

Hydraulic Safety Awareness Program

High Risk Maintenance Level E-Learning and Instructor Led



HSAC HIGH RISK MAINTENANCE LEVEL COURSE OUTLINE:

Personnel performing maintenance are engaged in procedures that expose them to higher risk of injury and death. This Maintenance level course consists of 13 topics. Each topic takes an in-depth comprehensive look into; leading causes, best practices, misconceptions, oversights, and identifying hydraulic hazards encountered beyond the engineered safeguarding. An emphasis is put on the implementation of structured procedures and energy mitigation. Each participant will gain substantial knowledge on the hazards encountered with hydraulic operated equipment. This level of training provides important information on how safety and reliability of hydraulic systems directly affect safety of personnel and environment.

This High Risk Maintenance level course is recognized internationally for establishing an awareness of hydraulic hazards in the workplace. Many hydraulic incidents and fatalities are a result of people working with hydraulic systems without understanding the related hazards. This course contains over 1200 visually related slides including numerous videos, animations, procedures and reference documents. Who should attend? Supervisors, HSE, Maintenance & Engineering personnel or any worker who, as part of their job, needs to be aware of the dangers associated with Hydraulic equipment. Your goal is to receive important knowledge which will assist in reducing risk and eliminating hazards for colleagues, equipment, environment, and the company. This course in combination with a full hydraulic safety program will greatly reduce risk.

HSAC HIGH RISK MAINTENANCE LEVEL COURSE TOPICS:

SECTION A – Health and Exposure

- What are Hydraulic Fluids?
- Hydraulic Fluid Dangers
- Potential Hazards
- Personal Protective Equipment

SECTION B – Ethics and Standards

- Safety Standards and Qualifications
- Recognized Standards
- Your Role in Your Facility

SECTION C – Hydraulic Hoses

- Types of Hoses and Construction
- Hydraulic Hose Applications
- Hydraulic Hose Assembly Fabrications
- Specifications and Standards
- Potential Hazards
- Life Cycle

SECTION D – HEC Stored Energy

- How Accumulators Work and Their Applications
- Procedures for Testing and Discharge of Accumulators
- Describes the Forms of Hazardous Energy

SECTION E – Threads and Porting

- Commonly Used Thread Connections in Hydraulic Systems
- Pressure Ratings

SECTION F – Seals

- Types of Seals and Applications
- Maintenance and Planning
- Importance of Seals

SECTION G – Safety Devices

- Guarding
- Valves
- System Considerations

- Devices
- Safety Through Engineered Controls

SECTION H – HEC Bleed Down

- Pressurized Grease
- Effects of Air in Hydraulics
- Bleed Down Tools

SECTION I – Mechanics and Geometry

- Fluid Power Calculations
- Gravity
- Overhanging and Runaway Hazards

SECTION J – Welding and Modifications

- Effects of Modifications to Hydraulic Components
- Hazards of Welding Hydraulic Components
- Cutting and Burning Hazards

SECTION K – Hazard Assessment

- Purpose of Hazard Assessment
- General Responsibilities
- Before Work Begins
- Potential Hazards
- Inspections

SECTION L – HEC Beyond Lockout

- What is Lockout?
- Zero Energy State
- The Importance of Sequence

SECTION M – Environment

- Hydraulic Fluids and The Environment
- Spill Preparedness
- Acceptable Disposal Practices
- Biodegradable Hydraulic Fluids
- Absorbents

ETHICAL CONCLUSION

- Ethical Choices
- Hydraulic Incidents and Fatalities

HSAC HIGH RISK MAINTENANCE LEVEL COURSE DURATION:

Online E-Learning: 420 minutes individual self-paced

OR

Instructor delivered: 2 Day group setting

HSAC HIGH RISK MAINTENANCE LEVEL ASSESSMENT:

The High Risk Maintenance Level Test is conducted after each chapter. Testing is designed primarily as a knowledge summarization of the program chapters and must be completed by each participant. Testing has no pass/fail stipulation to receive a certificate of completion.

HSAC HIGH RISK MAINTENANCE LEVEL CERTIFICATE OF COMPLETION:

Participants will receive their certificates and hard hat sticker by mail within 21 business days from the authorized training provider after HSAC has received the completion notification.

HSAC CERTIFICATE VALIDATION DATE:

Continuing education courses will be necessary to remain current with the latest safety bulletins, compliance changes in the industry and the latest technology and resources available. Evolution brings constant change in both hazards and hazard mitigation.

Certificates are valid for 3 years and are indicated on each. Refresher courses will be available for renewal.

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