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# Before you begin

This learner guide is based on the unit of competency *TLIB3002 Test equipment and isolate faults*, Release 1. Your trainer or training organisation must give you information about this unit of competency as part of your training program. You can access the unit of competency and assessment requirements at: [www.training.gov.au](http://www.training.gov.au).

## How to work through this learner guide

Your trainer will advise which parts of the learner guide you need to read, and which activities you need to complete. This learner guide will help you in your training.

Icon	Feature	How you can use each feature
	Learning content	Read each topic. Speak to your trainer if you need help.
	Activities	Activities give you the opportunity to put your skills and knowledge into action. Your trainer will tell you which activities to complete.
	Video clips	Where you see a QR code, you can use a smartphone or tablet to access video clips about the content. For information about how to download an app that will read the QR code, or for more help, visit our website: <a href="http://www.aspirelr.com.au/help">www.aspirelr.com.au/help</a>
	Workplace examples	Workplace examples at the end of each topic show how your learning applies in practice.
	Summaries	Key learning points are provided at the end of each topic.
	Words to remember	<p>As you read the learner guide, use the table at the back of the book to write down any words you need to remember.</p> <p>There is a space for you to write the word and a space for you to write down what the word means.</p> <p>You can also access a full glossary of terms via this QR code.</p>





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## Topic 1 | What you need to know about testing equipment and isolating faults

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*It is important to assess equipment to ensure it works as intended and is suitable to use for the specific task before you use it. Equipment that does not function correctly impacts on workplace safety and creates unplanned delays to complete tasks.*

In this topic you will learn about:

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1A Assessing equipment

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1B Procedures for testing equipment

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# Observation records

*Observation records must include details such as the time and date of the observation, and the specifics of what has been observed.*



Records must contain facts and all details relating to the equipment.

## Records should include:

- the name of the person undertaking the observation
- the date and time of observations
- equipment name
- type/model number
- serial number
- location
- specific observations.

# Housekeeping standards

*Housekeeping standards are principles for the best or safest way to carry out work.*

Work health and safety (WHS) housekeeping refers to tasks or procedures related to managing and maintaining an area or piece of equipment. Maintaining equipment reduces the chance of an incident occurring.

A breach of housekeeping standards could contribute to equipment faults or problems through lack of regular maintenance, presence of dust or exposure to moisture. Failing to follow housekeeping procedures can impact on the operational capability of the equipment and could lead to inaccurate results when testing equipment.





## Activity 1

### Question 1

Draw a line from the beginning of the sentence on the left to match the end of the sentence on the right.

- |  |  |
|--|--|
| ✦ To find a fault, you may use a technique that uses     | ✦ compare results against previous findings. |
| ✦ To check preliminary results, you may                  | ✦ contributes to accurate results.           |
| ✦ Upholding housekeeping standards when conducting tests | ✦ a step-by-step approach.                   |

### Question 2

Circle the correct answer.

Preliminary observations contain all of the facts and details relating to the equipment.

- ✦ True
- ✦ False

### Question 3

Draw a line from the beginning of the sentence on the left to match the end of the sentence on the right.

- |                               |  |
|-------------------------------|--|
| ✦ The function of equipment   | ✦ is the most the equipment is able to do. |
| ✦ The limitation of equipment | ✦ is what the equipment is able to do.     |
| ✦ The capability of equipment | ✦ is the equipment's purpose.              |

### Question 4

Circle the correct answer.

Records may contain assumptions of what has occurred and details relating to the equipment.

- ✦ True
- ✦ False

# Reporting

## *All faults need to be reported to maintain an accurate service history.*

Keeping records of faults and actions taken can be used to identify patterns that may indicate re-occurring problems or issues. Workplace policies and procedures will detail how to report testing of equipment and fault-finding. Under the health and safety legislation, records need to be maintained and available upon request in order to demonstrate the business took all reasonable steps to provide a safe workplace. Workplace policies and procedures will detail how these records are specifically kept and accessed in your workplace.

Here are examples of common forms used for reporting.

### Incident report

This report details any incident involving the equipment. This would be used where a fault was identified and fixed by the operator.

### Inspection record/test report

This report is used to record the details of inspections/tests and the outcomes.

### Defective equipment report

This report is used to report and record faults requiring further action by technical staff to repair.

# Isolate and tag equipment

## *When a fault is found, you must isolate and tag the equipment out of service.*



A tag-out system is used to warn other workers that an item of plant or equipment is faulty.

A personal danger tag is used to warn people that a piece of equipment may cause personal danger to a person who is testing or repairing the equipment. The tag is placed by the operator on top of any isolating switch, such as the key ignition or power switch. It is used while the item is being fixed and must be removed when the repairs are done.

