as the flow paths during operation.
Key bullet points for each circuit from Study Manuals to assist in the understanding of the components' function and interaction within the circuit. Click on ***circuit sample*** to get an understanding of how the course teaches hydraulic circuit design.

Course animated circuits:

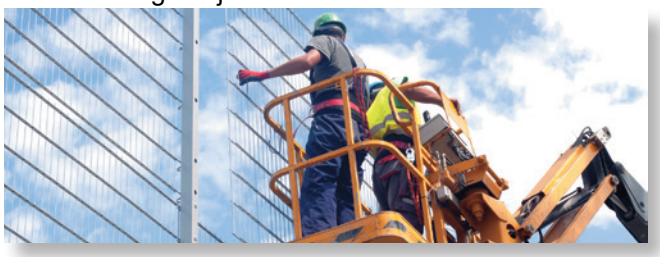
Accumulator Circuit Operation, Boom Raising Circuit, Brake Valve Circuit, Brake Valve Circuit with Check Valve, Circuit for the Two Cylinders Application, Circuit Schematic with Check Valves, Closed Center Steering, Closed Circuit Accumulator Circuit, Closed Circuit Hydrostatic Transmission, Counterbalance Valve in a Press Circuit, Cylinder, Motor Circuit Cylinder 1, Motor Circuit 2, Float Center Spool used with Pilot Operated Check Valves, Full-Time Regenerative Circuit B Port Blocked, High-Low Circuit, Intensifier System with an Air-Oil Return Tank, Load Reaction Center Steering, Load Sense Schematic, Loader Boom and Bucket Circuit, Open and Closed Circuit Pumps - Test Bench Circuit, Open Center Steering, Part-Time Regenerative Circuit with Bleed, Part-Time Regenerative Circuit with Counterbalance Valve, Pilot Operated Check Valve Application, Pilot Operated Directional Control Valve Circuit, Press Circuit, Pressure Reducing Valve, Pump Test, Regenerative Circuit with Regen Position in the DCV, Sequence Valve Circuit, Setting a Pressure Reducing Valve, Synchronous Circuit with a Displacement-type Flow Divider, Synchronous Circuit with Cylinders Connected in Series, Tandem Center Circuit Equipped with a Relief Valve, Unloading Relief Valve, Unloading Valve in a High-Low Pump Circuit, Various Pressure Gauges within a Circuit

Course duration

There is no specific course duration the animated hydraulic circuits are downloaded for use at anytime. Click on *animated* to register for the animated hydraulic circuits course.

Outcomes

The course teaches how hydraulic components are selected and how they perform in a circuit to achieve the desired design objective.



Course Fee

$295 Per Person

Promoting Fluid Power Awareness Education and Certification

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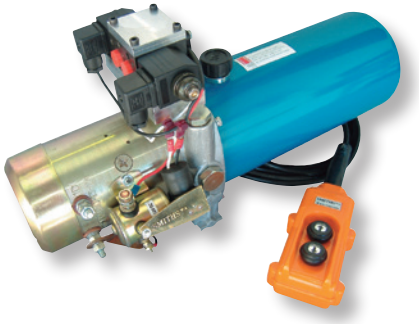

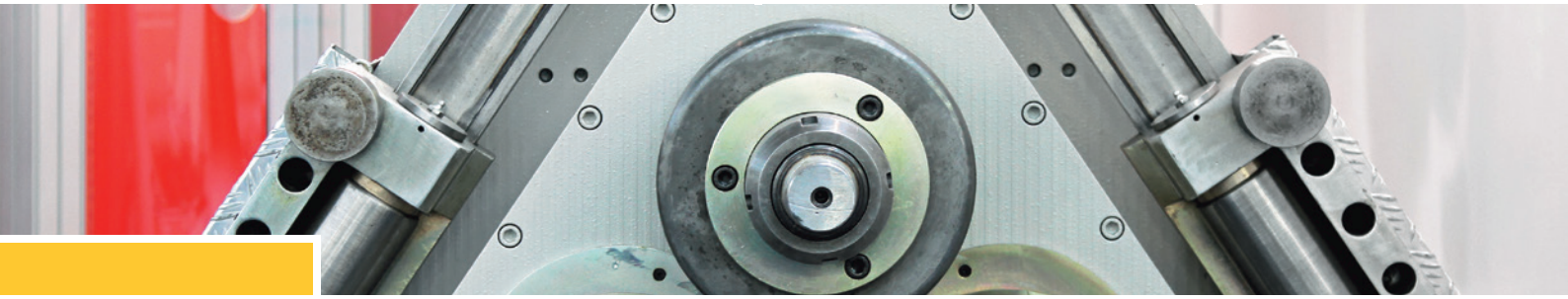

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Australian Fluid Power Society Inc.

Address: 12/3 Brixton St,
Cottesloe, Western Australia 6011

Phone: +61417 949 269

Email: exo@fluidpowersociety.com.au

Web: www.fluidpowersociety.com.au