



Australian Government

UEEIC0027 Provide solutions to pneumatic-hydraulic system operations

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to provide solutions to pneumatic-hydraulic system operations.

It includes identifying, providing, completing and documenting solutions to discovered problems in pneumatic-hydraulic system operations. It also includes setting up and maintaining pneumatic and hydraulic systems; applying problem-solving procedures, including using measuring instruments; applying appropriate circuit theorems; and providing solutions derived from measurements and calculations and justification for such solutions.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEEIC0026 Provide solutions to fluid circuit operations

Competency Field

Instrumentation & Control

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Identify pneumatic-hydraulic system operations

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures are identified and applied
- 1.2** Hazards are identified, risks are assessed and control measures implemented
- 1.3** System problems are identified from documentation and consultation with supervisor to determine scope of work
- 1.4** Advice is sought from supervisor to ensure work is coordinated effectively with others
- 1.5** Sources of materials required for work are identified in accordance with workplace procedures
- 1.6** Tools, equipment and testing devices required for work are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Provide solution to pneumatic-hydraulic operation system

- 2.1** WHS/OHS risk control work measures and procedures are followed
- 2.2** Need to test or measure live work systems is determined in accordance with workplace procedures
- 2.3** Systems are checked and isolated in accordance with workplace procedures
- 2.4** Pneumatic-hydraulic system problems are solved using measured and calculated values
- 2.5** Unplanned situations are responded to in accordance with workplace procedures and approval of authorised person/s in a manner that minimises risk to personnel and equipment
- 2.6** Problems are solved using sustainable energy principles without waste of materials, damage to apparatus circuits, the surrounding environment or services in accordance with workplace procedures

3 Complete work and document solutions to discovered problem

- 3.1** WHS/OHS work completion risk control measures and procedures are followed
- 3.2** Worksite is cleaned and made safe in accordance with

workplace procedures

- 3.3** Solutions used to solve circuit problems are justified and documented in accordance with workplace procedures
- 3.4** Work completion is documented and relevant person/s notified in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Pneumatic-hydraulic power systems as they apply to problems related to engineering diagnosis and development work functions must include one of the following:

- determining the operating parameters of an existing system
- altering an existing system to comply with specified operating parameters
- developing systems to comply with a specified function and operating

Pneumatics must include at least two of the following main components:

- cooler
- dryer
- filter
- receiver

Pneumatic control devices must include at least two of the following components:

- linear actuator
- rotary actuator
- directional control valve
- timer
- counter

Hydraulics must include at least two of the following main components:

- two-cylinder sequenced system
- single cylinder skip-check system

Hydraulic control devices must include at least two of the following components:

- rotary actuators
- linear actuators
- directional control valve
- rotary control valve
- pressure control valve

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI126A Provide solutions to pneumatic-hydraulic system operations.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>