An 'Out of service' tag is used to warn people not use the equipment as it can cause damage or injury.

When using, tagging or decommissioning equipment, you must follow certain guidelines to ensure machinery and equipment is used safely and that tagging faulty equipment is done correctly.



*Read the following workplace example to see how the concepts you have learned are applied in a real-life situation.*

## Workplace example for Topic 1

Andrew is a storeperson at Brightside Trading Pty Ltd. He is given his picking list for the day's order and will need to use a powered trolley jack and a radio frequency (RF) scanner to complete his tasks. He is authorised to conduct a service test on the trolley jack.

Andrew looks at the site where the trolley jack is charging and sets up signs and bollards connected with rope to isolate the area while he works. He checks with the operator's manual to confirm he has everything he needs.

Andrew visually checks the trolley jack for any signs of damage. Before starting the test he checks that everything is in place to do the test in accordance with company procedures. When he checks the trolley jack, it works as intended, so he completes the inspection report.

Andrew turns on the RF scanner and notices the battery is full. When he scans the first pick, the reading does not come up. Andrew uses a cloth to wipe dust from the lens of the scanner and tries again. It still doesn't work, even after he restarts the scanner. Andrew tells David, his supervisor, what has happened and the action he has taken. He asks if he can remove the battery and try a new one. David agrees and gives Andrew authorisation to swap the battery.

With the new battery, the device is working well and the scanner shows the correct reading. Andrew provides David with a test report detailing what action has been taken so it can be placed in the maintenance records.





# 2A | Plan the test

## *All testing of equipment requires planning.*

The amount of planning required will depend on the type of equipment and the type of test being conducted. Failure to plan the test correctly may lead to false test results, damage to equipment or a workplace injury.



## Plan ahead

### *Some of the planning may already be done; for example, in workplace policies and procedures.*



You need to plan ahead and make arrangements to conduct the test. Some workplaces will have a set of standard procedures in place, such as:

- a set time and location for testing
- sequence of testing
- when you should record observations
- safety requirements.

You should check the workplace policies and procedures, and the manufacturer's instructions as these can help to determine a plan of action.

#### **For example, in some cases:**

- permission must be obtained from your supervisor
- additional resources, such as an electrician or emergency services personnel, need to be present
- the area where the test is to be conducted needs to be allocated and cleared
- workers must be notified
- all necessary safety equipment must be made available.

These requirements will depend on the equipment that you are testing, the work environment and the test itself. It's important that you understand what is required, since a failure to plan the test correctly may lead to false test results, damage to equipment or a workplace injury.



# Work systematically when conducting tests

***Tests should be conducted in a logical sequence and in accordance with specific testing procedures.***

When performing function tests in which each step of a function is tested, a checklist may help you to ensure each step has been completed.

Before conducting a test, consider the following questions:

- Is there room for me to test the equipment?
- Are all moving parts of the equipment guarded?
- Is the testing area cordoned off?
- Are any warning signs required?

Checklists may be part of workplace procedures or included in the manufacturer's instructions. A checklist may also be used to ensure the test is done without injury to yourself or others.

An equipment/machinery checklist may include the following.

## Chainsaw checklist

- Switches
- Throttle control
- Guard controls
- Saw chain
- Chain sprocket
- Lubricant
- Air filter

Watch this video [00m:42s] to learn about how working systematically can help ensure all safety measures are being followed.





## Summary of Topic 2

1. All testing of equipment requires planning. Some of the planning may already be done in workplace policies and procedures.
2. Before testing equipment for faults, you need to seek permission from the relevant person.
3. A series of tests may be required to isolate the problem. It may not be possible for you to identify the fault or to carry out the necessary tests by yourself.
4. Equipment testing needs to be done in a suitable area which is safe. All workers in the area need to be aware that testing is happening and what the dangers are.
5. When conducting tests on equipment, workplace procedures and legislative requirements must be followed. The person conducting the equipment test is obligated to provide duty of care to other workers.
6. It is critical to select the right testing device and use it correctly. All steps of the test must be conducted in a logical sequence and in accordance with specific testing procedures.
7. Equipment used in warehousing requires regular testing and maintenance. All test results must be recorded and reported.
8. Recommendations need to be made so that the correct resources can be allocated to maintaining the equipment in good working order. Once a decision on a recommendation is made, action needs to be taken to implement the recommendation.
9. Recommendations may include modifying operations, either for a short duration while resources are being secured or as part of a more permanent solution.
10. Any changes to equipment or standard operating procedures must be communicated to workers immediately.